



First Quarter Report to Shareholders

Manulife Financial
Corporation

Three months ended
March 31, 2019



Manulife reports 1Q19 net income of \$2.2 billion and core earnings of \$1.5 billion with strong growth in Asia

Today, Manulife announced its 1Q19 results. Key highlights include:

- Net income attributed to shareholders of \$2.2 billion in 1Q19, up \$0.8 billion from 1Q18
- Core earnings¹ of \$1.5 billion in 1Q19, up 15%² from 1Q18
- Core ROE¹ of 14.2% in 1Q19 compared with 13.4% in 1Q18
- 2.1 percentage point improvement in our 1Q19 expense efficiency ratio¹ to 49.9%
- NBV¹ of \$0.5 billion in 1Q19, up 31% from 1Q18
- APE sales¹ of \$1.7 billion in 1Q19, up 23% from 1Q18
- WAM net outflows¹ of \$1.3 billion in 1Q19 compared with net inflows of \$10.0 billion in 1Q18
- Strong LICAT ratio³ of 144%

“We delivered another quarter of strong core earnings and net income, both of which achieved solid double-digit growth over last year,” said Manulife President & Chief Executive Officer Roy Gori. “New business value grew 31% with double-digit increases across all of our operating segments. And while net flows were negative, they improved significantly from the prior quarter.”

“We continue to make progress in the execution of our digital customer-centric strategy, including the roll-out of our electronic claims systems in Asia, as well as an industry-first voice-enabled retirement product in the U.S.,” added Mr. Gori.

Phil Witherington, Chief Financial Officer, said, “We continued to optimize our portfolio during the quarter, which included the cumulative release of over \$2 billion of capital from the sale of alternative long-duration assets, exceeding our target.”

“Our efficiency initiatives are delivering bottom line benefits with expenses held at the same level as the prior year and our expense efficiency ratio improving to 49.9%. We are in a strong capital position and have redeemed debt in the quarter, contributing to the improvement in our leverage ratio to 27%,” added Mr. Witherington.

BUSINESS HIGHLIGHTS:

We progressed our efforts to redefine insurance and how we interact with customers through our behavioural insurance offerings – Manulife and John Hancock Vitality in North America and ManulifeMOVE in Asia. Behavioural insurance is increasingly recognized as a differentiator as evident in our Customer Net Promoter Scores and number of enrollees.

In Asia, deployment and adoption of our electronic point of sale and claim systems are improving both the customer experience and our expense efficiency. New this quarter, in the U.S. we launched an industry-first voice-enabled retirement product on Amazon’s Alexa.

¹ Core earnings, core return on common shareholders' equity (“core ROE”), expense efficiency ratio, annualized premium equivalent (“APE”) sales, new business value (“NBV”) and net flows are non-GAAP measures. See “Performance and non-GAAP measures” below and in our First Quarter 2019 Management’s Discussion and Analysis (“1Q19 MD&A”) for additional information.

² All percentage growth / declines in financial metrics in this news release are reported on a constant exchange rate basis. Constant exchange rate basis excludes the impact of currency fluctuations and is a non-GAAP measure. See “Performance and non-GAAP measures” below and in our 1Q19 MD&A for additional information.

³ Life Insurance Capital Adequacy Test (“LICAT”) ratio of The Manufacturers Life Insurance Company (“MLI”).

FINANCIAL HIGHLIGHTS:

(\$ millions, unless otherwise stated)	Quarterly Results	
	1Q19	1Q18
Profitability:		
Net income attributed to shareholders	\$ 2,176	\$ 1,372
Core earnings ⁽¹⁾	\$ 1,548	\$ 1,303
Diluted earnings per common share (\$)	\$ 1.08	\$ 0.67
Diluted core earnings per common share (\$) ⁽¹⁾	\$ 0.76	\$ 0.64
Return on common shareholders' equity ("ROE")	20.1%	14.1%
Core ROE ⁽¹⁾	14.2%	13.4%
Expense efficiency ratio ⁽¹⁾	49.9%	52.0%
Growth:		
Asia new business value	\$ 411	\$ 325
Canada new business value	\$ 62	\$ 49
U.S. new business value	\$ 46	\$ 10
Total new business value ⁽¹⁾	\$ 519	\$ 384
Asia APE sales	\$ 1,336	\$ 984
Canada APE sales	\$ 261	\$ 290
U.S. APE sales	\$ 143	\$ 113
Total APE sales ⁽¹⁾	\$ 1,740	\$ 1,387
Wealth and asset management net flows (\$ billions) ⁽¹⁾	\$ (1.3)	\$ 10.0
Wealth and asset management gross flows (\$ billions) ⁽¹⁾	\$ 27.9	\$ 36.5
Wealth and asset management assets under management and administration (\$ billions) ⁽¹⁾	\$ 648.1	\$ 626.8
Financial Strength:		
MLI's LICAT ratio	144%	129%
Financial leverage ratio	27.0%	29.7%
Book value per common share (\$)	\$ 22.34	\$ 19.72
Book value per common share excluding AOCI (\$)	\$ 19.06	\$ 17.28

⁽¹⁾ This item is a non-GAAP measure. See "Performance and non-GAAP measures" below and in our 1Q19 MD&A for additional information.

Reported net income attributed to shareholders of \$2.2 billion in 1Q19, up \$0.8 billion from 1Q18

The increase compared with 1Q18 was driven by higher gains from investment-related experience and from the direct impact of markets, and core earnings growth. Investment-related experience in 1Q19 reflected higher-than-expected returns (including fair value changes) on ALDA and strong credit experience. Gains related to the direct impact of markets were driven by a recovery in global equity markets, partially offset by the impact of narrowing corporate spreads.

Achieved core earnings of \$1.5 billion in 1Q19, an increase of 15% compared with 1Q18

The increase compared with 1Q18 was driven by the favourable impact of new business in Asia and the U.S., higher investment income in our surplus portfolio, including the favourable impact of equity markets on seed money investments¹, and improved expense efficiency. These increases were partially offset by both the impact of reinsurance transactions in 2018 and the sale of ALDA to improve the capital efficiency of our legacy businesses. Core earnings in 1Q19 included net policyholder experience gains of \$20 million post-tax compared with charges of \$3 million post-tax in 1Q18.

¹ Seed money investments include investments in new segregated and mutual funds.

BUSINESS GROWTH:

Achieved new business value (“NBV”) of \$519 million in 1Q19, an increase of 31% compared with 1Q18

In Asia, NBV increased 23% to \$411 million driven by higher sales, partially offset by a less favourable business mix. In Canada, NBV increased 27% to \$62 million driven by the new Manulife Par product. In the U.S., NBV more than quadrupled to \$46 million, primarily due to actions to improve margins and a more favourable product mix.

Reported annualized premium equivalent (“APE”) sales of \$1.7 billion in 1Q19, an increase of 23% compared with 1Q18

In Asia, APE sales increased 32%, with growth across Japan, Hong Kong and Asia Other¹. APE sales in Japan increased 62%, driven by strong sales of the COLI product in advance of a potential change in tax regulations. Hong Kong sales increased 11%, driven by growth in our bancassurance channel. Asia Other APE sales increased 20% driven by growth in both the bancassurance and agency channels. In Canada, APE sales declined 10% due to lower large-case group insurance sales, partially offset by the continued success of our Manulife Par product. In the U.S., APE sales increased 20% as a result of higher universal life and international sales.

Reported negative Global Wealth and Asset Management net flows of \$1.3 billion in 1Q19 compared with positive net flows of \$10.0 billion in 1Q18

Net flows in Asia were \$0.6 billion in 1Q19, down \$1.4 billion from 1Q18, driven by lower gross flows in institutional asset management. Net flows in Canada were \$2.1 billion in 1Q19, a decrease of \$1.4 billion from 1Q18, which was also driven by lower gross flows in institutional asset management. Net flows in the U.S. were negative \$4.0 billion in 1Q19 compared with positive net flows of \$4.5 billion in 1Q18. This was primarily due to lower gross flows in retail and institutional asset management. Additionally, we reported higher redemptions, partly due to the rationalization of our investment management teams, designed to improve margins and to focus our line-up on our core capabilities where we can generate further scale, as well as portfolio rebalancing by a large advisor.

¹ Asia Other excludes Japan and Hong Kong.

MANAGEMENT'S DISCUSSION AND ANALYSIS

This Management's Discussion and Analysis ("MD&A") is current as of May 1, 2019, unless otherwise noted. This MD&A should be read in conjunction with our unaudited Interim Consolidated Financial Statements for the three months ended March 31, 2019 and the MD&A and audited Consolidated Financial Statements contained in our 2018 Annual Report.

For further information relating to our risk management practices and risk factors affecting the Company, see "Risk Factors" in our 2018 Annual Information Form, "Risk Management", "Risk Factors" and "Critical Actuarial and Accounting Policies" in the MD&A in our 2018 Annual Report and the "Risk Management" note to the Consolidated Financial Statements in our most recent annual and interim reports.

In this MD&A, the terms "Company", "Manulife", "we" and "our" mean Manulife Financial Corporation ("MFC") and its subsidiaries. All amounts are reported in Canadian dollars, unless otherwise indicated.

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A TOTAL COMPANY PERFORMANCE

A1 Profitability

Profitability (\$ millions, unless otherwise stated)	Quarterly Results		
	1Q19	4Q18	1Q18
Net income attributed to shareholders	\$ 2,176	\$ 593	\$ 1,372
Core earnings ⁽¹⁾	\$ 1,548	\$ 1,337	\$ 1,303
Diluted earnings per common share (\$)	\$ 1.08	\$ 0.28	\$ 0.67
Diluted core earnings per common share (\$) ⁽¹⁾	\$ 0.76	\$ 0.65	\$ 0.64
Return on common shareholders' equity ("ROE")	20.1%	5.3%	14.1%
Core ROE ⁽¹⁾	14.2%	12.5%	13.4%
Expense efficiency ratio ⁽¹⁾	49.9%	55.2%	52.0%

⁽¹⁾ This item is a non-GAAP measure. See "Performance and non-GAAP measures" below.

Manulife's net income attributed to shareholders was \$2,176 million in the first quarter of 2019 ("1Q19") compared with \$1,372 million in the first quarter of 2018 ("1Q18"). The increase compared with 1Q18 was driven by higher gains from investment-related experience and from the direct impact of markets, and core earnings¹ growth. Net income attributed to shareholders is comprised of core earnings (consisting of items we believe reflect the underlying earnings capacity of the business), which amounted to \$1,548 million in 1Q19 compared with \$1,303 million in 1Q18, and items excluded from core earnings, which amounted to a net gain of \$628 million in 1Q19 compared with a net gain of \$69 million in 1Q18.

Diluted earnings per common share were \$1.08 and return on common shareholders' equity ("ROE") was 20.1%, compared with \$0.67 and 14.1%, respectively, for 1Q18. Diluted core earnings per common share¹ were \$0.76 and core return on common shareholders' equity ("core ROE")¹ was 14.2%, compared with \$0.64 and 13.4%, respectively, for 1Q18.

The \$245 million or 15%² increase in core earnings was driven by the favourable impact of new business in Asia and the U.S., higher investment income in our surplus portfolio, including the favourable impact of equity markets on seed money investments in new segregated and mutual funds, and improved expense efficiency¹. These increases were partially offset by both the impact of reinsurance transactions in 2018 and the sale of alternative long-duration assets ("ALDA") to improve the capital efficiency of our legacy businesses. Core earnings in 1Q19 included net policyholder experience gains of \$20 million post-tax (\$18 million pre-tax) compared with charges of \$3 million post-tax (\$2 million pre-tax) in 1Q18.

Core Earnings by Segment ⁽¹⁾ (\$ millions, unaudited)	Quarterly Results		
	1Q19	4Q18	1Q18
Asia	\$ 520	\$ 463	\$ 431
Canada	283	305	283
U.S.	475	454	422
Global Wealth and Asset Management	233	231	227
Corporate and Other (excluding core investment gains)	(63)	(216)	(156)
Core investment gains ⁽²⁾	100	100	96
Total core earnings	\$ 1,548	\$ 1,337	\$ 1,303

⁽¹⁾ 2018 comparatives for core earnings in each segment have been updated to reflect the 2019 methodology for allocating capital and interest on surplus to our insurance segments from the Corporate and Other segment.

⁽²⁾ This item is a non-GAAP measure. See "Performance and non-GAAP measures" below.

¹ This item is a non-GAAP measure. See "Performance and non-GAAP measures" below.

² Percentage growth / declines in core earnings, APE sales, gross flows, NBV, assets under management and administration, assets under management and core EBITDA are stated on a constant exchange rate basis. Constant exchange rate basis is a non-GAAP measure. See "Performance and non-GAAP measures" below.

Items excluded from core earnings were \$628 million in 1Q19 compared with \$69 million in 1Q18.

Items excluded from core earnings (\$ millions, unaudited)	Quarterly Results		
	1Q19	4Q18	1Q18
Investment-related experience outside of core earnings ⁽¹⁾	\$ 327	\$ (130)	\$ -
Direct impact of equity markets and interest rates and variable annuity guarantee liabilities ⁽²⁾	249	(675)	50
<i>Direct impact of equity markets and variable annuity guarantee liabilities</i>	367	(723)	(187)
<i>Fixed income reinvestment rates assumed in the valuation of policy liabilities</i>	(160)	112	313
<i>Sale of AFS bonds and derivative positions in the Corporate and Other segment</i>	42	(64)	(76)
Restructuring charge	-	(63)	-
Reinsurance transactions and other ⁽³⁾	52	124	19
Items excluded from core earnings	\$ 628	\$ (744)	\$ 69

⁽¹⁾ Investment-related experience gains in 1Q19 reflected higher-than-expected returns (including fair value changes) on ALDA and strong credit experience. Investment-related experience gains in 1Q18 reflected the favourable impact of fixed income reinvestment activities on the measurement of our policy liabilities and strong credit experience, partially offset by lower than expected returns (including fair value changes) on ALDA. Total investment-related experience gains in 1Q19 were \$427 million, compared with \$96 million in 1Q18, and in accordance with our definition of core earnings, we included \$100 million of investment-related experience gains in core earnings and \$327 million in items excluded from core earnings in 1Q19 (\$96 million and \$nil, respectively, in 1Q18).

⁽²⁾ The direct impact of markets was a net gain of \$249 million in 1Q19 reflecting the favourable impact of the recovery in global equity markets partially offset by the unfavourable impact of interest rates in the quarter, primarily from the narrowing corporate spreads. The direct impact of markets was a net gain of \$50 million in 1Q18 primarily due to widening corporate spreads and a rising and flattening of the yield curve in the U.S., partially offset by charges from unfavourable equity markets and the sale of available-for-sale ("AFS") bonds.

⁽³⁾ The \$52 million gain from reinsurance transactions and other in 1Q19 is related to reinsurance transactions in our legacy business in Canada and the U.S.

A2 Growth

Growth ⁽¹⁾ (\$ millions, unaudited)	Quarterly Results		
	1Q19	4Q18	1Q18
Asia APE sales	\$ 1,336	\$ 1,040	\$ 984
Canada APE sales	\$ 261	\$ 277	\$ 290
U.S. APE sales	\$ 143	\$ 152	\$ 113
Total APE sales	\$ 1,740	\$ 1,469	\$ 1,387
Asia new business value	\$ 411	\$ 402	\$ 325
Canada new business value	\$ 62	\$ 51	\$ 49
U.S. new business value	\$ 46	\$ 48	\$ 10
Total new business value	\$ 519	\$ 501	\$ 384
Wealth and asset management gross flows (\$ billions)	\$ 27.9	\$ 26.3	\$ 36.5
Wealth and asset management net flows (\$ billions)	\$ (1.3)	\$ (9.0)	\$ 10.0
Wealth and asset management assets under management and administration (\$ billions)	\$ 648.1	\$ 608.8	\$ 626.8

⁽¹⁾ These items are non-GAAP measures. See "Performance and non-GAAP measures" below.

Annualized premium equivalent ("APE") sales¹ were \$1.7 billion in 1Q19, an increase of 23% compared with 1Q18. In Asia, APE sales increased 32%, with growth across Japan, Hong Kong and Asia Other². APE sales in Japan increased 62%, driven by strong sales of the corporate-owned life insurance ("COLI") product in advance of a potential change in tax regulations. Hong Kong sales increased 11%, driven by growth in our bancassurance channel. Asia Other APE sales increased 20% driven by growth in both the bancassurance and agency channels. In Canada, APE sales declined 10% due to lower large-case group insurance sales, partially offset by the continued success of our Manulife Par product. In the U.S., APE sales increased 20% as a result of higher universal life and international sales.

New business value ("NBV")¹ was \$519 million in 1Q19, an increase of 31% compared with 1Q18. In Asia, NBV increased 23% to \$411 million driven by higher sales, partially offset by a less favourable business mix. In Canada, NBV increased 27% to \$62 million driven by the new Manulife Par product. In the U.S., NBV more than quadrupled to \$46 million primarily due to actions to improve margins and a more favourable product mix.

¹ This item is a non-GAAP measure. See "Performance and non-GAAP measures" below.

² Asia Other excludes Japan and Hong Kong.

Wealth and asset management (“WAM”) gross flows¹ were \$27.9 billion in 1Q19, 26% lower than 1Q18, driven by lower institutional asset management and retail gross flows across all regions, partially offset by higher retirement gross flows in Canada from new plan sales and recurring contributions. In institutional asset management, lower gross flows were primarily due to the funding of large mandates in all regions in 1Q18. In retail, we experienced lower gross flows amid ongoing market volatility compared to strong 1Q18 results.

Wealth and asset management net flows¹ were negative \$1.3 billion in 1Q19 compared with positive net flows of \$10.0 billion in 1Q18. Net flows in Asia were \$0.6 billion in 1Q19, down \$1.4 billion from 1Q18, driven by lower gross flows in institutional asset management. Net flows in Canada were \$2.1 billion in 1Q19, a decrease of \$1.4 billion from 1Q18, which was also driven by lower gross flows in institutional asset management. Net flows in the U.S. were negative \$4.0 billion in 1Q19 compared with positive net flows of \$4.5 billion in 1Q18. This was primarily due to lower gross flows in retail and institutional asset management. Additionally, we reported higher redemptions, partly due to the rationalization of our investment management teams, designed to improve margins and to focus our line-up on our core capabilities where we can generate further scale, as well as portfolio rebalancing by a large advisor.

A3 Financial strength

Financial strength (unaudited)	Quarterly Results		
	1Q19	4Q18	1Q18
MLI's LICAT ratio	144%	143%	129%
Financial leverage ratio	27.0%	28.6%	29.7%
Total consolidated capital (\$ billions) ⁽¹⁾	\$ 57.3	\$ 56.0	\$ 52.5
Book value per common share (\$)	\$ 22.34	\$ 21.38	\$ 19.72
Book value per common share excluding AOCI (\$)	\$ 19.06	\$ 18.23	\$ 17.28

⁽¹⁾ This item is a non-GAAP measure. See “Performance and non-GAAP measures” below.

The Life Insurance Capital Adequacy Test (“LICAT”) for The Manufacturers Life Insurance Company (“MLI”) as at March 31, 2019 was 144%, compared with 129% as at March 31, 2018 and 143% as at December 31, 2018. The 1 percentage point increase compared with December 31, 2018 was primarily due to strong earnings and capital initiatives, which more than offset the impact of dividends and the redemption of subordinated debentures. Market impact overall was neutral, with a favourable reduction in risk-free rates and growth in equity markets, offset by a narrowing of corporate spreads.

In 1Q19, we entered into a reinsurance agreement in Canada and completed a previously-announced reinsurance transaction in the U.S., releasing \$85 million in capital. In addition, we released \$250 million in capital from the sale of ALDA as part of our decision announced in December 2017 to free up approximately \$2 billion in capital over 12-18 months. We have now exceeded our target, and have cumulatively released \$2.1 billion in capital from the program.

MFC's LICAT ratio was 133% as at March 31, 2019 compared with 132% as at December 31, 2018. The difference between the MLI and MFC ratios as at March 31, 2019 was largely due to the \$4.7 billion of MFC senior debt outstanding that does not qualify as available capital at the MFC level.

MFC's financial leverage ratio as at March 31, 2019 was 27.0%, a decrease of 1.6 percentage points from the December 31, 2018 ratio of 28.6%, as growth in retained earnings, the redemption of \$0.5 billion in subordinated debentures and the impact of lower interest rates on unrealized gains on AFS securities, more than offset the impact of a stronger Canadian dollar.

MFC's total consolidated capital¹ as at March 31, 2019 was \$57.3 billion, an increase of \$4.8 billion compared with March 31, 2018 consolidated capital of \$52.5 billion and an increase of \$1.3 billion compared with December 31, 2018 consolidated capital of \$56.0 billion. The increase from December 31, 2018 was primarily driven by net income attributed to shareholders over the last 3 months and an increase in the market value of AFS securities, partially offset by the impact of changes in foreign currency exchange rates as well as the redemption of subordinated debentures of \$0.5 billion and dividend payments over the last 3 months.

Book value per common share as at March 31, 2019 was \$22.34, an increase of 4% compared with \$21.38 as at December 31, 2018, and the book value per common share excluding accumulated other comprehensive income (“AOCI”) was \$19.06 as at March 31, 2019, an increase of 5% compared with \$18.23 as at December 31, 2018. The increase in the book value per common share is due to the \$1.8 billion increase in equity which included a \$0.3 billion increase in AOCI.

¹ This item is a non-GAAP measure. See “Performance and non-GAAP measures” below.

The number of common shares outstanding was 1,970 million as at March 31, 2019 and 1,971 million as at December 31, 2018.

A4 Revenue

(\$ millions, unaudited)	Quarterly Results		
	1Q19	4Q18	1Q18
Gross premiums	\$ 10,187	\$ 9,990	\$ 9,466
Premiums ceded to reinsurers	(1,873)	(8,158)	(1,141)
Net premium income	8,314	1,832	8,325
Investment income	3,747	3,278	3,235
Other revenue	2,562	2,291	2,502
Revenue before realized and unrealized investment gains and losses	14,623	7,401	14,062
Realized and unrealized gains and losses on assets supporting insurance and investment contract liabilities and on the macro hedge program	8,926	1,113	(5,316)
Total revenue	\$ 23,549	\$ 8,514	\$ 8,746

Total revenue in 1Q19 was \$23.5 billion compared with \$8.7 billion in 1Q18. The amount of revenue reported in any fiscal period can be significantly affected by fair value accounting, which can materially impact the reported realized and unrealized gains or losses on assets supporting insurance and investment contract liabilities and on the macro hedge program, a component of revenue (see “Impact of fair value accounting” below). Accordingly, we discuss specific drivers of revenue in each segment before realized and unrealized investment gains and losses in section B “Performance by Segment” below.

1Q19 revenue before realized and unrealized investment gains and losses of \$14.6 billion increased \$0.6 billion compared with 1Q18, primarily due to business growth in Asia and higher investment income, partially offset by higher ceded premiums of \$0.7 billion from the 1Q19 reinsurance transactions related to our legacy businesses.

Net realized and unrealized gains and losses on assets supporting insurance and investment contract liabilities and on the macro hedge program was a gain of \$8.9 billion in 1Q19 compared with a charge of \$5.3 billion in 1Q18. The 1Q19 gain was primarily due to an overall decrease in interest rates and rising equity markets. The 1Q18 charge was due to an overall increase in interest rates.

A5 Assets under management and administration (“AUMA”)¹

AUMA as at March 31, 2019 was \$1.1 trillion, an increase of 6% compared with December 31, 2018. The primary driver of the increase was the favourable impact of markets during the quarter.

A6 Impact of fair value accounting

Fair value accounting policies affect the measurement of both our assets and our liabilities. The impact on the measurement of both assets and liabilities of investment activities and market movements are reported as experience gains and losses on investments and the direct impact of equity markets and interest rates and variable annuity guarantees, each of which impacts net income attributed to shareholders (see “Profitability” section above for discussion of 1Q19 experience).

Net realized and unrealized gains on assets supporting insurance and investment contract liabilities and on the macro hedge program were \$8.9 billion for 1Q19 (1Q18 – losses of \$5.3 billion). See “Revenue” section above for discussion of results.

As outlined in the “Critical Actuarial and Accounting Policies” in the MD&A in our 2018 Annual Report, net insurance contract liabilities as permitted under IFRS 4 are determined using the Canadian Asset Liability Method (“CALM”), as required by the Canadian Institute of Actuaries (“CIA”). The measurement of policy liabilities includes the estimated value of future policyholder benefits and settlement obligations to be paid over the term remaining on in-force policies, including the costs of servicing the policies, reduced by the future expected policy revenues and future expected investment income on assets supporting the policies. Investment returns are projected using current asset portfolios and projected reinvestment strategies. Experience gains and losses are reported when current period activity differs from what was assumed in the policy liabilities at the beginning of the period. We classify gains and losses by assumption type. For example, current period investing activities that increase (decrease) the future expected investment income on assets supporting policies will result in an investment-related experience gain (loss). See description of investment-related experience in “Performance and non-GAAP measures” below.

¹ This item is a non-GAAP measure. See “Performance and non-GAAP measures” below.

As noted in our 2018 Annual MD&A, IFRS 17, which is expected to be effective January 1, 2022, will replace IFRS 4 and therefore CALM. While there are many differences between IFRS 17 and IFRS 4, two items of note are the discount rate used to estimate the present value of insurance liabilities, and the reporting of new business gains. We reported \$225 million (post-tax) of new business gains in net income attributed to shareholders in 1Q19. Under IFRS 17, new business gains are recorded on the balance sheet and amortized into income as services are provided.

A7 Impact of foreign currency exchange rates

Changes in foreign currency exchange rates increased core earnings by \$54 million in 1Q19 compared with 1Q18 primarily due to a weaker Canadian dollar compared with the U.S. dollar. The impact of foreign currency exchange rates on items excluded from core earnings does not provide relevant information given the nature of these items.

A8 Business highlights

We progressed our efforts to redefine insurance and how we interact with customers through our behavioural insurance offerings – Manulife and John Hancock Vitality in North America and ManulifeMOVE in Asia. Behavioural insurance is increasingly recognized as a differentiator as evident in our Customer Net Promoter Scores and number of enrollees.

In Asia, deployment and adoption of our electronic point of sale and claim systems are improving both the customer experience and our expense efficiency. New this quarter, in the U.S. we launched an industry-first voice-enabled retirement product on Amazon's Alexa.

A9 Updates to the ultimate reinvestment rate

The Canadian Actuarial Standards Board issued an exposure draft on new assumptions with reductions to the Ultimate Reinvestment Rate ("URR") and updates to the calibration criteria for stochastic risk-free rates. The exposure draft recommends a reduction of 15 basis points in the URR, and a corresponding change to stochastic risk-free rate modeling. We expect the final standard to be issued in the third quarter of 2019, and assuming the changes are in accordance with the exposure draft, would reduce net income attributed to shareholders by approximately \$0.5 billion (post-tax).¹

B PERFORMANCE BY SEGMENT

B1 Asia

(\$ millions, unless otherwise stated)

<i>Canadian dollars</i>	Quarterly Results		
	1Q19	4Q18	1Q18
Net income attributed to shareholders ⁽¹⁾	\$ 695	\$ 318	\$ 452
Core earnings ^{(1),(2)}	520	463	431
Annualized premium equivalent sales	1,336	1,040	984
Revenue	8,752	5,301	4,311
Revenue before realized and unrealized investment gains and losses ⁽³⁾	6,061	5,472	5,271
Assets under management (\$ billions) ⁽¹⁾	111.0	108.1	97.5
<i>U.S. dollars</i>			
Net income attributed to shareholders ⁽¹⁾	US\$ 522	US\$ 240	US\$ 359
Core earnings ^{(1),(2)}	391	350	342
Annualized premium equivalent sales	1,005	787	778
Revenue	6,584	4,012	3,409
Revenue before realized and unrealized investment gains and losses ⁽³⁾	4,560	4,141	4,168
Assets under management (\$ billions) ⁽¹⁾	83.0	79.3	75.6

⁽¹⁾ The 2018 comparatives for net income attributed to shareholders, core earnings and assets under management have been updated to reflect the 2019 methodology for allocating capital and interest on surplus to our insurance segments from the Corporate and Other segment.

⁽²⁾ See "Performance and non-GAAP measures" for a reconciliation between IFRS net income attributed to shareholders and core earnings.

⁽³⁾ See section A6 "Impact of fair value accounting".

Asia's net income attributed to shareholders was \$695 million in 1Q19 compared with \$452 million in 1Q18. Net income attributed to shareholders is comprised of core earnings, which was \$520 million in 1Q19 compared with \$431 million in 1Q18, and items excluded from core earnings, which amounted to a net gain of \$175 million in 1Q19 compared with a net gain of \$21 million in 1Q18. The changes in net income attributed to shareholders and core earnings expressed in Canadian dollars are due to the factors described below and, in addition, core earnings reflected a net \$22 million favourable impact due to changes in foreign currency exchange rates versus the Canadian dollar.

¹ See "Caution regarding forward-looking statements" above.

Expressed in U.S. dollars, the presentation currency of the segment, net income attributed to shareholders was US\$522 million in 1Q19 compared with US\$359 million in 1Q18 and core earnings were US\$391 million in 1Q19 compared with US\$342 million in 1Q18. Items excluded from core earnings were a net gain of US\$131 million in 1Q19 compared with a net gain of US\$17 million in 1Q18 (see a reconciliation of net income attributed to shareholders to core earnings in “Performance and non-GAAP measures” below).

Core earnings in 1Q19 increased 17% compared with 1Q18. The increase in core earnings was driven by the growth in new business which included strong sales of the COLI product in advance of a potential change in Japan’s tax regulations.

APE sales in 1Q19 exceeded US\$1 billion for the first time, an increase of 32% compared with 1Q18 driven by growth in Japan, Hong Kong and Asia Other. NBV in 1Q19 was US\$309 million, a 23% increase compared with 1Q18, reflecting growth in Japan, Hong Kong and Asia Other. New business value margin (“NBV margin”)¹ was 33.6% in 1Q19 compared with 35.9% in 1Q18.

- Japan APE sales in 1Q19 were US\$409 million, an increase of 62% compared with 1Q18 driven by strong sales of the COLI product reflecting an increase in customer purchases in anticipation of a potential change in tax regulations. We have temporarily suspended sales of our COLI product offering until the tax changes are clarified. Japan NBV in 1Q19 of US\$115 million increased 57% compared with 1Q18 due to higher sales volumes. Japan NBV margin was 28.2%, a decrease of 0.8 percentage points compared with 1Q18.
- Hong Kong APE sales in 1Q19 were US\$165 million, an 11% increase compared with 1Q18 driven by strong growth through our bank channel. Hong Kong NBV in 1Q19 of US\$98 million increased 7% compared with 1Q18, due to higher sales partially offset by a decline in interest rates. Hong Kong NBV margin was 59.5%, a decrease of 2.3 percentage points compared with 1Q18.
- Asia Other APE sales in 1Q19 were US\$431 million, a 20% increase compared with 1Q18 driven by double-digit growth in both bancassurance and agency channels. Asia Other NBV in 1Q19 of US\$96 million increased 10% compared with 1Q18 due to higher sales, partially offset by the impact of changes in product mix. Asia Other NBV margin was 27.6%, a decrease of 1.5 percentage points compared with 1Q18.

Revenue was US\$6.6 billion in 1Q19 compared with US\$3.4 billion in 1Q18. Revenue before realized and unrealized investment gains and losses, was US\$4.6 billion in 1Q19, an increase of 9% compared with 1Q18, driven by recurring premium growth from in-force business and higher new business premiums.

Assets under management¹ were US\$83.0 billion as at March 31, 2019, an increase of US\$3.7 billion or 5% compared with December 31, 2018, driven by net customer inflows of US\$2.6 billion and an increase in the fair value of invested assets due to lower interest rates.

Business highlights - In 1Q19, we launched a full suite of tax-deductible insurance solutions tailored to enhance the health, well-being and retirement preparedness of Hong Kong people, under the Hong Kong Voluntary Health Insurance plans. In addition, we launched Manulife Financial Advisors Company, a wholly-owned independent agency in Japan, that will distribute Manulife insurance solutions as well as select products from other insurance providers.

B2 Canada

(\$ millions, unless otherwise stated)	Quarterly Results		
	1Q19	4Q18	1Q18
Net income (loss) attributed to shareholders ⁽¹⁾	\$ 751	\$ (74)	\$ 452
Core earnings ^{(1),(2)}	283	305	283
Annualized premium equivalent sales	261	277	290
Manulife Bank average net lending assets (\$ billions)	21.7	21.5	20.6
Revenue	7,090	3,830	3,184
Revenue before realized and unrealized investment income gains and losses ⁽³⁾	3,766	3,546	3,572
Assets under management (\$ billions) ⁽¹⁾	146.6	141.9	143.4

⁽¹⁾ The 2018 comparatives for net income (loss) attributed to shareholders, core earnings and assets under management have been updated to reflect the 2019 methodology for allocating capital and interest on surplus to our insurance segments from the Corporate and Other segment.

⁽²⁾ See “Performance and non-GAAP measures” below for a reconciliation between IFRS net income attributed to shareholders and core earnings.

⁽³⁾ See section A6 “Impact of fair value accounting”.

¹ This item is a non-GAAP measure. See “Performance and non-GAAP measures” below.

Canada's 1Q19 net income attributed to shareholders was \$751 million compared with \$452 million in 1Q18. Net income attributed to shareholders is comprised of core earnings, which were \$283 million in 1Q19, in line with 1Q18, and items excluded from core earnings, which were a net gain of \$468 million in 1Q19 compared with a net gain of \$169 million in 1Q18 (see a reconciliation of net income attributed to shareholders to core earnings in "Performance and non-GAAP measures" below).

Core earnings were in line with 1Q18, reflecting the favourable impact of new business in individual insurance from sales of the Manulife Par product, offset by lower earnings as a result of reinsurance actions taken last year to free up capital on our legacy businesses and a number of other smaller items.

APE sales of \$261 million in 1Q19 decreased by \$29 million or 10% compared with 1Q18, driven by variability in the large-case group insurance market and lower annuities sales, partially offset by the introduction of Manulife Par.

- Individual insurance APE sales in 1Q19 of \$78 million increased \$24 million or 44% compared with 1Q18, driven by the introduction of Manulife Par in the second half of last year.
- Group insurance APE sales in 1Q19 of \$127 million decreased \$36 million or 22% compared with 1Q18, due to variability in the large-case group insurance market.
- Annuities APE sales in 1Q19 of \$56 million decreased \$17 million or 23% compared with 1Q18. We are focused on growth in lower risk segregated fund products, which in 1Q19 accounted for 77% of annuity APE sales.

Manulife Bank quarterly average net lending assets were \$21.7 billion as at March 31, 2019, up \$0.2 billion or 1% from December 31, 2018.

Revenue in 1Q19 was \$7.1 billion compared with \$3.2 billion in 1Q18. Revenue before realized and unrealized investment gains and losses was \$3.8 billion in 1Q19, an increase of \$0.2 billion compared with 1Q18.

Assets under management were \$146.6 billion as at March 31, 2019, an increase of \$4.7 billion or 3% from December 31, 2018, due to the favourable impact of markets.

Business highlights - In 1Q19, we entered into a reinsurance transaction on our legacy individual annuities block, reducing risk and freeing up \$65 million of capital. In addition, our Life Moments initiative won the 2018 International Service Excellence Award as the Customer Service Project of the Year for supporting Canadians during life's biggest events, and we continued to increase the number of robotics-processed transactions to 1.1 million in the quarter, making it easier for our customers to do business with us and improving our expense efficiency ratio. We also launched a new advertising campaign, "A little can do a lot" encouraging Canadians to improve their financial habits by taking little steps to achieve big goals.

B3 U.S.

(\$ millions, unless otherwise stated)		Quarterly Results		
Canadian dollars		1Q19	4Q18	1Q18
Net income attributed to shareholders ⁽¹⁾	\$	441	\$ 513	\$ 528
Core earnings ^{(1),(2)}		475	454	422
Annualized premium equivalent sales		143	152	113
Revenue		6,140	(1,792)	7
Revenue before realized and unrealized investment income gains and losses ⁽³⁾		3,230	(2,765)	3,968
Assets under management (\$ billions) ⁽¹⁾		224.3	223.6	228.3
U.S. dollars				
Net income attributed to shareholders ⁽¹⁾	US\$	332	US\$ 389	US\$ 417
Core earnings ^{(1),(2)}		357	345	333
Annualized premium equivalent sales		108	115	90
Revenue		4,618	(1,358)	6
Revenue before realized and unrealized investment income gains and losses ⁽³⁾		2,429	(2,095)	3,138
Assets under management (\$ billions) ⁽¹⁾		167.8	163.9	177.0

⁽¹⁾ The 2018 comparatives for net income attributed to shareholders, core earnings and assets under management have been updated to reflect the 2019 methodology for allocating capital and interest on surplus to our insurance segments from the Corporate and Other segment.

⁽²⁾ See "Performance and non-GAAP measures" below for a reconciliation between IFRS net income attributed to shareholders and core earnings.

⁽³⁾ See section A6 "Impact of fair value accounting".

U.S. 1Q19 net income attributed to shareholders was \$441 million compared with \$528 million in 1Q18. Net income attributed to shareholders is comprised of core earnings, which amounted to \$475 million in 1Q19 compared with \$422 million in 1Q18, and items excluded from core earnings, which amounted to a net charge of \$34 million in 1Q19 compared with a net gain of \$106 million in 1Q18. The changes in net income attributed to shareholders and core earnings expressed in Canadian dollars are due to the factors described below and, in addition, the change in core earnings reflected a net \$23 million favourable currency impact from the strengthening of the U.S. dollar compared with the Canadian dollar.

Expressed in U.S. dollars, the functional currency of the segment, 1Q19 net income attributed to shareholders was US\$332 million compared with US\$417 million in 1Q18, core earnings were US\$357 million in 1Q19 compared with US\$333 million in 1Q18, and items excluded from core earnings were a net charge of US\$25 million in 1Q19 compared with a net gain of US\$84 million in 1Q18 (see a reconciliation of net income attributed to shareholders to core earnings in “Performance and non-GAAP measures” below).

The US\$24 million increase in core earnings was primarily driven by the impact of higher sales volume and improved product margins, partially offset by the impact of the 2018 portfolio optimization activities on our legacy businesses. Long-term care policyholder experience was a net neutral in the quarter.

APE sales in 1Q19 of US\$108 million increased 20% compared with 1Q18, primarily due to enhanced features on the indexed universal life product offerings, heightened customer interest in international products, and continued ramp-up of product sales with the John Hancock Vitality PLUS feature which benefited multiple products in 1Q19. Term and protection universal life sales continue to be impacted by competitive pressures.

Revenue in 1Q19 was US\$4.6 billion compared with US\$6 billion in 1Q18. Revenue before net realized and unrealized investment gains and losses was US\$2.4 billion in 1Q19, a decrease compared with US\$3.1 billion in 1Q18. The US\$0.7 billion decrease was primarily due to US\$0.5 billion of ceded premiums from the reinsurance of our legacy individual and group payout annuities business on policies originally sold in New York.

Assets under management as at March 31, 2019 were US\$167.8 billion, an increase of 2% from December 31, 2018. The increase was driven by the impact of favourable equity markets on the segregated fund assets and favourable mark-to-market movement on assets supporting our insurance business resulting from interest rate movements partially offset by the continued run-off of the annuities business including the reinsurance of the New York portion of the payout annuity block in 1Q19.

Business highlights - In 1Q19, we closed the reinsurance of the block of New York individual and group payout annuity policies releasing capital of US\$15 million. In addition, we improved the new business profitability in our brokerage life insurance business by improved pricing, reducing expenses and enhancing our focus on sales support and training.

B4 Global Wealth and Asset Management

(\$ millions, unless otherwise stated)	Quarterly Results		
	1Q19	4Q18	1Q18
Net income attributed to shareholders ⁽¹⁾	\$ 233	\$ 218	\$ 223
Core earnings ⁽¹⁾	233	231	227
Core EBITDA ⁽²⁾	366	362	360
Sales			
Wealth and asset management gross flows	27,873	26,306	36,466
Wealth and asset management net flows	(1,323)	(8,954)	9,977
Revenue	1,334	1,371	1,347
Assets under management and administration (\$ billions)	648.1	608.8	626.8

⁽¹⁾ See “Performance and non-GAAP measures” below for a reconciliation between IFRS net income attributed to shareholders and core earnings.

⁽²⁾ Core EBITDA is a non-GAAP measure and is core earnings before interest, taxes, depreciation and amortization. See “Performance and non-GAAP measures” below.

Global Wealth and Asset Management’s net income attributed to shareholders was \$233 million in 1Q19 compared with \$223 million in 1Q18. Net income attributed to shareholders is comprised of core earnings, which were \$233 million in 1Q19 compared with \$227 million in 1Q18 and items excluded from core earnings, which were Nil in 1Q19 compared with a net charge of \$4 million in 1Q18.

Core earnings were in line with 1Q18 as lower fee income was offset by lower expenses as we continued to make progress in leveraging our global scale and driving cost efficiencies.

Core EBITDA was \$366 million in 1Q19, a decrease of 2% compared with 1Q18, driven by the same factors as mentioned above.

Gross Flows and Net Flows - As noted above, gross flows were \$27.9 billion in 1Q19, a decrease of 26% compared with 1Q18, and net flows were negative \$1.3 billion in 1Q19, a decrease of \$11.3 billion compared with 1Q18. By geography the results were:

WAM Asia:

- Gross flows in Asia in 1Q19 were \$4.6 billion, a decrease of \$2.8 billion or 39% compared with 1Q18, driven by lower gross flows in institutional asset management due to large contributions in 1Q18 from existing and new clients and by lower retail flows.
- Net flows in 1Q19 were \$0.6 billion compared with net flows of \$2.0 billion in 1Q18, driven by lower gross flows as mentioned above, partially offset by lower redemptions in mainland China from retail money market funds.

WAM Canada:

- Gross flows in Canada in 1Q19 were \$6.4 billion, a decrease of \$1.7 billion or 21% compared with 1Q18, driven by the non-recurrence of a \$1.0 billion fixed income mandate in institutional asset management and lower retail flows compared to strong 1Q18 results. This was partially offset by higher new plan sales and recurring contributions in retirement.
- Net flows were \$2.1 billion in 1Q19 compared with net flows of \$3.5 billion in 1Q18, driven by lower gross flows as mentioned above.

WAM U.S.:

- Gross flows in the U.S. in 1Q19 were \$16.9 billion, a decrease of \$4.1 billion or 23% compared with 1Q18, driven by lower retail gross flows amid ongoing market volatility, and the non-recurrence of a \$1.0 billion funding from an existing client in institutional asset management in 1Q18. Retirement gross flows were in line with the prior year.
- Net flows in 1Q19 were negative \$4.0 billion compared with positive net flows of \$4.5 billion in 1Q18, driven by lower gross flows in retail and institutional asset management along with higher redemptions, partly due to the rationalization of our investment management teams, designed to improve margins and to focus our line-up on our core capabilities where we can generate further scale, as well as portfolio rebalancing by a large advisor.

Revenue in 1Q19 was \$1.3 billion, in line with 1Q18.

Assets under management and administration of \$648 billion as at March 31, 2019 increased 8% compared with December 31, 2018 driven by favourable investment performance, partially offset by negative net flows. Global WAM also manages \$189 billion in assets for the Company's non-WAM reporting segments, and including those managed assets, AUMA managed by Global WAM was \$837 billion as at March 31, 2019 compared with \$790 billion as at December 31, 2018.

Business highlights - In 1Q19, we continued to diversify our product offering with the launch of the Manulife Shariah Global REIT Fund in Malaysia, the first Shariah global REIT fund in the world available to retail investors, and launched our 15th ETF in the U.S., the John Hancock Multifactor Media and Communications fund. We furthered our commitment to enhancing our customers' digital experience in 1Q19 as we integrated Amazon's Alexa on our U.S. retirement platform, enabling our customers to access the most popular website queries through their Alexa-enabled devices, such as account balances, fund allocations, personal rate of return and more.

B5 Corporate and Other

(\$ millions, unless otherwise stated)	Quarterly Results		
	1Q19	4Q18	1Q18
Net income (loss) attributed to shareholders⁽¹⁾	\$ 56	\$ (382)	\$ (283)
Core loss excluding core investment gains ^{(1),(2)}	\$ (63)	\$ (216)	\$ (156)
Core investment gains	100	100	96
Total core gain (loss)	\$ 37	\$ (116)	\$ (60)
Revenue	\$ 235	\$ (196)	\$ (101)

⁽¹⁾ The 2018 comparatives for net income (loss) attributed to shareholders and core loss excluding core investment gains have been updated to reflect the 2019 methodology for allocating capital and interest on surplus to our insurance segments from the Corporate and Other segment.

⁽²⁾ See "Performance and non-GAAP measures" for a reconciliation between IFRS net income attributed to shareholders and core earnings.

Corporate and Other is composed of investment performance on assets backing capital, net of amounts allocated to operating segments; financing costs; costs incurred by the corporate office related to shareholder activities (not allocated to the operating segments); our Property and Casualty (“P&C”) Reinsurance business; as well as run-off reinsurance operations including variable annuities and accident and health.

For segment reporting purposes, settlement costs for macro equity hedges and other non-operating items are included in Corporate and Other's earnings. This segment is also where we reclassify favourable investment-related experience to core earnings from items excluded from core earnings, subject to certain limits (see “Performance and non-GAAP measures” below). In each of the other segments, we report all investment-related experience in items excluded from core earnings.

Corporate and Other reported a net gain attributed to shareholders of \$56 million in 1Q19 compared with a net loss attributed to shareholders of \$283 million in 1Q18. The core gain was \$37 million in 1Q19 compared with a core loss of \$60 million in 1Q18 and the items excluded from core gain/loss amounted to a net gain of \$19 million in 1Q19 compared with a net charge of \$223 million in 1Q18 (see a reconciliation of net income (loss) attributed to shareholders to core earnings in “Performance and non-GAAP measures” below).

The \$97 million improvement in core earnings was largely due to the favourable impact of markets on seed money investments in new segregated and mutual funds, higher investment income, lower withholding taxes on future U.S. remittances and lower expenses, partially offset by lower gains on AFS equities.

Revenue in 1Q19 was a gain of \$235 million compared with a loss of \$101 million in 1Q18. The variance was driven by realized gains on the sale of AFS bonds in 1Q19 compared with losses in 1Q18, the favourable impact of markets on seed money investments, and higher investment income, partially offset by lower realized gains on AFS equities.

C RISK MANAGEMENT AND RISK FACTORS UPDATE

This section provides an update to our risk management practices and risk factors outlined in the MD&A in our 2018 Annual Report. The shaded text and tables in this section of the MD&A represent our disclosure on market and liquidity risk in accordance with IFRS 7 “Financial Instruments – Disclosures”. Accordingly, the following shaded text and tables represent an integral part of our unaudited Interim Consolidated Financial Statements.

C1 Variable annuity and segregated fund guarantees

As described in the MD&A in our 2018 Annual Report, guarantees on variable annuity products and segregated funds may include one or more of death, maturity, income and withdrawal guarantees. Variable annuity and segregated fund guarantees are contingent on and only payable upon the occurrence of the relevant event, if fund values at that time are below guaranteed values. Depending on future equity market levels, liabilities on current in-force business would be due primarily in the period from 2019 to 2039.

We seek to mitigate a portion of the risks embedded in our retained (i.e. net of reinsurance) variable annuity and segregated fund guarantee business through the combination of our dynamic and macro hedging strategies (see section C3 “Publicly traded equity performance risk” below).

The table below shows selected information regarding the Company's variable annuity and segregated fund investment-related guarantees gross and net of reinsurance.

Variable annuity and segregated fund guarantees, net of reinsurance

As at (\$ millions)	March 31, 2019			December 31, 2018		
	Guarantee value	Fund value	Amount at risk ^{(4),(5)}	Guarantee value	Fund value	Amount at risk ^{(4),(5)}
Guaranteed minimum income benefit	\$ 5,059	\$ 3,860	\$ 1,224	\$ 5,264	\$ 3,675	\$ 1,593
Guaranteed minimum withdrawal benefit	58,437	50,552	8,192	60,494	49,214	11,388
Guaranteed minimum accumulation benefit	18,287	18,637	16	18,611	18,720	141
Gross living benefits ⁽¹⁾	81,783	73,049	9,432	84,369	71,609	13,122
Gross death benefits ^{(2),(3)}	10,221	16,548	982	10,663	14,654	1,567
Total gross of reinsurance	92,004	89,597	10,414	95,032	86,263	14,689
Living benefits reinsured	4,343	3,337	1,023	4,515	3,173	1,343
Death benefits reinsured	2,249	2,161	382	2,353	2,070	493
Total reinsured	6,592	5,498	1,405	6,868	5,243	1,836
Total, net of reinsurance	\$ 85,412	\$ 84,099	\$ 9,009	\$ 88,164	\$ 81,020	\$ 12,853

- (1) Where a policy includes both living and death benefits, the guarantee in excess of the living benefit is included in the death benefit category as outlined in footnote 3.
- (2) Contracts with guaranteed long-term care benefits are included in this category.
- (3) Death benefits include stand-alone guarantees and guarantees in excess of living benefit guarantees where both death and living benefits are provided on a policy.
- (4) Amount at risk (in-the-money amount) is the excess of guarantee values over fund values on all policies where the guarantee value exceeds the fund value. This amount is not currently payable. For guaranteed minimum death benefit, the amount at risk is defined as the current guaranteed minimum death benefit in excess of the current account balance. For guaranteed minimum income benefit, the amount at risk is defined as the excess of the current annuitization income base over the current account value. For all guarantees, the amount at risk is floored at zero at the single contract level.
- (5) The amount at risk net of reinsurance at March 31, 2019 was \$9,009 million (December 31, 2018 – \$12,853 million) of which: US\$5,100 million (December 31, 2018 – US\$6,899 million) was on our U.S. business, \$1,699 million (December 31, 2018 – \$2,654 million) was on our Canadian business, US\$185 million (December 31, 2018 – US\$332 million) was on our Japan business and US\$186 million (December 31, 2018 – US\$246 million) was related to Asia (other than Japan) and our run-off reinsurance business.

C2 Caution related to sensitivities

In this document, we provide sensitivities and risk exposure measures for certain risks. These include sensitivities due to specific changes in market prices and interest rate levels projected using internal models as at a specific date, and are measured relative to a starting level reflecting the Company's assets and liabilities at that date and the actuarial factors, investment activity and investment returns assumed in the determination of policy liabilities. The risk exposures measure the impact of changing one factor at a time and assume that all other factors remain unchanged. Actual results can differ significantly from these estimates for a variety of reasons including the interaction among these factors when more than one changes; changes in actuarial and investment return and future investment activity assumptions; actual experience differing from the assumptions, changes in business mix, effective tax rates and other market factors; and the general limitations of our 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 below. Given the nature of these calculations, we cannot provide assurance that the actual impact on net income attributed to shareholders or on ML's LICAT total ratio will be as indicated. Market movements affect LICAT capital sensitivities both through income and other components of the regulatory capital framework. For example, LICAT is affected by changes to other comprehensive income.

C3 Publicly traded equity performance risk

As outlined in our 2018 Annual Report, our macro hedging strategy is designed to mitigate public equity risk arising from variable annuity guarantees not dynamically hedged and from other products and fees. In addition, our variable annuity guarantee dynamic hedging strategy is not designed to completely offset the sensitivity of policy liabilities to all risks associated with the guarantees embedded in these products (see pages 42 and 43 of our 2018 Annual Report).

The table below shows the potential impact on net income attributed to shareholders resulting from an immediate 10%, 20% and 30% change in market values of publicly traded equities followed by a return to the expected level of growth assumed in the valuation of policy liabilities. If market values were to remain flat for an entire year, the potential impact would be roughly equivalent to an immediate decline in market values equal to the expected level of annual growth assumed in the valuation of policy liabilities. Further, if after market values dropped 10%, 20% or 30% they continued to decline, remained flat, or grew more slowly than assumed in the valuation the potential impact on net income attributed to shareholders could be considerably more than shown. Refer to section D2 "Sensitivity of policy liabilities to asset related assumptions" for more information on the level of growth assumed and on the net income sensitivity to changes in these long-term assumptions. The potential impact is shown after taking into account the impact of the change in markets on the hedge assets. While we cannot reliably estimate the amount of the change in dynamically hedged variable annuity guarantee liabilities that will not be offset by the profit or loss on the dynamic hedge assets, we make certain assumptions for the purposes of estimating the impact on net income attributed to shareholders.

This estimate assumes that the performance of the dynamic hedging program would not completely offset the gain/loss from the dynamically hedged variable annuity guarantee liabilities. It assumes that the hedge assets are based on the actual position at the period end, and that equity hedges in the dynamic program are rebalanced at 5% intervals. In addition, we assume that the macro hedge assets are rebalanced in line with market changes.

It is also important to note that these estimates are illustrative, and that the hedging program may underperform these estimates, particularly during periods of high realized volatility and/or periods where both interest rates and equity market movements are unfavourable.

The Standards of Practice for the valuation of insurance contract liabilities and guidance published by the CIA constrain the investment return assumptions for public equities and certain ALDA based on historical return benchmarks for public equities. The potential impact on net income attributed to shareholders does not take into account possible changes to investment return assumptions resulting from the impact of declines in public equity market values on these historical return benchmarks.

Potential immediate impact on net income attributed to shareholders arising from changes to public equity returns^{(1),(2),(3)}

As at March 31, 2019 (\$ millions)	-30%	-20%	-10%	10%	20%	30%
Underlying sensitivity to net income attributed to shareholders⁽⁴⁾						
Variable annuity guarantees	\$ (3,800)	\$ (2,280)	\$ (1,040)	\$ 810	\$ 1,400	\$ 1,820
Asset based fees (annualized)	(540)	(360)	(180)	180	360	540
General fund equity investments ⁽⁵⁾	(1,120)	(730)	(330)	300	610	910
Total underlying sensitivity before hedging	(5,460)	(3,370)	(1,550)	1,290	2,370	3,270
Impact of macro and dynamic hedge assets ⁽⁶⁾	3,200	1,930	860	(730)	(1,290)	(1,700)
Net potential impact on net income attributed to shareholders after impact of hedging	\$ (2,260)	\$ (1,440)	\$ (690)	\$ 560	\$ 1,080	\$ 1,570
As at December 31, 2018 (\$ millions)	-30%	-20%	-10%	10%	20%	30%
Underlying sensitivity to net income attributed to shareholders⁽⁴⁾						
Variable annuity guarantees	\$ (3,650)	\$ (2,240)	\$ (1,040)	\$ 890	\$ 1,610	\$ 2,170
Asset based fees (annualized)	(480)	(320)	(160)	160	320	480
General fund equity investments ⁽⁵⁾	(1,150)	(780)	(390)	290	580	860
Total underlying sensitivity before hedging	(5,280)	(3,340)	(1,590)	1,340	2,510	3,510
Impact of macro and dynamic hedge assets ⁽⁶⁾	3,110	1,940	910	(820)	(1,450)	(1,930)
Net potential impact on net income attributed to shareholders after impact of hedging	\$ (2,170)	\$ (1,400)	\$ (680)	\$ 520	\$ 1,060	\$ 1,580

⁽¹⁾ See "Caution related to sensitivities" above.

⁽²⁾ The tables above show the potential impact on net income attributed to shareholders resulting from an immediate 10%, 20% and 30% change in market values of publicly traded equities followed by a return to the expected level of growth assumed in the valuation of policy liabilities.

⁽³⁾ Please refer to section D2 "Sensitivity of policy liabilities to asset related assumptions" for more information on the level of growth assumed and on the net income sensitivity to changes in these long-term assumptions.

⁽⁴⁾ Defined as earnings sensitivity to a change in public equity markets including settlements on reinsurance contracts, but before the offset of hedge assets or other risk mitigants.

⁽⁵⁾ This impact for general fund equities is calculated as at a point-in-time and does not include: (i) any potential impact on public equity weightings; (ii) any gains or losses on AFS public equities held in the Corporate and Other segment; or (iii) any gains or losses on public equity investments held in Manulife Bank. The participating policy funds are largely self-supporting and generate no material impact on net income attributed to shareholders as a result of changes in equity markets.

⁽⁶⁾ Includes the impact of rebalancing equity hedges in the macro and dynamic hedging program. The impact of dynamic hedge rebalancing represents the impact of rebalancing equity hedges for dynamically hedged variable annuity guarantee best estimate liabilities at 5% intervals, but does not include any impact in respect of other sources of hedge ineffectiveness e.g. fund tracking, realized volatility and equity, interest rate correlations different from expected among other factors.

Changes in equity markets impact our available and required components of the LICAT total ratio. The following table shows the potential impact to MLI's LICAT total ratio resulting from changes in public equity market values.

Potential immediate impact on MLI's LICAT total ratio arising from public equity returns different than the expected return for policy liability valuation^{(1),(2),(3)}

	Impact on MLI's LICAT total ratio					
Percentage points	-30%	-20%	-10%	10%	20%	30%
March 31, 2019	(5)	(3)	(2)	1	6	7
December 31, 2018	(6)	(4)	(2)	1	5	7

⁽¹⁾ See "Caution related to sensitivities" above. In addition, estimates exclude changes to the net actuarial gains/losses with respect to the Company's pension obligations as a result of changes in equity markets, as the impact on the quoted sensitivities is not considered to be material.

⁽²⁾ The potential impact is shown assuming that the change in value of the hedge assets does not completely offset the change in the dynamically hedged variable annuity guarantee liabilities. The estimated amount that would not be completely offset relates to our practices of not hedging the provisions for adverse deviation and of rebalancing equity hedges for dynamically hedged variable annuity liabilities at 5% intervals.

⁽³⁾ The Office of the Superintendent of Financial Institutions ("OSFI") rules for segregated fund guarantees reflect full capital impacts of shocks over 20 quarters within a prescribed range. As such, the deterioration in equity markets could lead to further increases in capital requirements after the initial shock.

C4 Interest rate and spread risk sensitivities and exposure measures

As at March 31, 2019, we estimated the sensitivity of our net income attributed to shareholders to a 50 basis point parallel decline in interest rates to be a charge of \$200 million, and to a 50 basis point increase in interest rates to be a benefit of \$200 million.

The table below shows the potential impact on net income attributed to shareholders from a 50 basis point parallel move in interest rates. This includes a change of 50 basis points in current government, swap and corporate rates for all maturities across all markets with no change in credit spreads between government, swap and corporate rates, and with a floor of zero on government rates where government rates are not currently negative, relative to the rates assumed in the valuation of policy liabilities, including embedded derivatives. For variable annuity guarantee liabilities that are dynamically hedged, it is assumed that interest rate hedges are rebalanced at 20 basis point intervals.

As the sensitivity to a 50 basis point change in interest rates includes any associated change in the applicable reinvestment scenarios, the impact of changes to interest rates for less than, or more than 50 basis points is unlikely to be linear. Furthermore, our sensitivities are not consistent across all regions in which we operate, and the impact of yield curve changes will vary depending upon the geography where the change occurs. Reinvestment assumptions used in the valuation of policy liabilities tend to amplify the negative effects of a decrease in interest rates and dampen the positive effects of interest rate increases. This is because the reinvestment assumptions used in the valuation of our insurance liabilities are based on interest rate scenarios and calibration criteria set by the Canadian Actuarial Standards Board, while our interest rate hedges are valued using current market interest rates. Therefore, in any particular quarter, changes to the reinvestment assumptions are not fully aligned to changes in current market interest rates especially when there is a significant change in the shape of the interest rate curve. As a result, the impact from non-parallel movements may be materially different from the estimated impact of parallel movements. For example, if long-term interest rates increase more than short-term interest rates (sometimes referred to as a steepening of the yield curve) in North America, the decrease in the value of our swaps may be greater than the decrease in the value of our insurance liabilities. This could result in a charge to net income attributed to shareholders in the short-term even though the rising and steepening of the yield curve, if sustained, may have a positive long-term economic impact.

The potential impact on net income attributed to shareholders does not take into account any future potential changes to our ultimate reinvestment rate assumptions or calibration criteria for stochastic risk-free rates or other potential impacts of lower interest rate levels, for example, increased strain on the sale of new business or lower interest earned on our surplus assets. The impact also does not reflect any unrealized gains or losses on AFS fixed income assets held in our Corporate and Other segment. Changes in the market value of these assets may provide a natural economic offset to the interest rate risk arising from our product liabilities. In order for there to also be an accounting offset, the Company would need to realize a portion of the AFS fixed income asset unrealized gains or losses. It is not certain we would crystallize any of the unrealized gains or losses available.

The impact does not reflect any potential effect of changing interest rates to the value of our ALDA. Rising interest rates could negatively impact the value of our ALDA (see “Critical Actuarial and Accounting Policies – Fair Value of Invested Assets”, on page 65 of our 2018 Annual Report). More information on ALDA can be found in section C5 “Alternative long-duration asset performance risk”.

Under LICAT, changes in unrealized gains or losses in our AFS bond portfolio resulting from interest rate shocks tend to dominate capital sensitivities. As a result, the reduction in interest rates improves LICAT total ratios and vice-versa.

The following table shows the potential impact on net income attributed to shareholders including the change in the market value of AFS fixed income assets held in our Corporate and Other segment, which could be realized through the sale of these assets.

Potential impact on net income attributed to shareholders and MLI's LICAT total ratio of an immediate parallel change in interest rates relative to rates assumed in the valuation of policy liabilities^{(1),(2),(3),(4)}

As at	March 31, 2019		December 31, 2018	
	-50bp	+50bp	-50bp	+50bp
Net income attributed to shareholders (\$ millions)				
Excluding change in market value of AFS fixed income assets held in the Corporate and Other segment	\$ (200)	\$ 200	\$ (100)	\$ 100
From fair value changes in AFS fixed income assets held in the Corporate and Other segment, if realized	1,600	(1,500)	1,600	(1,500)
MLI's LICAT total ratio (Percentage points)				
LICAT total ratio change in percentage points ⁽⁵⁾	3	(3)	3	(3)

⁽¹⁾ See "Caution related to sensitivities" above. In addition, estimates exclude changes to the net actuarial gains/losses with respect to the Company's pension obligations as a result of changes in interest rates, as the impact on the quoted sensitivities is not considered to be material.

⁽²⁾ Includes guaranteed insurance and annuity products, including variable annuity contracts as well as adjustable benefit products where benefits are generally adjusted as interest rates and investment returns change, a portion of which have minimum credited rate guarantees. For adjustable benefit products subject to minimum rate guarantees, the sensitivities are based on the assumption that credited rates will be floored at the minimum.

⁽³⁾ The amount of gain or loss that can be realized on AFS fixed income assets held in the Corporate and Other segment will depend on the aggregate amount of unrealized gain or loss.

⁽⁴⁾ Sensitivities are based on projected asset and liability cash flows and the impact of realizing fair value changes in AFS fixed income is based on the holdings at the end of the period.

⁽⁵⁾ Includes all LICAT impacts, including realized and unrealized fair value changes in AFS fixed income assets.

The following tables show the potential impact on net income attributed to shareholders resulting from a change in corporate spreads and swap spreads over government bond rates for all maturities across all markets with a floor of zero on the total interest rate, relative to the spreads assumed in the valuation of policy liabilities.

Potential impact on net income attributed to shareholders and MLI's LICAT total ratio arising from changes to corporate spreads and swap spreads^{(1),(2),(3)}

Corporate spreads^{(4),(5)}	March 31, 2019		December 31, 2018	
As at	-50bp	+50bp	-50bp	+50bp
Net income attributed to shareholders (\$ millions)	\$ (700)	\$ 700	\$ (600)	\$ 600
MLI's LICAT total ratio (change percentage points) ⁽⁶⁾	(5)	6	(5)	5
Swap spreads	March 31, 2019		December 31, 2018	
As at	-20bp	+20bp	-20bp	+20bp
Net income attributed to shareholders (\$ millions)	\$ 100	\$ (100)	\$ 100	\$ (100)
MLI's LICAT total ratio (change percentage points) ⁽⁶⁾	nil	nil	nil	nil

⁽¹⁾ See "Caution related to sensitivities" above.

⁽²⁾ The impact on net income attributed to shareholders assumes no gains or losses are realized on our AFS fixed income assets held in the Corporate and Other segment and excludes the impact of changes in segregated fund bond values due to changes in credit spreads. The participating policy funds are largely self-supporting and generate no material impact on net income attributed to shareholders as a result of changes in corporate and swap spreads.

⁽³⁾ Sensitivities are based on projected asset and liability cash flows.

⁽⁴⁾ Corporate spreads are assumed to grade to the long-term average over five years.

⁽⁵⁾ As the sensitivity to a 50 basis point decline in corporate spreads includes the impact of a change in deterministic reinvestment scenarios where applicable, the impact of changes to corporate spreads for less than, or more than, the amounts indicated are unlikely to be linear.

⁽⁶⁾ Includes all LICAT impacts, including realized and unrealized fair value change in AFS fixed income assets. Under LICAT, spread movements are determined from a selection of investment grade bond indices with BBB and better bonds for each jurisdiction. For LICAT, we use the following indices: FTSE TMX Canada All Corporate Bond Index, Barclays USD Liquid Investment Grade Corporate Index, and Nomura-BPI (Japan).

C5 Alternative long-duration asset performance risk

The following table shows the potential impact on net income attributed to shareholders resulting from an immediate 10% change in market values of ALDA followed by a return to the expected level of growth assumed in the valuation of policy liabilities. If market values were to remain flat for an entire year, the potential impact would be roughly equivalent to an immediate decline in market values equal to the expected level of annual growth assumed in the valuation of policy liabilities. Further, if after market values dropped 10% they continued to decline, remained flat, or grew more slowly than assumed in the valuation of policy liabilities, the potential impact on net income attributed to shareholders could be

considerably more than shown. Refer to section D2 “Sensitivity of policy liabilities to asset related assumptions”, for more information on the level of growth assumed and on the net income sensitivity to changes in these long-term assumptions.

ALDA includes commercial real estate, timber and farmland real estate, oil and gas direct holdings, and private equities, some of which relate to oil and gas.

Potential impact on net income attributed to shareholders arising from changes in ALDA returns^{(1),(2),(3),(4),(5),(6)}

As at (\$ millions)	March 31, 2019		December 31, 2018	
	-10%	+10%	-10%	+10%
Real estate, agriculture and timber assets	\$ (1,200)	\$ 1,200	\$ (1,300)	\$ 1,200
Private equities and other ALDA	(1,600)	1,600	(1,600)	1,600
Alternative long-duration assets	\$ (2,800)	\$ 2,800	\$ (2,900)	\$ 2,800

⁽¹⁾ See “Caution Related to Sensitivities” above.

⁽²⁾ This impact is calculated as at a point-in-time impact and does not include: (i) any potential impact on ALDA weightings; or (ii) any gains or losses on ALDA held in the Corporate and Other segment.

⁽³⁾ The participating policy funds are largely self-supporting and generate no material impact on net income attributed to shareholders as a result of changes in ALDA returns. For some classes of ALDA, where there is not an appropriate long-term benchmark available, the return assumptions used in valuation are not permitted by the Standards of Practice and CIA guidance to result in a lower reserve than an assumption based on a historical return benchmark for public equities in the same jurisdiction.

⁽⁴⁾ Net income impact does not consider any impact of the market correction on assumed future return assumptions.

⁽⁵⁾ Please refer to section D2 “Sensitivity of policy liabilities to asset related assumptions” for more information on the level of growth assumed and on the net income sensitivity to changes in these long-term assumptions.

⁽⁶⁾ The impact of changes to the portfolio asset mix supporting our North American legacy business are reflected in the sensitivities when the changes take place.

D CRITICAL ACTUARIAL AND ACCOUNTING POLICIES

D1 Critical actuarial and accounting policies

Our significant accounting policies are described in note 1 to our Consolidated Financial Statements for the year ended December 31, 2018. The critical accounting policies and the estimation processes relate to the determination of insurance and investment contract liabilities, assessment of control over other entities for consolidation, estimation of fair value of invested assets, evaluation of invested asset impairment, accounting for derivative financial instruments, determination of pension and other post-employment benefit obligations and expenses, accounting for income taxes and uncertain tax positions and valuation and impairment of goodwill and intangible assets as described on pages 58 to 69 of our 2018 Annual Report.

D2 Sensitivity of policy liabilities to asset related assumptions

When the assumptions underlying our determination of policy liabilities are updated to reflect recent and emerging experience or change in outlook, the result is a change in the value of policy liabilities which in turn affects net income attributed to shareholders. The sensitivity of net income attributed to shareholders to updates to certain asset related assumptions underlying policy liabilities is shown below and assumes that there is a simultaneous change in the assumptions across all business units.

For changes in asset related assumptions, the sensitivity is shown net of the corresponding impact on income of the change in the value of the assets supporting policy liabilities. In practice, experience for each assumption will frequently vary by geographic market and business, and assumption updates are made on a business/geographic specific basis. Actual results can differ materially from these estimates for a variety of reasons including the interaction among these factors when more than one changes, changes in actuarial and investment return and future investment activity assumptions, actual experience differing from the assumptions, changes in business mix, effective tax rates and other market factors, and the general limitations of our internal models.

Potential impact on net income attributed to shareholders arising from changes to asset related assumptions supporting actuarial liabilities

As at (\$ millions)	Increase (decrease) in after-tax net income attributed to shareholders			
	March 31, 2019		December 31, 2018	
Asset related assumptions updated periodically in valuation basis changes	Increase	Decrease	Increase	Decrease
100 basis point change in future annual returns for public equities ⁽¹⁾	\$ 500	\$ (500)	\$ 500	\$ (500)
100 basis point change in future annual returns for ALDA ⁽²⁾	3,600	(4,000)	3,500	(3,900)
100 basis point change in equity volatility assumption for stochastic segregated fund modelling ⁽³⁾	(300)	300	(300)	300

⁽¹⁾ The sensitivity to public equity returns above includes the impact on both segregated fund guarantee reserves and on other policy liabilities. Expected long-term annual market growth assumptions for public equities are based on long-term historical observed experience and compliance with actuarial standards. As at March 31, 2019, the growth rates inclusive of dividends in the major markets used in the stochastic valuation models for valuing segregated fund guarantees are 9.3% per annum in Canada, 9.6% per annum in the U.S. and 6.2% per annum in Japan. Growth assumptions for European equity funds are market-specific and vary between 8.3% and 9.9%.

⁽²⁾ ALDA includes commercial real estate, timber, farmland, direct oil and gas properties, and private equities, some of which relate to oil and gas. Expected long-term return assumptions for ALDA and public equity are set in accordance with the Standards of Practice for the valuation of insurance contract liabilities and guidance published by the CIA. Annual best estimate return assumptions for ALDA and public equity include market growth rates and annual income, such as rent, production proceeds and dividends, and will vary based on our holding period. Over a 20-year horizon, our best estimate return assumptions range between 5.25% and 11.65%, with an average of 9.5% based on the current asset mix backing our guaranteed insurance and annuity business as of March 31, 2019, adjusted to reflect our decision to reduce the allocation to ALDA in the portfolio asset mix supporting our North American legacy businesses. Our return assumptions including the margins for adverse deviations in our valuation, which take into account the uncertainty of achieving the returns, range between 2.5% and 7.5%, with an average of 6.3% based on the asset mix backing our guaranteed insurance and annuity business as of March 31, 2019, adjusted to reflect our decision to reduce the allocation to ALDA in the portfolio asset mix supporting our North American legacy businesses.

⁽³⁾ Volatility assumptions for public equities are based on long-term historical observed experience and compliance with actuarial standards. The resulting volatility assumptions are 16.95% per annum in Canada and 17.15% per annum in the U.S. for large-cap public equities, and 19.25% per annum in Japan. For European equity funds, the volatility varies between 16.5% and 18.4%.

D3 Accounting and reporting changes

For accounting and reporting changes during the quarter, refer to note 2 of our unaudited Interim Consolidated Financial Statements for the three months ended March 31, 2019.

E OTHER

E1 Outstanding shares – selected information

Common shares

As at April 25, 2019 MFC had 1,968,394,229 common shares outstanding.

E2 Legal and regulatory proceedings

We are regularly involved in legal actions, both as a defendant and as a plaintiff. Information on legal and regulatory proceedings can be found in note 12 of the unaudited Interim Consolidated Financial Statements for the three months ended March 31, 2019.

E3 Performance and non-GAAP measures

We use a number of non-GAAP financial measures to measure overall performance and to assess each of our businesses. A financial measure is considered a non-GAAP measure for Canadian securities law purposes if it is presented other than in accordance with generally accepted accounting principles used for the Company's audited financial statements. Non-GAAP measures include: core earnings (loss); core ROE; diluted core earnings per common share; core earnings before income taxes, depreciation and amortization ("core EBITDA"); core EBITDA margin; core investment gains, constant exchange rate basis (measures that are reported on a constant exchange rate basis include percentage growth/decline in core earnings, sales, APE sales, gross flows, core EBITDA, new business value ("NBV"), new business value margin, assets under management, and assets under management and administration ("AUMA")); assets under administration; expense efficiency ratio; assets under management and administration; assets under management; consolidated capital; embedded value; new business value; new business value margin; sales; APE sales; gross flows; and net flows. Non-GAAP financial measures are not defined terms under GAAP and, therefore, are unlikely to be comparable to similar terms used by other issuers. Therefore, they should not be considered in isolation or as a substitute for any other financial information prepared in accordance with GAAP.

Core earnings (loss) is a non-GAAP measure which we believe aids investors in better understanding the long-term earnings capacity and valuation of the business. Core earnings allows investors to focus on the Company's operating performance by excluding the direct impact of changes in equity markets and interest rates, changes in actuarial methods and assumptions as well as a number of other items, outlined below, that we believe are material, but do not reflect the underlying earnings capacity of the business. For example, due to the long-term nature of our business, the mark-to-market movements of equity markets, interest rates, foreign currency exchange rates and commodity prices from period-to-period can, and frequently do, have a substantial impact on the reported amounts of our assets, liabilities and net income attributed to shareholders. These reported amounts are not actually realized at the time and may never be realized if the markets move in the opposite direction in a subsequent period. This makes it very difficult for investors to evaluate how our businesses are performing from period-to-period and to compare our performance with other issuers.

We believe that core earnings better reflect the underlying earnings capacity and valuation of our business. We use core earnings as the basis for management planning and reporting and, along with net income attributed to shareholders, as a key metric used in our short and mid-term incentive plans at the total Company and operating segment level.

While core earnings is relevant to how we manage our business and offers a consistent methodology, it is not insulated from macro-economic factors which can have a significant impact. See "Quarterly financial information" below for reconciliation of core earnings to net income attributed to shareholders.

Any future changes to the core earnings definition referred to below, will be disclosed.

Items included in core earnings:

1. Expected earnings on in-force policies, including expected release of provisions for adverse deviation, fee income, margins on group business and spread business such as Manulife Bank and asset fund management.
2. Macro hedging costs based on expected market returns.
3. New business strain and gains.
4. Policyholder experience gains or losses.
5. Acquisition and operating expenses compared with expense assumptions used in the measurement of policy liabilities.
6. Up to \$400 million of net favourable investment-related experience reported in a single year, which are referred to as "core investment gains". This means up to \$100 million in the first quarter, up to \$200 million on a year-to-date basis in the second quarter, up to \$300 million on a year-to-date basis in the third quarter and up to \$400 million on a full year basis in the fourth quarter. Any investment-related experience losses reported in a quarter will be offset against the net year-to-date investment-related experience gains with the difference being included in core earnings subject to a maximum of the year-to-date core investment gains and a minimum of zero, which reflects our expectation that investment-related experience will be positive through-the-business cycle. To the extent any investment-related experience losses cannot be fully offset in a quarter they will be carried forward to be offset against investment-related experience gains in subsequent quarters in the same year, for purposes of determining core investment gains. Investment-related experience relates to fixed income investing, ALDA returns, credit experience and asset mix changes other than those related to a strategic change. An example of a strategic asset mix change is outlined below.
 - This favourable and unfavourable investment-related experience is a combination of reported investment experience as well as the impact of investing activities on the measurement of our policy liabilities. We do not attribute specific components of investment-related experience to amounts included or excluded from core earnings.
 - The \$400 million threshold represents the estimated average annualized amount of net favourable investment-related experience that the Company reasonably expects to achieve through-the-business cycle based on historical experience. It is not a forecast of expected net favourable investment-related experience for any given fiscal year.
 - Our average net annualized investment-related experience calculated from the introduction of core earnings in 2012 to the end of 2018 was \$493 million (2012 to the end of 2017 was \$475 million).
 - The decision announced on December 22, 2017 to reduce the allocation to ALDA in the portfolio asset mix supporting our legacy businesses was the first strategic asset mix change since we introduced the core earnings metric in 2012. We refined our description of investment-related experience in 2017 to note that asset mix changes other than those related to a strategic change are taken into consideration in the investment-related experience component of core investment gains.

- While historical investment return time horizons may vary in length based on underlying asset classes generally exceeding 20 years, for purposes of establishing the threshold, we look at a business cycle that is five or more years and includes a recession. We monitor the appropriateness of the threshold as part of our annual five-year planning process and would adjust it, either to a higher or lower amount, in the future if we believed that our threshold was no longer appropriate.
 - Specific criteria used for evaluating a potential adjustment to the threshold may include, but are not limited to, the extent to which actual investment-related experience differs materially from actuarial assumptions used in measuring insurance contract liabilities, material market events, material dispositions or acquisitions of assets, and regulatory or accounting changes.
7. Earnings on surplus other than mark-to-market items. Gains on available-for-sale (“AFS”) equities and seed money investments included in new segregated and mutual funds are included in core earnings.
 8. Routine or non-material legal settlements.
 9. All other items not specifically excluded.
 10. Tax on the above items.
 11. All tax related items except the impact of enacted or substantively enacted income tax rate changes.

Items excluded from core earnings:

1. The direct impact of equity markets and interest rates and variable annuity guarantee liabilities includes the items listed below.
 - The earnings impact of the difference between the net increase (decrease) in variable annuity liabilities that are dynamically hedged and the performance of the related hedge assets. Our variable annuity dynamic hedging strategy is not designed to completely offset the sensitivity of insurance and investment contract liabilities to all risks or measurements associated with the guarantees embedded in these products for a number of reasons, including; provisions for adverse deviation, fund performance, the portion of the interest rate risk that is not dynamically hedged, realized equity and interest rate volatilities and changes to policyholder behaviour.
 - Gains (charges) on variable annuity guarantee liabilities not dynamically hedged.
 - Gains (charges) on general fund equity investments supporting policy liabilities and on fee income.
 - Gains (charges) on macro equity hedges relative to expected costs. The expected cost of macro hedges is calculated using the equity assumptions used in the valuation of insurance and investment contract liabilities.
 - Gains (charges) on higher (lower) fixed income reinvestment rates assumed in the valuation of insurance and investment contract liabilities.
 - Gains (charges) on sale of AFS bonds and open derivatives not in hedging relationships in the Corporate and Other segment.
2. Net favourable investment-related experience in excess of \$400 million per annum or net unfavourable investment-related experience on a year-to-date basis.
3. Mark-to-market gains or losses on assets held in the Corporate and Other segment other than gains on AFS equities and seed money investments in new segregated or mutual funds.
4. Changes in actuarial methods and assumptions. As noted in the “Critical actuarial and accounting policies” section above, policy liabilities for IFRS are valued in Canada under standards established by the Actuarial Standards Board. The standards require a comprehensive review of actuarial methods and assumptions to be performed annually. The review is designed to reduce the Company’s exposure to uncertainty by ensuring assumptions for both asset related and liability related risks remain appropriate and is accomplished by monitoring experience and selecting assumptions which represent a current best estimate view of expected future experience, and margins that are appropriate for the risks assumed. By excluding the results of the annual reviews, core earnings assist investors in evaluating our operational performance and comparing our operational performance from period to period with other global insurance companies because the associated gain or loss is not reflective of current year performance and not reported in net income in most actuarial standards outside of Canada.
5. The impact on the measurement of policy liabilities of changes in product features or new reinsurance transactions, if material.
6. Goodwill impairment charges.

7. Gains or losses on disposition of a business.
8. Material one-time only adjustments, including highly unusual/extraordinary and material legal settlements or other items that are material and exceptional in nature.
9. Tax on the above items.
10. Impact of enacted or substantially enacted income tax rate changes.

The following table summarizes for the past eight quarters core earnings and net income (loss) attributed to shareholders.

Total Company

(\$ millions, unaudited)	Quarterly Results							
	1Q19	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17
Core earnings (loss)								
Asia	\$ 520	\$ 463	\$ 461	\$ 411	\$ 431	\$ 372	\$ 374	\$ 350
Canada	283	305	344	395	283	273	403	278
U.S.	475	454	467	446	422	463	346	359
Global Wealth and Asset Management	233	231	288	239	227	198	216	214
Corporate and Other (excluding core investment gains)	(63)	(216)	(121)	(164)	(156)	(201)	(354)	(181)
Core investment gains	100	100	100	104	96	100	100	154
Total core earnings	1,548	1,337	1,539	1,431	1,303	1,205	1,085	1,174
Items to reconcile core earnings (loss) to net income (loss) attributed to shareholders:								
Investment-related experience outside of core earnings	327	(130)	312	18	-	18	11	138
Direct impact of equity markets and interest rates and variable annuity guarantee liabilities	249	(675)	(277)	45	50	(68)	47	(37)
Change in actuarial methods and assumptions	-	-	(51)	-	-	(33)	(2)	-
Charge related to decision to change portfolio asset mix supporting our legacy businesses	-	-	-	-	-	(1,032)	-	-
Impact related to U.S. Tax Reform	-	-	124	-	-	(1,777)	-	-
Restructuring charge	-	(63)	-	(200)	-	-	-	-
Reinsurance transactions and other	52	124	(74)	(32)	19	81	(36)	(20)
Net income (loss) attributed to shareholders	\$ 2,176	\$ 593	\$ 1,573	\$ 1,262	\$ 1,372	\$ (1,606)	\$ 1,105	\$ 1,255

Asia

(\$ millions, unaudited)	Quarterly Results							
	1Q19	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17
Asia core earnings⁽¹⁾	\$ 520	\$ 463	\$ 461	\$ 411	\$ 431	\$ 372	\$ 374	\$ 350
Items to reconcile core earnings (loss) to net income (loss) attributed to shareholders:								
Investment-related experience outside of core earnings	116	99	91	46	48	62	48	62
Direct impact of equity markets and interest rates and variable annuity guarantee liabilities	59	(244)	(18)	(86)	(27)	(140)	(62)	96
Change in actuarial methods and assumptions	-	-	27	-	-	5	161	-
Reinsurance transactions and other	-	-	5	(3)	-	(39)	-	-
Net income (loss) attributed to shareholders⁽¹⁾	\$ 695	\$ 318	\$ 566	\$ 368	\$ 452	\$ 260	\$ 521	\$ 508

⁽¹⁾ 2018 core earnings and net income (loss) attributed to shareholders have been updated to reflect the 2019 methodology for allocating capital and interest on surplus to our insurance segments from the Corporate and Other segment.

Canada

(\$ millions, unaudited)	Quarterly Results							
	1Q19	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17
Canada core earnings⁽¹⁾	\$ 283	\$ 305	\$ 344	\$ 395	\$ 283	\$ 273	\$ 403	\$ 278
Items to reconcile core earnings (loss) to net income (loss) attributed to shareholders:								
Investment-related experience outside of core earnings	453	(143)	155	83	145	76	(125)	(12)
Direct impact of equity markets and interest rates and variable annuity guarantee liabilities	11	(234)	(26)	13	(60)	(21)	115	(238)
Change in actuarial methods and assumptions	-	-	(370)	-	-	(7)	43	-
Charge related to decision to change portfolio asset mix supporting our legacy businesses	-	-	-	-	-	(343)	-	-
Charge related to U.S. Tax Reform	-	-	(2)	-	-	-	-	-
Reinsurance transactions and other	4	(2)	1	11	84	(7)	(4)	(5)
Net income (loss) attributed to shareholders⁽¹⁾	\$ 751	\$ (74)	\$ 102	\$ 502	\$ 452	\$ (29)	\$ 432	\$ 23

⁽¹⁾ 2018 core earnings and net income (loss) attributed to shareholders have been updated to reflect the 2019 methodology for allocating capital and interest on surplus to our insurance segments from the Corporate and Other segment.

U.S.

(\$ millions, unaudited)	Quarterly Results							
	1Q19	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17
U.S. core earnings⁽¹⁾	\$ 475	\$ 454	\$ 467	\$ 446	\$ 422	\$ 463	\$ 346	\$ 359
Items to reconcile core earnings (loss) to net income (loss) attributed to shareholders:								
Investment-related experience outside of core earnings	(143)	15	162	(59)	(101)	(33)	181	164
Direct impact of equity markets and interest rates and variable annuity guarantee liabilities	61	(95)	(204)	267	268	75	50	159
Change in actuarial methods and assumptions	-	-	286	-	-	(31)	(214)	-
Charge related to decision to change portfolio asset mix supporting our legacy businesses	-	-	-	-	-	(689)	-	-
Charge related to U.S. Tax Reform	-	-	(7)	-	-	(2,822)	-	-
Reinsurance transactions and other	48	139	(74)	(34)	(61)	139	(41)	-
Net income (loss) attributed to shareholders⁽¹⁾	\$ 441	\$ 513	\$ 630	\$ 620	\$ 528	\$ (2,898)	\$ 322	\$ 682

⁽¹⁾ 2018 core earnings and net income (loss) attributed to shareholders have been updated to reflect the 2019 methodology for allocating capital and interest on surplus to our insurance segments from the Corporate and Other segment.

Global Wealth and Asset Management

(\$ millions, unaudited)	Quarterly Results							
	1Q19	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17
Global WAM core earnings	\$ 233	\$ 231	\$ 288	\$ 239	\$ 227	\$ 198	\$ 216	\$ 214
Items to reconcile core earnings (loss) to net income (loss) attributed to shareholders:								
Impact related to U.S. Tax Reform	-	-	(2)	-	-	308	-	-
Other	-	(13)	(6)	(6)	(4)	(10)	(10)	(13)
Net income (loss) attributed to shareholders	\$ 233	\$ 218	\$ 280	\$ 233	\$ 223	\$ 496	\$ 206	\$ 201

Corporate and Other

(\$ millions, unaudited)	Quarterly Results							
	1Q19	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17
Corporate and Other core income (loss) (excluding core investment gains)⁽¹⁾	\$ (63)	\$ (216)	\$ (121)	\$ (164)	\$ (156)	\$ (201)	\$ (354)	\$ (181)
Core investment gains (loss)	100	100	100	104	96	100	100	154
Total core earnings (loss)	37	(116)	(21)	(60)	(60)	(101)	(254)	(27)
Other items to reconcile core earnings (loss) to net income (loss) attributed to shareholders:								
Investment-related experience outside of core earnings	(99)	(101)	(96)	(52)	(92)	(87)	(92)	(79)
Direct impact of equity markets and interest rates	118	(102)	(29)	(149)	(131)	17	(56)	(53)
Changes in actuarial methods and assumptions	-	-	6	-	-	-	8	-
Impact related to U.S. Tax Reform	-	-	135	-	-	737	-	-
Restructuring charge	-	(63)	-	(200)	-	-	-	-
Other	-	-	-	-	-	(1)	18	-
Net income (loss) attributed to shareholders⁽¹⁾	\$ 56	\$ (382)	\$ (5)	\$ (461)	\$ (283)	\$ 565	\$ (376)	\$ (159)

⁽¹⁾ The Corporate and Other segment includes earnings on assets backing capital net of amounts allocated to operating segments. 2018 core income (loss) (excluding core investment gains) and net income (loss) attributed to shareholders have been updated to reflect the 2019 methodology for allocating capital and interest on surplus to our insurance segments from the Corporate and Other segment.

Core return on common shareholders' equity ("core ROE") is a non-GAAP profitability measure that presents core earnings available to common shareholders as a percentage of the capital deployed to earn the core earnings. The Company calculates core ROE using average common shareholders' equity.

Diluted core earnings per common share is core earnings available to common shareholders expressed per diluted weighted average common share outstanding.

The Company also uses financial performance measures that are prepared on a **constant exchange rate basis**, which are non-GAAP measures that exclude the impact of currency fluctuations (from local currency to Canadian dollars at a total Company level and from local currency to U.S. dollars in Asia). Quarterly amounts stated on a constant exchange rate basis in this MD&A are calculated, as appropriate, using the income statement and balance sheet exchange rates effective for 1Q19. Measures that are reported on a constant exchange rate basis include growth in core earnings, sales, APE sales, gross flows, core EBITDA, new business value, new business value margin, assets under management, and assets under management and administration.

Assets under management and administration ("AUMA") is a non-GAAP measure of the size of the Company. It is comprised of the non-GAAP measures assets under management ("AUM"), which includes both assets of general account and external client assets for which we provide investment management services, and assets under administration ("AUA"), which includes assets for which we provide administrative services only. Assets under management and administration is a common industry metric for WAM businesses.

Assets under management and administration

As at

(\$ millions)	March 31, 2019	December 31, 2018	March 31, 2018
Total invested assets	\$ 359,458	\$ 353,664	\$ 342,389
Segregated funds net assets	334,425	313,209	326,011
Assets under management per financial statements	693,883	666,873	668,400
Mutual funds	194,227	182,219	197,854
Institutional advisory accounts (excluding segregated funds)	103,713	102,323	98,275
Other funds	8,488	7,658	7,247
Total assets under management	1,000,311	959,073	971,776
Other assets under administration	134,201	124,449	126,271
Currency impact	-	(15,917)	24,318
AUMA at constant exchange rates	\$ 1,134,512	\$ 1,067,605	\$ 1,122,365

Consolidated capital is a non-GAAP measure. It serves as a foundation of our capital management activities at the MFC level. For regulatory reporting purposes, the numbers are further adjusted for various additions or deductions to capital as mandated by the guidelines used by OSFI. Consolidated capital is calculated as the sum of (i) total equity excluding accumulated other comprehensive income ("AOCI") on cash flow hedges; and (ii) liabilities for capital instruments.

Consolidated capital

As at

(\$ millions)	March 31, 2019	December 31, 2018	March 31, 2018
Total equity	\$ 48,994	\$ 47,151	\$ 44,089
Add AOCI loss on cash flow hedges	146	127	146
Add qualifying capital instruments	8,185	8,732	8,275
Consolidated capital	\$ 57,325	\$ 56,010	\$ 52,510

Core EBITDA is a non-GAAP measure which Manulife uses to better understand the long-term earnings capacity and valuation of the business on a basis more comparable to how the profitability of global asset managers is generally measured. Core EBITDA presents core earnings before the impact of interest, taxes, depreciation, and amortization. Core EBITDA excludes certain acquisition expenses related to insurance contracts in our retirement businesses which are deferred and amortized over the expected life time of the customer relationship under the CALM. Core EBITDA was selected as a key performance indicator for our Global WAM business, as EBITDA is widely used among asset management peers, and core earnings is a primary profitability metric for the Company overall.

Core EBITDA margin is a non-GAAP measure which Manulife uses to better understand the long-term profitability of our Global WAM business on a more comparable basis to how profitability of global asset managers are measured. Core EBITDA margin presents core earnings before the impact of interest, taxes, depreciation, and amortization divided by total revenue from these businesses. Core EBITDA margin was selected as a key performance indicator for our Global WAM business, as EBITDA margin is widely used among asset management peers, and core earnings is a primary profitability metric for the Company overall.

Global Wealth and Asset Management

(\$ millions, unaudited)	Quarterly Results							
	1Q19	4Q18	3Q18	2Q18	1Q18	4Q17	3Q17	2Q17
Core EBITDA	\$ 366	\$ 362	\$ 405	\$ 370	\$ 360	\$ 355	\$ 352	\$ 377
Amortization of deferred acquisition costs and other depreciation	76	77	76	75	73	87	84	88
Amortization of deferred sales commissions	23	22	23	24	29	25	23	23
Core earnings before income taxes	267	263	306	271	258	243	245	266
Core income tax (expense) recovery	(34)	(32)	(18)	(32)	(31)	(45)	(29)	(52)
Core earnings	\$ 233	\$ 231	\$ 288	\$ 239	\$ 227	\$ 198	\$ 216	\$ 214

Expense efficiency ratio is a non-GAAP measure which Manulife uses to measure progress towards our target to be more efficient. Efficiency ratio is defined as pre-tax general expenses included in core earnings divided by the sum of pre-tax core earnings and pre-tax general expenses included in core earnings.

Embedded value ("EV") is a measure of the present value of shareholders' interests in the expected future distributable earnings on in-force business reflected in the Consolidated Statements of Financial Position of Manulife, excluding any value associated with future new business. EV is calculated as the sum of the adjusted net worth and the value of in-force business. The adjusted net worth is the IFRS shareholders' equity adjusted for goodwill and intangibles, fair value of surplus assets, the carrying value of debt and preferred shares, and local statutory balance sheet, regulatory reserve, and capital for Manulife's Asian business. The value of in-force business in Canada and the U.S. is the present value of expected future IFRS earnings on in-force business less the present value of the cost of holding capital to support the in-force business under the LICAT framework. The value of in-force business in Asia reflects local statutory earnings and capital requirements. The value of in-force excludes our Global WAM, Manulife Bank and Property and Casualty Reinsurance businesses.

New business value ("NBV") is the change in embedded value as a result of sales in the reporting period. NBV is calculated as the present value of shareholders' interests in expected future distributable earnings, after the cost of capital, on actual new business sold in the period using assumptions that are consistent with the assumptions used in the calculation of embedded value. NBV excludes businesses with immaterial insurance risks, such as the Company's Global WAM, Manulife Bank and the short-term Property and Casualty Reinsurance businesses. NBV is a useful metric to evaluate the value created by the Company's new business franchise.

New business value margin is calculated as NBV divided by APE excluding non-controlling interests. APE is calculated as 100% of annualized first year premiums for recurring premium products, and as 10% of single premiums for single premium

products. Both NBV and APE used in the NBV margin calculation are after non-controlling interests and exclude our Global WAM, Manulife Bank and Property and Casualty Reinsurance businesses. The NBV margin is a useful metric to help understand the profitability of our new business.

Sales are measured according to product type:

For individual insurance, sales include 100% of new annualized premiums and 10% of both excess and single premiums. For individual insurance, new annualized premiums reflect the annualized premium expected in the first year of a policy that requires premium payments for more than one year. Single premium is the lump sum premium from the sale of a single premium product, e.g. travel insurance. Sales are reported gross before the impact of reinsurance.

For group insurance, sales include new annualized premiums and administrative services only premium equivalents on new cases, as well as the addition of new coverages and amendments to contracts, excluding rate increases.

APE sales are comprised of 100% of regular premiums/deposits and 10% of single premiums/deposits for both insurance and insurance-based wealth accumulation products.

Insurance-based wealth accumulation product sales include all new deposits into variable and fixed annuity contracts. As we discontinued sales of new Variable Annuity contracts in the U.S. in 1Q13, subsequent deposits into existing U.S. Variable Annuity contracts are not reported as sales. Asia variable annuity deposits are included in APE sales.

Bank new lending volumes include bank loans and mortgages authorized in the period.

Gross flows is a new business measure presented for our Global WAM business and includes all deposits into mutual funds, college savings 529 plans, group pension/retirement savings products, private wealth and institutional asset management products. Gross flows is a common industry metric for WAM businesses as it provides a measure of how successful the businesses are at attracting assets.

Net flows is presented for our Global WAM business and includes gross flows less redemptions for mutual funds, college savings 529 plans, group pension/retirement savings products, private wealth and institutional asset management products. Net flows is a common industry metric for WAM businesses as it provides a measure of how successful the businesses are at attracting and retaining assets.

E4 Caution regarding forward-looking statements

From time to time, MFC makes written and/or oral forward-looking statements, including in this document. In addition, our representatives may make forward-looking statements orally to analysts, investors, the media and others. All such statements are made pursuant to the “safe harbour” provisions of Canadian provincial securities laws and the U.S. Private Securities Litigation Reform Act of 1995.

The forward-looking statements in this document include, but are not limited to, statements with respect to the Canadian Actuarial Standards Board’s final standard expected to be issued in the third quarter of 2019 and its impact on net income attributed to shareholders; and also relate to, among other things, our objectives, goals, strategies, intentions, plans, beliefs, expectations and estimates, and can generally be identified by the use of words such as “may”, “will”, “could”, “should”, “would”, “likely”, “suspect”, “outlook”, “expect”, “intend”, “estimate”, “anticipate”, “believe”, “plan”, “forecast”, “objective”, “seek”, “aim”, “continue”, “goal”, “restore”, “embark” and “endeavour” (or the negative thereof) and words and expressions of similar import, and include statements concerning possible or assumed future results. Although we believe that the expectations reflected in such forward-looking statements are reasonable, such statements involve risks and uncertainties, and undue reliance should not be placed on such statements and they should not be interpreted as confirming market or analysts’ expectations in any way.

Certain material factors or assumptions are applied in making forward-looking statements and actual results may differ materially from those expressed or implied in such statements. Important factors that could cause actual results to differ materially from expectations include but are not limited to: general business and economic conditions (including but not limited to the performance, volatility and correlation of equity markets, interest rates, credit and swap spreads, currency rates, investment losses and defaults, market liquidity and creditworthiness of guarantors, reinsurers and counterparties); changes in laws and regulations; changes in accounting standards applicable in any of the territories in which we operate; changes in regulatory capital requirements; our ability to execute strategic plans and changes to strategic plans; downgrades in our financial strength or credit ratings; our ability to maintain our reputation; impairments of goodwill or intangible assets or the establishment of provisions against future tax assets; the accuracy of estimates relating to morbidity, mortality and policyholder behaviour; the accuracy of other estimates used in applying accounting policies, actuarial methods and embedded value methods; our ability to implement effective hedging strategies and unforeseen consequences

arising from such strategies; our ability to source appropriate assets to back our long-dated liabilities; level of competition and consolidation; our ability to market and distribute products through current and future distribution channels; unforeseen liabilities or asset impairments arising from acquisitions and dispositions of businesses; the realization of losses arising from the sale of investments classified as available-for-sale; our liquidity, including the availability of financing to satisfy existing financial liabilities on expected maturity dates when required; obligations to pledge additional collateral; the availability of letters of credit to provide capital management flexibility; accuracy of information received from counterparties and the ability of counterparties to meet their obligations; the availability, affordability and adequacy of reinsurance; legal and regulatory proceedings, including tax audits, tax litigation or similar proceedings; our ability to adapt products and services to the changing market; our ability to attract and retain key executives, employees and agents; the appropriate use and interpretation of complex models or deficiencies in models used; political, legal, operational and other risks associated with our non-North American operations; acquisitions and our ability to complete acquisitions including the availability of equity and debt financing for this purpose; the disruption of or changes to key elements of the Company's or public infrastructure systems; environmental concerns; our ability to protect our intellectual property and exposure to claims of infringement; and our inability to withdraw cash from subsidiaries.

Additional information about material risk factors that could cause actual results to differ materially from expectations and about material factors or assumptions applied in making forward-looking statements may be found in this document under "Risk Management and Risk Factors Update" and "Critical Actuarial and Accounting Policies", under "Risk Management", "Risk Factors" and "Critical Actuarial and Accounting Policies" in the Management's Discussion and Analysis in our most recent annual report and, in the "Risk Management" note to the consolidated financial statements in our most recent annual and interim reports and elsewhere in our filings with Canadian and U.S. securities regulators.

The forward-looking statements in this document are, unless otherwise indicated, stated as of the date hereof and are presented for the purpose of assisting investors and others in understanding our financial position and results of operations, our future operations, as well as our objectives and strategic priorities, and may not be appropriate for other purposes. We do not undertake to update any forward-looking statements, except as required by law.

E5 Quarterly financial information

The following table provides summary information related to our eight most recently completed quarters.

As at and for the three months ended	Mar 31,	Dec 31,	Sept 30,	Jun 30,	Mar 31,	Dec 31,	Sept 30,	Jun 30,
(\$ millions, except per share amounts or otherwise stated, unaudited)	2019	2018	2018	2018	2018	2017	2017	2017
Revenue								
Premium income								
Life and health insurance	\$ 8,077	\$ 7,724	\$ 7,700	\$ 7,628	\$ 7,300	\$ 6,000	\$ 6,321	\$ 6,040
Annuities and pensions ⁽¹⁾	237	(5,892)	(2,599)	1,126	1,025	943	922	934
Net premium income	8,314	1,832	5,101	8,754	8,325	6,943	7,243	6,974
Investment income	3,747	3,278	3,481	3,566	3,235	3,579	3,309	3,444
Realized and unrealized gains and losses on assets supporting insurance and investment contract liabilities ⁽²⁾	8,926	1,113	(3,210)	(1,615)	(5,316)	2,988	(1,163)	3,303
Other revenue	2,562	2,291	2,671	2,964	2,502	2,737	2,544	2,872
Total revenue	\$ 23,549	\$ 8,514	\$ 8,043	\$ 13,669	\$ 8,746	\$ 16,247	\$ 11,933	\$ 16,593
Income (loss) before income taxes	\$ 2,524	\$ 359	\$ 1,911	\$ 1,535	\$ 1,714	\$ (2,123)	\$ 1,269	\$ 1,618
Income tax (expense) recovery	(289)	(43)	(6)	(246)	(337)	424	(13)	(304)
Net income (loss)	\$ 2,235	\$ 316	\$ 1,905	\$ 1,289	\$ 1,377	\$ (1,699)	\$ 1,256	\$ 1,314
Net income (loss) attributed to shareholders	\$ 2,176	\$ 593	\$ 1,573	\$ 1,262	\$ 1,372	\$ (1,606)	\$ 1,105	\$ 1,255
Reconciliation of core earnings to net income attributed to shareholders								
Total core earnings ⁽³⁾	\$ 1,548	\$ 1,337	\$ 1,539	\$ 1,431	\$ 1,303	\$ 1,205	\$ 1,085	\$ 1,174
Other items to reconcile net income attributed to shareholders to core earnings ⁽⁴⁾ :								
Investment-related experience outside of core earnings	327	(130)	312	18	-	18	11	138
Direct impact of equity markets, interest rates and variable annuity guarantee liabilities	249	(675)	(277)	45	50	(68)	47	(37)
Change in actuarial methods and assumptions	-	-	(51)	-	-	(33)	(2)	-
Charge related to decision to change portfolio asset mix supporting our legacy businesses	-	-	-	-	-	(1,032)	-	-
Charge related to U.S. Tax Reform	-	-	124	-	-	(1,777)	-	-
Restructuring charges	-	(63)	-	(200)	-	-	-	-
Reinsurance transactions and other	52	124	(74)	(32)	19	81	(36)	(20)
Net income (loss) attributed to shareholders	\$ 2,176	\$ 593	\$ 1,573	\$ 1,262	\$ 1,372	\$ (1,606)	\$ 1,105	\$ 1,255
Basic earnings (loss) per common share	\$ 1.09	\$ 0.28	\$ 0.77	\$ 0.61	\$ 0.67	\$ (0.83)	\$ 0.54	\$ 0.62
Diluted earnings (loss) per common share	\$ 1.08	\$ 0.28	\$ 0.77	\$ 0.61	\$ 0.67	\$ (0.83)	\$ 0.54	\$ 0.61
Segregated funds deposits	\$ 10,586	\$ 9,212	\$ 9,424	\$ 9,872	\$ 9,728	\$ 8,421	\$ 8,179	\$ 8,544
Total assets (in billions)	\$ 780	\$ 750	\$ 748	\$ 752	\$ 740	\$ 730	\$ 713	\$ 726
Weighted average common shares (in millions)	1,965	1,980	1,984	1,984	1,983	1,980	1,978	1,977
Diluted weighted average common shares (in millions)	1,969	1,983	1,989	1,989	1,989	1,988	1,986	1,984
Dividends per common share	\$ 0.250	\$ 0.250	\$ 0.220	\$ 0.220	\$ 0.220	\$ 0.205	\$ 0.205	\$ 0.205
CDN\$ to US\$1 - Statement of Financial Position	1.3363	1.3642	1.2945	1.3168	1.2894	1.2545	1.2480	1.2977
CDN\$ to US\$1 - Statement of Income	1.3295	1.3204	1.3069	1.2912	1.2647	1.2712	1.2528	1.3450

⁽¹⁾ Includes ceded premiums related to the reinsurance of a block of our legacy U.S. individual payout annuities of US\$0.5 billion in 1Q19, US\$5.3 billion in 4Q18 and US\$2.8 billion in 3Q18.

⁽²⁾ For fixed income assets supporting insurance and investment contract liabilities and for equities supporting pass-through products and derivatives related to variable hedging programs, the impact of realized and unrealized gains and losses on the assets is largely offset in the change in insurance and investment contract liabilities.

⁽³⁾ Core earnings is a non-GAAP measure. See "Performance and non-GAAP measures" above.

⁽⁴⁾ For explanations of other items, see "Q1 earnings analysis" table in section A1 "Profitability" and for an operating segment split of these items see the 8 quarter trend tables in "Performance and non-GAAP measures" which reconcile net income attributed to shareholders to core earnings.

E6 Other

No changes were made in our internal control over financial reporting during the three months ended March 31, 2019, that have materially affected or are reasonably likely to materially affect our internal control over financial reporting.

As in prior quarters, MFC's Audit Committee reviewed this MD&A and the unaudited interim financial report and MFC's Board of Directors approved this MD&A prior to its release.

Consolidated Statements of Financial Position

As at

(Canadian \$ in millions, unaudited)

March 31, 2019

December 31, 2018

Assets

Cash and short-term securities	\$	16,097	\$	16,215
Debt securities		188,486		185,594
Public equities		21,146		19,179
Mortgages		48,519		48,363
Private placements		36,390		35,754
Policy loans		6,390		6,446
Loans to bank clients		1,793		1,793
Real estate		12,801		12,777
Other invested assets		27,836		27,543

Total invested assets (note 3)		359,458		353,664
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Other assets

Accrued investment income		2,483		2,427
Outstanding premiums		1,610		1,369
Derivatives (note 4)		15,959		13,703
Reinsurance assets		42,430		43,053
Deferred tax assets		4,196		4,318
Goodwill and intangible assets		10,004		10,097
Miscellaneous		9,349		8,431

Total other assets		86,031		83,398
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Segregated funds net assets (note 14)		334,425		313,209
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Total assets	\$	779,914	\$	750,271
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Liabilities and Equity

Liabilities

Insurance contract liabilities (note 5)	\$	335,269	\$	328,654
Investment contract liabilities (note 5)		3,209		3,265
Deposits from bank clients		19,984		19,684
Derivatives (note 4)		8,249		7,803
Deferred tax liabilities		2,025		1,814
Other liabilities		14,902		15,190

		383,638		376,410
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Long-term debt (note 7)		4,672		4,769
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Capital instruments (note 8)		8,185		8,732
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Segregated funds net liabilities (note 14)		334,425		313,209
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Total liabilities		730,920		703,120
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Equity

Preferred shares (note 9)		3,822		3,822
Common shares (note 9)		23,052		22,961
Contributed surplus		265		265
Shareholders' retained earnings		14,239		12,704

Shareholders' accumulated other comprehensive income (loss):

Pension and other post-employment plans		(423)		(426)
Available-for-sale securities		687		(265)
Cash flow hedges		(146)		(127)
Real estate revaluation reserve		31		20
Translation of foreign operations		6,319		7,010

Total shareholders' equity		47,846		45,964
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Participating policyholders' equity		77		94
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Non-controlling interests		1,071		1,093
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Total equity		48,994		47,151
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Total liabilities and equity	\$	779,914	\$	750,271
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The accompanying notes are an integral part of these unaudited Interim Consolidated Financial Statements.



Roy Gori

President and Chief Executive Officer



John Cassaday

Chairman of the Board of Directors

Consolidated Statements of Income

For the three months ended March 31,

(Canadian \$ in millions except per share amounts, unaudited)

	2019	2018
Revenue		
Premium income		
Gross premiums	\$ 10,187	\$ 9,466
Premiums ceded to reinsurers	(1,873)	(1,141)
Net premiums	8,314	8,325
Investment income (note 3)		
Investment income	3,747	3,235
Realized and unrealized gains (losses) on assets supporting insurance and investment contract liabilities and on the macro hedge program	8,926	(5,316)
Net investment income (loss)	12,673	(2,081)
Other revenue (note 10)	2,562	2,502
Total revenue	23,549	8,746
Contract benefits and expenses		
To contract holders and beneficiaries		
Gross claims and benefits (note 5)	7,169	6,647
Increase (decrease) in insurance contract liabilities	11,407	(2,567)
Increase (decrease) in investment contract liabilities	43	44
Benefits and expenses ceded to reinsurers	(1,474)	(1,213)
Decrease (increase) in reinsurance assets (note 5)	(298)	(21)
Net benefits and claims	16,847	2,890
General expenses	1,801	1,835
Investment expenses	403	406
Commissions	1,548	1,521
Interest expense	328	286
Net premium taxes	98	94
Total contract benefits and expenses	21,025	7,032
Income before income taxes	2,524	1,714
Income tax expense	(289)	(337)
Net income	\$ 2,235	\$ 1,377
Net income (loss) attributed to:		
Non-controlling interests	\$ 73	\$ 54
Participating policyholders	(14)	(49)
Shareholders	2,176	1,372
	\$ 2,235	\$ 1,377
Net income attributed to shareholders	\$ 2,176	\$ 1,372
Preferred share dividends	(43)	(39)
Common shareholders' net income	\$ 2,133	\$ 1,333
Earnings per share		
Basic earnings per common share (note 9)	\$ 1.09	\$ 0.67
Diluted earnings per common share (note 9)	1.08	0.67
Dividends per common share	0.25	0.22

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

Consolidated Statements of Comprehensive Income

For the three months ended March 31,

(Canadian \$ in millions, unaudited)

	2019	2018
Net income	\$ 2,235	\$ 1,377
Other comprehensive income (loss) ("OCI"), net of tax		
Items that may be subsequently reclassified to net income:		
Foreign exchange gains (losses) on:		
Translation of foreign operations	(788)	1,267
Net investment hedges	97	(118)
Available-for-sale financial securities:		
Unrealized gains (losses) arising during the period	992	(326)
Reclassification of net realized (gains) losses and impairments to net income	(39)	(13)
Cash flow hedges:		
Unrealized gains (losses) arising during the period	(19)	(40)
Reclassification of realized losses to net income	-	3
Share of other comprehensive income (losses) of associates	1	-
Total items that may be subsequently reclassified to net income	244	773
Items that will not be reclassified to net income:		
Change in pension and other post-employment plans	3	(21)
Real estate revaluation reserve	11	-
Total items that will not be reclassified to net income	14	(21)
Other comprehensive income (loss), net of tax	258	752
Total comprehensive income (loss), net of tax	\$ 2,493	\$ 2,129
Total comprehensive income (loss) attributed to:		
Non-controlling interests	\$ 75	\$ 52
Participating policyholders	(14)	(48)
Shareholders	2,432	2,125

Income Taxes included in Other Comprehensive Income

For the three months ended March 31,

(Canadian \$ in millions, unaudited)

	2019	2018
Income tax expense (recovery) on:		
Unrealized foreign exchange gains/losses on translation of foreign operations	\$ -	\$ -
Unrealized foreign exchange gains/losses on net investment hedges	14	(30)
Unrealized gains/losses on available-for-sale financial securities	252	(128)
Reclassification of realized gains/losses and recoveries/impairments to net income on available-for-sale financial securities	(11)	8
Unrealized gains/losses on cash flow hedges	(3)	39
Reclassification of realized gains/losses to net income on cash flow hedges	-	1
Change in pension and other post-employment plans	1	16
Real estate revaluation reserve	-	-
Total income tax expense (recovery)	\$ 253	\$ (94)

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

Consolidated Statements of Changes in Equity

For the three months ended March 31,

(Canadian \$ in millions, unaudited)

	2019	2018
Preferred shares		
Balance, beginning of period	\$ 3,822	\$ 3,577
Issued during the period (note 9)	-	250
Issuance costs, net of tax	-	(5)
Balance, end of period	3,822	3,822
Common shares		
Balance, beginning of period	22,961	22,989
Repurchased (note 9)	(116)	-
Issued on exercise of stock options	14	21
Issued under dividend reinvestment and share purchase plans	193	-
Balance, end of period	23,052	23,010
Contributed surplus		
Balance, beginning of period	265	277
Exercise of stock options and deferred share units	(3)	(3)
Stock option expense	3	1
Balance, end of period	265	275
Shareholders' retained earnings		
Balance, beginning of period	12,704	10,083
Opening adjustment on adoption of IFRS 16 (note 2)	(19)	-
Net income attributed to shareholders	2,176	1,372
Common shares repurchased (note 9)	(90)	-
Preferred share dividends	(43)	(39)
Common share dividends	(489)	(429)
Balance, end of period	14,239	10,987
Shareholders' accumulated other comprehensive income (loss) ("AOCI")		
Balance, beginning of period	6,212	4,087
Change in actuarial gains (losses) on pension and other post-employment plans	3	(21)
Change in unrealized foreign exchange gains (losses) of net foreign operations	(691)	1,149
Change in unrealized gains (losses) on available-for-sale financial securities	951	(338)
Change in unrealized gains (losses) on derivative instruments designated as cash flow hedges	(19)	(37)
Change in real estate revaluation reserve	11	-
Share of other comprehensive income (losses) of associates	1	-
Balance, end of period	6,468	4,840
Total shareholders' equity, end of period	47,846	42,934
Participating policyholders' equity		
Balance, beginning of period	94	221
Opening adjustment on adoption of IFRS 16 (note 2)	(3)	-
Net income (loss) attributed to participating policyholders	(14)	(49)
Other comprehensive income (loss) attributed to policyholders	-	1
Balance, end of period	77	173
Non-controlling interests		
Balance, beginning of period	1,093	929
Net income attributed to non-controlling interests	73	54
Other comprehensive income (loss) attributed to non-controlling interests	2	(2)
Contributions (distributions/disposal), net	(97)	1
Balance, end of period	1,071	982
Total equity, end of period	\$ 48,994	\$ 44,089

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

Consolidated Statements of Cash Flows

For the three months ended March 31,

(Canadian \$ in millions, unaudited)

	2019	2018
Operating activities		
Net income	\$ 2,235	\$ 1,377
Adjustments:		
Increase (decrease) in insurance contract liabilities	11,407	(2,567)
Increase (decrease) in investment contract liabilities	43	44
(Increase) decrease in reinsurance assets excluding coinsurance transactions (note 5)	414	(21)
Amortization of (premium) discount on invested assets	30	56
Other amortization	155	139
Net realized and unrealized (gains) losses and impairment on assets	(9,311)	4,825
Deferred income tax expense (recovery)	132	1
Stock option expense	3	1
Cash provided by operating activities before undernoted items	5,108	3,855
Changes in policy related and operating receivables and payables	(1,197)	(7)
Cash provided by (used in) operating activities	3,911	3,848
Investing activities		
Purchases and mortgage advances	(19,525)	(23,610)
Disposals and repayments	15,925	19,892
Change in investment broker net receivables and payables	130	(21)
Net cash increase (decrease) from sale and purchase of subsidiaries and businesses	253	-
Cash provided by (used in) investing activities	(3,217)	(3,739)
Financing activities		
Increase (decrease) in repurchase agreements and securities sold but not yet purchased	203	137
Redemption of capital instruments (note 8)	(500)	(200)
Changes in deposits from Bank clients, net	308	840
Lease payments	(27)	-
Shareholders' dividends paid in cash	(339)	(468)
Contributions from (distributions to) non-controlling interests, net	-	1
Common shares repurchased (note 9)	(206)	-
Common shares issued, net (note 9)	14	21
Preferred shares issued, net (note 9)	-	245
Cash provided by (used in) financing activities	(547)	576
Cash and short-term securities		
Increase (decrease) during the period	147	685
Effect of foreign exchange rate changes on cash and short-term securities	(206)	345
Balance, beginning of period	15,382	15,098
Balance, end of period	15,323	16,128
Cash and short-term securities		
Beginning of period		
Gross cash and short-term securities	16,215	15,965
Net payments in transit, included in other liabilities	(833)	(867)
Net cash and short-term securities, beginning of period	15,382	15,098
End of period		
Gross cash and short-term securities	16,097	17,020
Net payments in transit, included in other liabilities	(774)	(892)
Net cash and short-term securities, end of period	\$ 15,323	\$ 16,128
Supplemental disclosures on cash flow information		
Interest received	\$ 2,761	\$ 2,523
Interest paid	259	247
Income taxes paid	302	268

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

CONDENSED NOTES TO INTERIM CONSOLIDATED FINANCIAL STATEMENTS

(Canadian \$ in millions except per share amounts or unless otherwise stated, unaudited)

Note 1 Nature of Operations and Significant Accounting Policies

Manulife Financial Corporation ("MFC") is a publicly traded company and the holding company of The Manufacturers Life Insurance Company ("MLI"), a Canadian life insurance company. MFC and its subsidiaries (collectively, "Manulife" or the "Company") is a leading financial services group with principal operations in Asia, Canada and the United States. Manulife's international network of employees, agents and distribution partners offers financial protection and wealth management products and services to personal and business clients as well as asset management services to institutional customers. The Company operates as Manulife in Canada and Asia and as John Hancock in the United States.

These Interim Consolidated Financial Statements and condensed notes have been prepared in accordance with International Accounting Standard ("IAS") 34 "Interim Financial Reporting" as issued by the International Accounting Standards Board ("IASB"), using accounting policies which are consistent with those used in the Company's 2018 Annual Consolidated Financial Statements, except as disclosed in note 2.

These Interim Consolidated Financial Statements should be read in conjunction with the audited Consolidated Financial Statements for the year ended December 31, 2018, included on pages 96 to 178 of the Company's 2018 Annual Report, as well as the disclosures on risk in the shaded text and tables in the "Risk Management and Risk Factors" section the First Quarter 2019 Management Discussion and Analysis. These risk disclosures are considered an integral part of these Interim Consolidated Financial Statements.

These Interim Consolidated Financial Statements as at and for the three months ended March 31, 2019 were authorized for issue by MFC's Board of Directors on May 1, 2019.

Note 2 Accounting and Reporting Changes

Changes in accounting and reporting policy

(I) IFRS 16 "Leases"

Effective January 1, 2019, the Company adopted IFRS 16 "Leases" which was issued in January 2016 and replaces IAS 17 "Leases" and IFRIC 4 "Determining whether an arrangement contains a lease". IFRS 16 sets out principles for the recognition, measurement, presentation and disclosure of leases for both parties to a contract. The standard brings most leases on-balance sheet under a single model and eliminates the previous classifications of operating and finance leases. Exemptions to this treatment are for lease contracts with low value assets or leases with duration of less than one year. Lessor accounting largely remains unchanged with previous classifications of operating and finance leases continuing.

The Company adopted IFRS 16 using the modified retrospective method with no restatement of comparative information. Right-of-use assets of \$381 and lease liabilities of \$410 were recognized within miscellaneous assets and other liabilities in the Consolidated Statements of Financial Position, respectively. The net post-tax impact of these adjustments was \$22, of this \$19 was recognized in shareholders' retained earnings and \$3 was recognized in participating policyholders' equity. The assets and liabilities arise primarily from real estate lease contracts.

The Company applied the practical expedient of not reviewing lease classification under IFRS 16 for contracts not previously classified as leases. In addition, the Company has elected to expense lease payments on a straight-line basis for all leases with lease term of 12 months or less or the underlying asset has a low value.

(II) IFRS Interpretation Committee ("IFRIC") Interpretation 23 "Uncertainty over Income Tax Treatments"

Effective January 1, 2019, the Company adopted IFRIC 23 "Uncertainty over Income Tax Treatments" which was issued in June 2017. IFRIC 23 was applied retrospectively. IFRIC 23 provides guidance on applying the recognition and measurement requirements in IAS 12 when there is uncertainty over income tax treatments including whether uncertain tax treatments should be considered together or separately based on which approach better predicts resolution of the uncertainty. Adoption of IFRIC 23 did not have a significant impact on the Company's Consolidated Financial Statements.

(III) Amendments to IAS 28 “Investments in Associates and Joint Ventures”

Effective January 1, 2019, the Company adopted the amendments to IAS 28 “Investments in Associates and Joint Ventures” which were issued in October 2017. The amendments were applied retrospectively. The amendments clarify that an entity applies IFRS 9 “Financial Instruments” to financial interests in an associate or joint venture, aside from investments in equity, to which the equity method is not applied. IAS 39 will be applied to these interests until IFRS 9 is adopted. Adoption of these amendments did not have a significant impact on the Company’s Consolidated Financial Statements.

(IV) Annual Improvements 2015–2017 Cycle

Effective January 1, 2019, the Company adopted amendments issued within the Annual Improvements 2015 – 2017 Cycle which was issued in December 2017. The IASB issued four minor amendments to different standards as part of the Annual Improvements process, with the amendments to be applied prospectively. Adoption of these amendments did not have a significant impact on the Company’s Consolidated Financial Statements.

(V) Amendments to IAS 19 “Employee Benefits”

Effective January 1, 2019, the Company adopted amendments to IAS 19 “Employee Benefits” which were issued in February 2018. The amendments were applied prospectively. The amendments address the accounting for a plan amendment, curtailment or settlement that occurs within a reporting period. Updated actuarial assumptions must be used to determine current service cost and net interest for the remainder of the reporting period after such an event. The amendments also address how the accounting for asset ceilings are affected by such an event. Adoption of these amendments did not have a significant impact on the Company’s Consolidated Financial Statements.

Note 3 Invested Assets and Investment Income

(a) Carrying values and fair values of invested assets

As at March 31, 2019	FVTPL ⁽¹⁾	AFS ⁽²⁾	Other ⁽³⁾	Total carrying value	Total fair value
Cash and short-term securities ⁽⁴⁾	\$ 1,292	\$ 9,451	\$ 5,354	\$ 16,097	\$ 16,097
Debt securities ⁽⁵⁾					
Canadian government and agency	17,556	5,840	-	23,396	23,396
U.S. government and agency	10,413	15,075	-	25,488	25,488
Other government and agency	16,634	4,253	-	20,887	20,887
Corporate	110,251	5,240	-	115,491	115,491
Mortgage/asset-backed securities	3,011	213	-	3,224	3,224
Public equities	18,504	2,642	-	21,146	21,146
Mortgages	-	-	48,519	48,519	49,783
Private placements	-	-	36,390	36,390	38,436
Policy loans	-	-	6,390	6,390	6,390
Loans to Bank clients	-	-	1,793	1,793	1,796
Real estate					
Own use property	-	-	2,002	2,002	3,246
Investment property	-	-	10,799	10,799	10,799
Other invested assets					
Alternative long-duration assets ^{(6),(7)}	15,313	133	8,504	23,950	24,613
Various other	148	-	3,738	3,886	3,886
Total invested assets	\$ 193,122	\$ 42,847	\$ 123,489	\$ 359,458	\$ 364,678

As at December 31, 2018	FVTPL ⁽¹⁾	AFS ⁽²⁾	Other ⁽³⁾	Total carrying value	Total fair value
Cash and short-term securities ⁽⁴⁾	\$ 1,080	\$ 10,163	\$ 4,972	\$ 16,215	\$ 16,215
Debt securities ⁽⁵⁾					
Canadian government and agency	16,445	7,342	-	23,787	23,787
U.S. government and agency	11,934	13,990	-	25,924	25,924
Other government and agency	16,159	4,101	-	20,260	20,260
Corporate	107,425	5,245	-	112,670	112,670
Mortgage/asset-backed securities	2,774	179	-	2,953	2,953
Public equities	16,721	2,458	-	19,179	19,179
Mortgages	-	-	48,363	48,363	48,628
Private placements	-	-	35,754	35,754	36,103
Policy loans	-	-	6,446	6,446	6,446
Loans to Bank clients	-	-	1,793	1,793	1,797
Real estate					
Own use property	-	-	2,016	2,016	3,179
Investment property	-	-	10,761	10,761	10,761
Other invested assets					
Alternative long-duration assets ^{(6),(7)}	14,720	101	8,617	23,438	24,211
Various other	151	-	3,954	4,105	4,104
Total invested assets	\$ 187,409	\$ 43,579	\$ 122,676	\$ 353,664	\$ 356,217

(1) FVTPL classification was elected for securities backing insurance contract liabilities to substantially reduce any accounting mismatch arising from changes in the fair value of these assets and changes in the value of the related insurance contract liabilities. If this election had not been made and instead the available-for-sale ("AFS") classification was selected, there would be an accounting mismatch because changes in insurance contract liabilities are recognized in net income rather than in OCI.

(2) Securities that are designated as AFS are not actively traded by the Company but sales do occur as circumstances warrant. Such sales result in a reclassification of any accumulated unrealized gain (loss) in AOCI to net income as a realized gain (loss).

(3) Primarily includes assets classified as loans and carried at amortized cost, own use properties, investment properties, equity method accounted investments, oil and gas investments, and leveraged leases.

(4) Includes short-term securities with maturities of less than one year at acquisition amounting to \$2,604 (December 31, 2018 – \$2,530) cash equivalents with maturities of less than 90 days at acquisition amounting to \$8,139 (December 31, 2018 – \$8,713) and cash of \$5,354 (December 31, 2018 – \$4,972).

(5) Debt securities include securities which were acquired with maturities of less than one year and less than 90 days of \$1,097 and \$nil, respectively (December 31, 2018 – \$870 and \$40, respectively).

(6) Alternative long-duration assets ("ALDA") Include investments in private equity of \$6,793, power and infrastructure of \$8,138, oil and gas of \$3,528, timber and agriculture sectors of \$4,544 and various other invested assets of \$947 (December 31, 2018 – \$6,769, \$7,970, \$3,416, \$4,493 and \$791, respectively). During the period, a group of investments in hydro-electric power of \$418 were sold. These investments were previously classified as held for sale.

(7) In 2018, the Company sold the following invested assets to related parties: \$1,422 of power and infrastructure ALDA to the John Hancock Infrastructure Master Fund L.P. in the U.S., an associate of the Company which is a structured entity based on partnership voting rights, the Company provides management services to the fund and owns less than 1% of the ownership interest; \$510 of U.S. commercial real estate to the Manulife US Real Estate Investment Trust in Singapore, an associate of the Company which is a structured entity based on unitholder voting rights, the Company provides management services to the trust and owns approximately 8.5% of its units; and \$1,314 of U.S. commercial real estate to three newly established joint ventures which are structured entities based on voting rights.

(b) Investment income

For the three months ended March 31,	2019	2018
Interest income	\$ 2,828	\$ 2,682
Dividend, rental and other income	668	541
Impairments, provisions and recoveries, net	60	27
Other	191	(15)
	3,747	3,235
Realized and unrealized gains (losses) on assets supporting insurance and investment contract liabilities and on the macro equity hedging program		
Debt securities	5,666	(3,192)
Public equities	1,704	(257)
Mortgages	13	4
Private placements	22	(75)
Real estate	77	94
Other invested assets	321	(331)
Derivatives, including macro equity hedging program	1,123	(1,559)
	8,926	(5,316)
Total investment income	\$ 12,673	\$ (2,081)

(c) Fair value measurement

The following table presents fair values and the fair value hierarchy of invested assets and segregated funds net assets measured at fair value in the Consolidated Statements of Financial Position.

As at March 31, 2019	Total fair value	Level 1	Level 2	Level 3
Cash and short-term securities				
FVTPL	\$ 1,292	\$ -	\$ 1,292	\$ -
AFS	9,451	-	9,451	-
Other	5,354	5,354	-	-
Debt securities				
FVTPL				
Canadian government and agency	17,556	-	17,556	-
U.S. government and agency	10,413	-	10,413	-
Other government and agency	16,634	-	16,442	192
Corporate	110,251	-	109,324	927
Residential mortgage/asset-backed securities	13	-	6	7
Commercial mortgage/asset-backed securities	1,308	-	1,308	-
Other securitized assets	1,690	-	1,690	-
AFS				
Canadian government and agency	5,840	-	5,840	-
U.S. government and agency	15,075	-	15,075	-
Other government and agency	4,253	-	4,215	38
Corporate	5,240	-	5,116	124
Residential mortgage/asset-backed securities	1	-	-	1
Commercial mortgage/asset-backed securities	148	-	111	37
Other securitized assets	64	-	64	-
Public equities				
FVTPL	18,504	18,501	-	3
AFS	2,642	2,640	2	-
Real estate - investment property⁽¹⁾	10,799	-	-	10,799
Other invested assets⁽²⁾	18,175	6	-	18,169
Segregated funds net assets⁽³⁾	334,425	300,330	29,699	4,396
Total	\$ 589,128	\$ 326,831	\$ 227,604	\$ 34,693

As at December 31, 2018	Total fair value	Level 1	Level 2	Level 3
Cash and short-term securities				
FVTPL	\$ 1,080	\$ -	\$ 1,080	\$ -
AFS	10,163	-	10,163	-
Other	4,972	4,972	-	-
Debt securities				
FVTPL				
Canadian government and agency	16,445	-	16,445	-
U.S. government and agency	11,934	-	11,934	-
Other government and agency	16,159	-	15,979	180
Corporate	107,425	-	106,641	784
Residential mortgage/asset-backed securities	13	-	6	7
Commercial mortgage/asset-backed securities	1,344	-	1,344	-
Other securitized assets	1,417	-	1,417	-
AFS				
Canadian government and agency	7,342	-	7,342	-
U.S. government and agency	13,990	-	13,990	-
Other government and agency	4,101	-	4,064	37
Corporate	5,245	-	5,125	120
Residential mortgage/asset-backed securities	2	-	-	2
Commercial mortgage/asset-backed securities	128	-	128	-
Other securitized assets	49	-	49	-
Public equities				
FVTPL	16,721	16,718	-	3
AFS	2,458	2,456	2	-
Real estate - investment property⁽¹⁾	10,761	-	-	10,761
Other invested assets⁽²⁾	17,562	-	-	17,562
Segregated funds net assets⁽³⁾	313,209	276,178	32,584	4,447
Total	\$ 562,520	\$ 300,324	\$ 228,293	\$ 33,903

⁽¹⁾ For real estate investment properties, the significant unobservable inputs are capitalization rates (ranging from 2.75% to 8.50% during the period and ranging from 2.75% to 8.75% during the year 2018) and terminal capitalization rates (ranging from 3.65% to 9.25% during the period and ranging from 3.65% to 9.25% during the year 2018). Holding other factors constant, a lower capitalization or terminal capitalization rate will tend to increase the fair value of an investment property. Changes in fair value based on variations in unobservable inputs generally cannot be extrapolated because the relationship between the directional changes of each input is not usually linear.

⁽²⁾ Other invested assets measured at fair value are held primarily in the power and infrastructure and timber sectors. The significant inputs used in the valuation of the Company's power and infrastructure investments are primarily future distributable cash flows, terminal values and discount rates. Holding other factors constant, an increase to future distributable cash flows or terminal values would tend to increase the fair value of a power and infrastructure investment, while an increase in the discount rate would have the opposite effect. Discount rates during the period ranged from 7.80% to 16.0% (for the year ended December 31, 2018 – ranged from 8.95% to 16.5%). Disclosure of distributable cash flow and terminal value ranges are not meaningful given the disparity in estimates by project. The significant inputs used in the valuation of the Company's investments in timberland are timber prices and discount rates. Holding other factors constant, an increase to timber prices would tend to increase the fair value of a timberland investment, while an increase in the discount rates would have the opposite effect. Discount rates during the period ranged from 5.0% to 7.0% (for the year ended December 31, 2018 – ranged from 5.0% to 7.0%). A range of prices for timber is not meaningful as the market price depends on factors such as property location and proximity to markets and export yards.

⁽³⁾ Segregated funds net assets are measured at fair value. The Company's Level 3 segregated funds assets are predominantly invested in investment properties and timberland properties valued as described above.

Fair value and the fair value hierarchy of invested assets not measured at fair value.

As at March 31, 2019	Carrying value	Total fair value	Level 1	Level 2	Level 3
Mortgages	\$ 48,519	\$ 49,783	\$ -	\$ -	\$ 49,783
Private placements	36,390	38,436	-	32,778	5,658
Policy loans	6,390	6,390	-	6,390	-
Loans to Bank clients	1,793	1,796	-	1,796	-
Real estate - own use property	2,002	3,246	-	-	3,246
Other invested assets ⁽¹⁾	9,661	10,324	127	-	10,197
Total invested assets disclosed at fair value	\$ 104,755	\$ 109,975	\$ 127	\$ 40,964	\$ 68,884

As at December 31, 2018	Carrying value	Total fair value	Level 1	Level 2	Level 3
Mortgages	\$ 48,363	\$ 48,628	\$ -	\$ -	\$ 48,628
Private placements	35,754	36,103	-	30,325	5,778
Policy loans	6,446	6,446	-	6,446	-
Loans to Bank clients	1,793	1,797	-	1,797	-
Real estate - own use property	2,016	3,179	-	-	3,179
Other invested assets ⁽¹⁾	9,981	10,753	121	-	10,632
Total invested assets disclosed at fair value	\$ 104,353	\$ 106,906	\$ 121	\$ 38,568	\$ 68,217

⁽¹⁾ Other invested assets disclosed at fair value include \$3,361 (December 31, 2018 - \$3,575) of leveraged leases which are disclosed at their carrying values as fair value is not routinely calculated on these investments.

Transfers between Level 1 and Level 2

The Company records transfers of assets and liabilities between Level 1 and Level 2 at their fair values as at the end of each reporting period, consistent with the date of the determination of fair value. Assets are transferred out of Level 1 when they are no longer transacted with sufficient frequency and volume in an active market. Conversely, assets are transferred from Level 2 to Level 1 when transaction volume and frequency are indicative of an active market. During the three months ended March 31, 2019 and 2018, the Company had \$nil transfers between Level 1 and Level 2.

For segregated funds net assets, the Company had \$nil transfers between Level 1 and Level 2 for the three months ended March 31, 2019 (March 31, 2018 – \$nil).

Invested assets and segregated funds net assets measured at fair value on the Consolidated Statements of Financial Position using significant unobservable inputs (Level 3)

The Company classifies the fair values of the invested assets and segregated funds net assets as Level 3 if there are no observable markets for these assets or, in the absence of an active markets, most of the inputs used to determine fair value are based on the Company's own assumptions about market participant assumptions. The Company prioritizes the use of market-based inputs over entity-based assumptions in determining Level 3 fair values. The gains and losses in the tables below include the changes in fair value due to both observable and unobservable factors.

The following table presents a roll forward of invested assets and segregated funds net assets measured at fair value using significant unobservable inputs (Level 3) for the three months ended March 31, 2019 and 2018.

For the three months ended March 31, 2019	Balance, January 1, 2019	Net realized/ unrealized gains (losses) included in net income ⁽¹⁾	Net realized/ unrealized gains (losses) included in AOCI ⁽²⁾	Purchases	Sales	Settlements	Transfer into Level 3 ⁽³⁾	Transfer out of Level 3 ⁽³⁾	Currency movement	Balance, March 31, 2019	Change in unrealized gains (losses) on assets still held
Debt securities											
FVTPL											
Other government & agency	\$ 180	\$ 7	\$ -	\$ 11	\$ (5)	\$ -	\$ -	\$ -	\$ (1)	\$ 192	\$ 7
Corporate	784	19	-	34	(45)	(11)	161	-	(15)	927	32
Residential mortgage/asset-backed securities	7	-	-	-	-	-	-	-	-	7	-
Other securitized assets	-	-	-	-	-	-	-	-	-	-	-
	971	26	-	45	(50)	(11)	161	-	(16)	1,126	39
AFS											
Other government & agency	37	-	1	-	-	-	-	-	-	38	-
Corporate	120	-	1	8	(3)	(2)	-	-	-	124	-
Residential mortgage/asset-backed securities	2	-	-	-	-	-	-	-	(1)	1	-
Commercial mortgage/asset-backed securities	-	-	-	37	-	-	-	-	-	37	-
Other securitized assets	-	-	-	-	-	-	-	-	-	-	-
	159	-	2	45	(3)	(2)	-	-	(1)	200	-
Public equities											
FVTPL											
	3	-	-	-	-	-	-	-	-	3	-
	3	-	-	-	-	-	-	-	-	3	-
Real estate - investment	10,761	73	-	66	-	-	14	-	(115)	10,799	73
Other invested assets	17,562	282	30	936	(82)	(252)	-	-	(307)	18,169	259
	28,323	355	30	1,002	(82)	(252)	14	-	(422)	28,968	332
Segregated funds net assets	4,447	40	-	4	(39)	(7)	-	-	(49)	4,396	28
Total	\$ 33,903	\$ 421	\$ 32	\$ 1,096	\$ (174)	\$ (272)	\$ 175	\$ -	\$ (488)	\$ 34,693	\$ 399

For the three months ended March 31, 2018	Balance, January 1, 2018	Net realized/ unrealized gains (losses) included in net income ⁽¹⁾	Net realized/ unrealized gains (losses) included in AOCI ⁽²⁾	Purchases	Sales	Settlements	Transfer into Level 3 ⁽³⁾	Transfer out of Level 3 ⁽³⁾	Currency movement	Balance, March 31, 2018	Change in unrealized gains (losses) on assets still held
Debt securities											
FVTPL											
Other government & agency	\$ 239	\$ -	\$ -	\$ 13	\$ (23)	\$ (14)	\$ -	\$ -	\$ 18	\$ 233	\$ -
Corporate	710	(11)	-	15	(14)	(1)	-	(55)	44	688	(11)
Residential mortgage/asset-backed securities	1	6	-	-	-	-	-	-	-	7	6
Other securitized assets	25	(1)	-	31	-	-	-	(25)	-	30	(1)
	975	(6)	-	59	(37)	(15)	-	(80)	62	958	(6)
AFS											
Other government & agency	46	-	-	1	(2)	(4)	-	-	3	44	-
Corporate	89	-	(1)	5	-	-	-	(7)	5	91	-
Residential mortgage/asset-backed securities	-	-	1	-	-	-	-	-	1	2	-
Other securitized assets	1	-	-	-	-	-	-	(1)	-	-	-
	136	-	-	6	(2)	(4)	-	(8)	9	137	-
Public equities											
FVTPL											
	3	-	-	-	-	-	-	-	-	3	-
	3	-	-	-	-	-	-	-	-	3	-
Real estate - investment	12,529	95	-	378	(108)	-	-	-	245	13,139	75
Other invested assets	16,203	(1,147)	1	920	(626)	(174)	-	-	371	15,548	(431)
	28,732	(1,052)	1	1,298	(734)	(174)	-	-	616	28,687	(356)
Segregated funds net assets	4,255	22	-	35	(43)	(7)	3	(2)	62	4,325	13
Total	\$ 34,101	\$ (1,036)	\$ 1	\$ 1,398	\$ (816)	\$ (200)	\$ 3	\$ (90)	\$ 749	\$ 34,110	\$ (349)

(1) These amounts are included in net investment income on the Consolidated Statements of Income except for the amount related to segregated funds net assets, where the amount is recorded in changes in segregated funds net assets, refer to note 14.

(2) These amounts are included in AOCI on the Consolidated Statements of Financial Position.

(3) For assets that are transferred into and/or out of Level 3, the Company uses fair values of the assets at the beginning of period.

Transfers into Level 3 primarily result from securities that were impaired during the periods or securities where a lack of observable market data (versus the previous period) resulted in reclassifying assets into Level 3. Transfers from Level 3 primarily result from observable market data now being available for the entire term structure of the debt security.

Note 4 Derivative and Hedging Instruments

Fair value of derivatives

The following table presents the gross notional amount and fair value of derivative contracts by the underlying risk exposure for derivatives in qualifying hedge accounting relationships and derivatives not designated in qualifying hedge accounting relationships.

		March 31, 2019			December 31, 2018		
As at		Notional amount	Fair value		Notional amount	Fair value	
Type of hedge	Instrument type		Assets	Liabilities		Assets	Liabilities
Qualifying hedge accounting relationships							
Fair value hedges	Interest rate swaps	\$ 426	\$ -	\$ 6	\$ 519	\$ -	\$ 13
	Foreign currency swaps	89	3	1	91	5	-
Cash flow hedges	Foreign currency swaps	1,814	44	376	1,834	80	367
	Forward contracts	60	-	6	80	-	9
	Equity contracts	209	2	3	101	-	12
Net investment hedges	Foreign currency forwards	1,989	-	40	1,864	21	65
Total derivatives in qualifying hedge accounting relationships		4,587	49	432	4,489	106	466
Derivatives not designated in qualifying hedge accounting relationships							
	Interest rate swaps	299,382	12,812	6,436	300,704	11,204	5,675
	Interest rate futures	13,653	-	-	14,297	-	-
	Interest rate options	11,292	314	-	11,736	314	-
	Foreign currency swaps	23,833	560	1,256	23,156	747	1,341
	Currency rate futures	3,857	-	-	4,052	-	-
	Forward contracts	30,656	1,546	24	29,248	670	158
	Equity contracts	14,588	669	101	15,492	653	163
	Credit default swaps	633	9	-	652	9	-
	Equity futures	11,664	-	-	10,908	-	-
Total derivatives not designated in qualifying hedge accounting relationships		409,558	15,910	7,817	410,245	13,597	7,337
Total derivatives		\$ 414,145	\$ 15,959	\$ 8,249	\$ 414,734	\$ 13,703	\$ 7,803

The total notional amount of \$414 billion (December 31, 2018 – \$415 billion) includes \$136 billion (December 31, 2018 – \$136 billion) related to derivatives utilized in the Company's variable annuity guarantee dynamic hedging and macro equity risk hedging programs. Due to the Company's variable annuity hedging practices, a large number of trades are in offsetting positions, resulting in materially lower net fair value exposure to the Company than what the gross notional amount would suggest.

The following table presents fair value of the derivative instruments by remaining term to maturity. Fair values disclosed below do not incorporate the impact of master netting agreements (refer to note 6).

	Remaining term to maturity					
	Less than 1 year	1 to 3 years	3 to 5 years	Over 5 years	Total	
As at March 31, 2019						
Derivative assets	\$ 1,118	\$ 840	\$ 1,211	\$ 12,790	\$ 15,959	
Derivative liabilities	232	156	188	7,673	8,249	

	Remaining term to maturity					
	Less than 1 year	1 to 3 years	3 to 5 years	Over 5 years	Total	
As at December 31, 2018						
Derivative assets	\$ 649	\$ 671	\$ 795	\$ 11,588	\$ 13,703	
Derivative liabilities	359	229	227	6,988	7,803	

The following table presents fair value of the derivative contracts within the fair value hierarchy.

As at March 31, 2019	Fair value	Level 1	Level 2	Level 3
Derivative assets				
Interest rate contracts	\$ 14,654	\$ -	\$ 13,436	\$ 1,218
Foreign exchange contracts	625	-	617	8
Equity contracts	671	-	642	29
Credit default swaps	9	-	9	-
Total derivative assets	\$ 15,959	\$ -	\$ 14,704	\$ 1,255
Derivative liabilities				
Interest rate contracts	\$ 6,442	\$ -	\$ 6,066	\$ 376
Foreign exchange contracts	1,703	-	1,703	-
Equity contracts	104	-	38	66
Total derivative liabilities	\$ 8,249	\$ -	\$ 7,807	\$ 442
As at December 31, 2018	Fair value	Level 1	Level 2	Level 3
Derivative assets				
Interest rate contracts	\$ 12,155	\$ -	\$ 11,537	\$ 618
Foreign exchange contracts	886	-	876	10
Equity contracts	653	-	621	32
Credit default swaps	9	-	9	-
Total derivative assets	\$ 13,703	\$ -	\$ 13,043	\$ 660
Derivative liabilities				
Interest rate contracts	\$ 5,815	\$ -	\$ 5,318	\$ 497
Foreign exchange contracts	1,814	-	1,813	1
Equity contracts	174	-	118	56
Total derivative liabilities	\$ 7,803	\$ -	\$ 7,249	\$ 554

The following table presents a roll forward for the net derivative contracts measured at fair value using significant unobservable inputs (Level 3).

For the three months ended March 31,	2019	2018
Balance as at January 1,	\$ 106	\$ 769
Net realized/unrealized gains (losses) included in:		
Net income ⁽¹⁾	695	(445)
OCI ⁽²⁾	21	(18)
Purchases	2	6
Settlements	(43)	30
Transfers		
Into Level 3 ⁽³⁾	103	-
Out of Level 3 ⁽³⁾	(71)	(61)
Currency movement	-	10
Balance as at March 31	\$ 813	\$ 291
Change in unrealized gains (losses) on instruments still held	\$ 669	\$ (422)

⁽¹⁾ These amounts are included in investment income on the Consolidated Statements of Income.

⁽²⁾ These amounts are included in AOCI on the Consolidated Statements of Financial Position.

⁽³⁾ For derivatives transferred into and out of Level 3, the Company uses the fair value of the items at the end and beginning of the period, respectively. Transfers into Level 3 occur when the inputs used to price the assets and liabilities lack observable market data (versus the previous period). Transfers out of Level 3 occur when the inputs used to price the assets and liabilities become available from observable market data.

Note 5 Insurance and Investment Contract Liabilities

(a) Insurance and investment contracts

The Company monitors experience and reviews the assumptions used in the calculation of insurance and investment contract liabilities on an ongoing basis to ensure they appropriately reflect future expected experience and any changes in the risk profile of the business. Any changes to the methods and assumptions used in projecting future asset and liability cash flows will result in a change in insurance and investment contract liabilities.

For the three months ended March 31, 2019, changes in assumptions and model enhancements did not impact insurance and investment contract liabilities or net income attributed to shareholders (March 31, 2018 – no changes in assumptions and model enhancements).

(b) Investment contracts – Fair value measurement

As at March 31, 2019, the fair value of investment contract liabilities measured at fair value was \$785 (December 31, 2018 – \$782). The carrying value and fair value of investment contract liabilities measured at amortized cost were \$2,424 and \$2,708, respectively (December 31, 2018 – \$2,483 and \$2,718, respectively). The net carrying value and fair value of investment contract liabilities were \$2,305 and \$2,588, respectively (December 31, 2018 - \$2,355 and \$2,588, respectively).

(c) Gross claims and benefits

The following table presents a breakdown of gross claims and benefits for the three months ended March 31, 2019 and 2018.

For the three months ended March 31,	2019	2018
Death, disability and other claims	\$ 3,944	\$ 3,885
Maturity and surrender benefits	2,123	1,797
Annuity payments	1,028	1,009
Policyholder dividends and experience rating refunds	323	323
Net transfers from segregated funds	(249)	(367)
Total	\$ 7,169	\$ 6,647

(d) Annuity coinsurance transactions

On September 26, 2018, the Company entered into coinsurance agreements with Reinsurance Group of America (“RGA”) to reinsure a block of legacy U.S. individual pay-out annuities business from John Hancock Life Insurance Company (U.S.A.) (“JHUSA”) with a 100% quota share and John Hancock Life Insurance Company of New York (“JHNY”) with a 90% quota share. Under the terms of the agreements, the Company will maintain responsibility for servicing the policies. The transaction was structured such that the Company ceded policyholder contract liabilities and transferred invested assets backing these liabilities. The JHUSA transaction closed in 2018.

The JHNY transaction closed with an effective date of January 1, 2019. The Company recorded an after-tax gain of \$18, which includes an increase of reinsurance assets of \$132 and ceded premiums of \$131 on the Consolidated Statements of Income.

On October 31, 2018, the Company entered into coinsurance agreements with Jackson National Life Insurance Company (“Jackson”), a wholly-owned subsidiary of Prudential plc, to reinsure a block of legacy U.S. group pay-out annuities business from JHUSA with a 100% quota share and JHNY with a 90% quota share. Under the terms of the agreements, the Company will maintain responsibility for servicing the policies. The transaction was structured such that the Company ceded policyholder contract liabilities and transferred related invested assets backing these liabilities. The JHUSA transaction closed in 2018.

The JHNY transaction closed with an effective date of January 1, 2019. The Company recorded an after-tax gain of \$31, which includes an increase of reinsurance assets of \$621, a ceding commission paid of \$35 and ceded premiums of \$581 on the Consolidated Statements of Income.

Note 6 Risk Management

The Company’s policies and procedures for managing risk related to financial instruments and insurance contracts can be found in note 9 of the Company’s 2018 Annual Consolidated Financial Statements as well as the shaded tables and text in the “Risk Management” section of the Company’s Management Discussion and Analysis (“MD&A”) in the 2018 Annual Report.

(a) Risk disclosures included in the First Quarter’s MD&A

Market risk sensitivities related to variable annuity and segregated fund guarantees, publicly traded equity performance risk, interest rate and spread risk and alternative long-duration asset performance risk are disclosed in shaded text and tables in the “Risk Management and Risk Factors” section of the First Quarter 2019 Management Discussion and Analysis. These disclosures are in accordance with IFRS 7 “Financial Instruments: Disclosures” and IAS 34 “Interim Financial Reporting” and are an integral part of these Interim Consolidated Financial Statements.

(b) Credit risk**(I) Credit quality**

The credit quality of commercial mortgages and private placements is assessed at least annually by using an internal rating based on regular monitoring of credit related exposures, considering both qualitative and quantitative factors.

The following table presents the credit quality and carrying value of the commercial mortgages and private placements.

As at March 31, 2019	AAA	AA	A	BBB	BB	B and lower	Total
Commercial mortgages							
Retail	\$ 107	\$ 1,379	\$ 4,911	\$ 2,164	\$ 11	\$ 63	\$ 8,635
Office	55	1,533	5,490	1,625	28	6	8,737
Multi-family residential	703	1,416	2,274	781	36	-	5,210
Industrial	35	368	1,824	329	118	-	2,674
Other	284	356	1,157	1,198	-	9	3,004
Total commercial mortgages	1,184	5,052	15,656	6,097	193	78	28,260
Agricultural mortgages	-	151	-	374	-	-	525
Private placements	1,112	4,901	13,643	14,206	910	1,618	36,390
Total	\$ 2,296	\$ 10,104	\$ 29,299	\$ 20,677	\$ 1,103	\$ 1,696	\$ 65,175

As at December 31, 2018	AAA	AA	A	BBB	BB	B and lower	Total
Commercial mortgages							
Retail	\$ 82	\$ 1,524	\$ 4,459	\$ 2,227	\$ 11	\$ 74	\$ 8,377
Office	56	1,495	5,454	1,650	45	6	8,706
Multi-family residential	613	1,427	2,407	839	37	-	5,323
Industrial	36	366	1,953	339	120	-	2,814
Other	289	334	1,167	1,191	-	14	2,995
Total commercial mortgages	1,076	5,146	15,440	6,246	213	94	28,215
Agricultural mortgages	-	163	-	389	-	-	552
Private placements	1,143	4,968	13,304	14,055	733	1,551	35,754
Total	\$ 2,219	\$ 10,277	\$ 28,744	\$ 20,690	\$ 946	\$ 1,645	\$ 64,521

The company assess credit quality of residential mortgages and loans to Bank clients at least annually with the loan status as performing or non-performing being the key credit quality indicator.

The following table presents the carrying value of residential mortgages and loans to Bank clients.

As at	March 31, 2019			December 31, 2018		
	Insured	Uninsured	Total	Insured	Uninsured	Total
Residential mortgages						
Performing	\$ 6,813	\$ 12,878	\$ 19,691	\$ 6,854	\$ 12,696	\$ 19,550
Non-performing ⁽¹⁾	20	23	43	19	27	46
Loans to Bank clients						
Performing	n/a	1,787	1,787	n/a	1,787	1,787
Non-performing ⁽¹⁾	n/a	6	6	n/a	6	6
Total	\$ 6,833	\$ 14,694	\$ 21,527	\$ 6,873	\$ 14,516	\$ 21,389

⁽¹⁾ Non-performing refers to assets that are 90 days or more past due.

(II) Past due or credit impaired financial assets

The following table presents the carrying values of financial assets which are either past due but not impaired or impaired and the allowance for credit losses.

As at March 31, 2019	Past due but not impaired		Total	Total impaired	Allowance for credit losses
	Less than 90 days	90 days and greater			
Debt securities					
FVTPL	\$ -	\$ -	\$ -	\$ 178	\$ -
AFS	5	1	6	1	-
Private placements	60	-	60	8	4
Mortgages and loans to Bank clients	68	-	68	114	60
Other financial assets	156	13	169	1	-
Total	\$ 289	\$ 14	\$ 303	\$ 302	\$ 64

As at December 31, 2018	Past due but not impaired		Total	Total impaired	Allowance for credit losses
	Less than 90 days	90 days and greater			
Debt securities					
FVTPL	\$ 14	\$ -	\$ 14	\$ 39	\$ -
AFS	-	2	2	1	-
Private placements	15	-	15	18	43
Mortgages and loans to Bank clients	70	-	70	120	52
Other financial assets	77	26	103	1	-
Total	\$ 176	\$ 28	\$ 204	\$ 179	\$ 95

(c) Securities lending, repurchase and reverse repurchase transactions

As at March 31, 2019, the Company had loaned securities (which are included in invested assets), with a market value of \$1,794 (December 31, 2018 – \$1,518). The Company holds collateral with a current market value that exceeds the value of securities lent in all cases.

As at March 31, 2019, the Company had engaged in reverse repurchase transactions of \$270 (December 31, 2018 – \$63) which are recorded as short-term receivables. In addition, the Company had engaged in repurchase transactions of \$271 as at March 31, 2019 (December 31, 2018 – \$64) which are recorded as payables.

(d) Credit default swaps

The Company replicates exposure to specific issuers by selling credit protection via credit default swaps (“CDSs”) to complement its cash debt securities investing. The Company does not write CDS protection in excess of its government bond holdings.

The following table presents details of the credit default swap protection sold by type of contract and external agency rating for the underlying reference security.

As at March 31, 2019	Notional amount ⁽¹⁾	Fair value	Weighted average maturity (in years) ⁽²⁾
Single name CDSs⁽³⁾ – Corporate debt			
AA	\$ 24	\$ -	2
A	434	7	2
BBB	175	2	1
Total single name CDSs	\$ 633	\$ 9	2
Total CDS protection sold	\$ 633	\$ 9	2

As at December 31, 2018	Notional amount ⁽¹⁾	Fair value	Weighted average maturity (in years) ⁽²⁾
Single name CDSs⁽³⁾ – Corporate debt			
AA	\$ 25	\$ -	2
A	447	7	2
BBB	180	2	2
Total single name CDSs	\$ 652	\$ 9	2
Total CDS protection sold	\$ 652	\$ 9	2

(1) Notional amount represents the maximum future payments the Company would have to pay its counterparties assuming a default of the underlying credit and zero recovery on the underlying issuer obligation.

(2) The weighted average maturity of the CDS is weighted based on notional amounts.

(3) Ratings are based on S&P where available followed by Moody's, DBRS, and Fitch. If no rating is available from a rating agency, an internally developed rating is used.

The Company held no purchased credit protection as at March 31, 2019 and December 31, 2018.

(e) Derivatives

The Company's point-in-time exposure to losses related to credit risk of a derivative counterparty is limited to the amount of any net gains that may have accrued with a particular counterparty. Gross derivative counterparty exposure is measured as the total fair value (including accrued interest) of all outstanding contracts in a gain position excluding any offsetting contracts in a loss position and the impact of collateral on hand. The Company seeks to limit the risk of credit losses from derivative counterparties by: using investment grade counterparties; entering into master netting arrangements which permit the offsetting of contracts in a loss position in the case of a counterparty default; and entering into Credit Support Annex agreements, whereby collateral must be provided when the exposure exceeds a certain threshold.

All contracts are held with counterparties rated BBB+ or higher. As at March 31, 2019, the percentage of the Company's derivative exposure which was with counterparties rated AA- or higher amounted to 22 per cent (December 31, 2018 – 19 per cent). As at March 31, 2019, the largest single counterparty exposure, without taking into account the impact of master netting agreements or the benefit of collateral held, was \$2,565 (December 31, 2018 – \$2,269). The net exposure to this counterparty, after taking into account master netting agreements and the fair value of collateral held, was \$nil (December 31, 2018 – \$nil).

(f) Offsetting financial assets and financial liabilities

Certain derivatives, securities lent and repurchase agreements have conditional offset rights. The Company does not offset these financial instruments in the Consolidated Statements of Financial Position, as the rights of offset are conditional. In the case of derivatives, collateral is collected from and pledged to counterparties and clearing houses to manage credit risk exposure in accordance with Credit Support Annexes to swap agreements and clearing agreements. Under master netting agreements, the Company has a right of offset in the event of default, insolvency, bankruptcy or other early termination.

In the case of reverse repurchase and repurchase transactions, additional collateral may be collected from or pledged to counterparties to manage credit exposure according to bilateral reverse repurchase or repurchase agreements. In the event of default by a counterparty, the Company is entitled to liquidate the collateral held to offset against the same counterparty's obligation.

The following table presents the effect of conditional master netting and similar arrangements. Similar arrangements may include global master repurchase agreements, global master securities lending agreements, and any related rights to financial collateral.

	Related amounts not set off in the Consolidated Statements of Financial Position				
	Gross amounts of financial instruments ⁽¹⁾	Amounts subject to an enforceable master netting arrangement or similar agreements	Financial and cash collateral pledged (received) ⁽²⁾	Net amount including financing trusts ⁽³⁾	Net amounts excluding financing trusts
As at March 31, 2019					
Financial assets					
Derivative assets	\$ 16,506	\$ (7,242)	\$ (9,181)	\$ 83	\$ 83
Securities lending	1,794	-	(1,794)	-	-
Reverse repurchase agreements	270	-	(270)	-	-
Total financial assets	\$ 18,570	\$ (7,242)	\$ (11,245)	\$ 83	\$ 83
Financial liabilities					
Derivative liabilities	\$ (9,226)	\$ 7,242	\$ 1,739	\$ (245)	\$ (35)
Repurchase agreements	(271)	-	270	(1)	-
Total financial liabilities	\$ (9,497)	\$ 7,242	\$ 2,009	\$ (246)	\$ (35)

	Related amounts not set off in the Consolidated Statements of Financial Position				
	Gross amounts of financial instruments ⁽¹⁾	Amounts subject to an enforceable master netting arrangement or similar agreements	Financial and cash collateral pledged (received) ⁽²⁾	Net amount including financing trusts ⁽³⁾	Net amounts excluding financing trusts
As at December 31, 2018					
Financial assets					
Derivative assets	\$ 14,320	\$ (6,644)	\$ (7,431)	\$ 245	\$ 245
Securities lending	1,518	-	(1,518)	-	-
Reverse repurchase agreements	63	(63)	-	-	-
Total financial assets	\$ 15,901	\$ (6,707)	\$ (8,949)	\$ 245	\$ 245
Financial liabilities					
Derivative liabilities	\$ (8,716)	\$ 6,644	\$ 1,868	\$ (204)	\$ (33)
Repurchase agreements	(64)	63	1	-	-
Total financial liabilities	\$ (8,780)	\$ 6,707	\$ 1,869	\$ (204)	\$ (33)

(1) Financial assets and liabilities in the above table include accrued interest of \$560 and \$977 respectively (December 31, 2018 – \$621 and \$913 respectively).

(2) Financial and cash collateral excludes over-collateralization. As at March 31, 2019, the Company was over-collateralized on OTC derivative assets, OTC derivative liabilities, securities lending and reverse purchase agreements and repurchase agreements in the amounts of \$890, \$422, \$83 and \$nil, respectively (December 31, 2018 – \$417, \$405, \$80 and \$nil respectively). As at March 31, 2019, collateral pledged (received) does not include collateral in transit on OTC instruments or include initial margin on exchange traded contracts or cleared contracts.

(3) Includes derivative contracts entered between the Company and its financing trusts which it does not consolidate. The Company does not exchange collateral on derivative contracts entered with these trusts.

The Company also has certain credit linked note assets and variable surplus note liabilities which have unconditional offset rights. Under the netting agreements, the Company has rights of offset including in the event of the Company's default, insolvency, or bankruptcy. These financial instruments are offset in the Company's Consolidated Statements of Financial Position.

A credit linked note is a security that allows the issuer to transfer a specific credit risk to the buyer. A surplus note is a subordinated debt obligation that often qualifies as surplus (the U.S. statutory equivalent of equity) by some U.S. state insurance regulators. Interest payments on surplus notes are made after all other contractual payments are made. The following table presents the effect of unconditional netting.

	Gross amounts of financial instruments	Amounts subject to an enforceable netting arrangement	Net amounts of financial instruments
As at March 31, 2019			
Credit linked note ⁽¹⁾	\$ 720	\$ (720)	\$ -
Variable surplus note	(720)	720	-
	Gross amounts of financial instruments	Amounts subject to an enforceable netting arrangement	Net amounts of financial instruments
As at December 31, 2018			
Credit linked note ⁽¹⁾	\$ 679	\$ (679)	\$ -
Variable surplus note	(679)	679	-

⁽¹⁾ As at March 31, 2019, the Company had \$nil (December 31, 2018 – \$nil) fixed surplus notes outstanding.

Note 7 Long-Term Debt

(a) Carrying value of long-term debt instruments

As at	Issue date	Maturity date	Par value	March 31, 2019	December 31, 2018
4.70% Senior notes ⁽¹⁾	June 23, 2016	June 23, 2046	US\$1,000	\$ 1,328	\$ 1,355
5.375% Senior notes ⁽¹⁾	March 4, 2016	March 4, 2046	US\$750	989	1,010
3.527% Senior notes ⁽¹⁾	December 2, 2016	December 2, 2026	US\$270	360	367
4.150% Senior notes ⁽¹⁾	March 4, 2016	March 4, 2026	US\$1,000	1,328	1,356
4.90% Senior notes ⁽¹⁾	September 17, 2010	September 17, 2020	US\$500	667	681
Total				\$ 4,672	\$ 4,769

⁽¹⁾ These U.S. dollar senior notes have been designated as hedges of the Company's net investment in its U.S. operations which reduces the earnings volatility that would otherwise arise from the re-measurement of these senior notes into Canadian dollars.

(b) Fair value measurement

Fair value of a long-term debt instrument is determined using quoted market prices where available (Level 1). When quoted market prices are not available, fair value is determined with reference to quoted prices of a debt instrument with similar characteristics or estimated using discounted cash flows using observable market rates (Level 2).

Long-term debt is measured at amortized cost in the Consolidated Statements of Financial Position. As at March 31, 2019, the fair value of long-term debt was \$4,971 (December 31, 2018 – \$4,886). Long-term debt was categorized in Level 2 of the fair value hierarchy (December 31, 2018 – Level 2).

Note 8 Capital Instruments

(a) Carrying value of capital instruments

As at	Issue date	Earliest par redemption date	Maturity date	Par value	March 31, 2019	December 31, 2018
7.535% MFCT II Senior debenture notes	July 10, 2009	December 31, 2019	December 31, 2108	\$1,000	\$ 1,000	\$ 1,000
JHFC Subordinated notes	December 14, 2006	n/a	December 15, 2036	\$650	647	647
4.061% MFC Subordinated notes ⁽¹⁾	February 24, 2017	February 24, 2027	February 24, 2032	US\$750	997	1,017
3.00% MFC Subordinated notes	November 21, 2017	November 21, 2024	November 21, 2029	\$500	491	498
3.049% MFC Subordinated debentures	August 18, 2017	August 20, 2024	August 20, 2029	\$750	747	747
3.317% MFC Subordinated debentures	May 9, 2018	May 9, 2023	May 9, 2028	\$600	597	597
3.181% MLI Subordinated debentures	November 20, 2015	November 22, 2022	November 22, 2027	\$1,000	997	997
3.85% MFC Subordinated notes	May 25, 2016	May 25, 2021	May 25, 2026	\$500	492	499
2.389% MLI Subordinated debentures	June 1, 2015	January 5, 2021	January 5, 2026	\$350	349	349
2.10% MLI Subordinated debentures	March 10, 2015	June 1, 2020	June 1, 2025	\$750	749	749
2.64% MLI Subordinated debentures	December 1, 2014	January 15, 2020	January 15, 2025	\$500	500	500
2.811% MLI Subordinated debentures ⁽²⁾	February 21, 2014	February 21, 2019	February 21, 2024	\$500	-	500
7.375% JHUSA Surplus notes	February 25, 1994	n/a	February 15, 2024	US\$450	619	632
Total					\$ 8,185	\$ 8,732

⁽¹⁾ Designated as a hedge of the Company's net investment in its U.S. operations which reduces the earnings volatility that would otherwise arise from the re-measurement of the subordinated notes into Canadian dollars.

⁽²⁾ MLI redeemed in full the 2.811% subordinated debentures at par, on February 21, 2019, the earliest par redemption date.

(b) Fair value measurement

Fair value of capital instruments is determined using quoted market prices where available (Level 1). When quoted market prices are not available fair value is determined with reference to quoted prices of debt instruments with similar characteristics or estimated using discounted cash flows using observable market rates (Level 2).

Capital instruments are measured at amortized cost in the Consolidated Statements of Financial Position. As at March 31, 2019, the fair value of capital instruments was \$8,316 (December 31, 2018 – \$8,712). Capital instruments were categorized in Level 2 of the fair value hierarchy (December 31, 2018 – Level 2).

Note 9 Share Capital and Earnings Per Share

(a) Preferred shares

The changes in issued and outstanding preferred shares are as follows.

	2019		2018	
	Number of shares (in millions)	Amount	Number of shares (in millions)	Amount
For the periods ended March 31,				
Balance, January 1	156	\$ 3,822	146	\$ 3,577
Issued, Class 1 shares, Series 25 ⁽¹⁾	-	-	10	250
Issuance costs, net of tax	-	-	-	(5)
Balance, March 31	156	\$ 3,822	156	\$ 3,822

⁽¹⁾ On February 20, 2018, MFC issued 10 million of Non-cumulative Rate Reset Class 1 Shares Series 25 at a price of \$25 per share for gross proceeds of \$250.

The following table presents additional information on the preferred shares outstanding as at March 31, 2019.

As at March 31, 2019	Issue date	Annual dividend rate ⁽¹⁾	Earliest redemption date ⁽²⁾	Number of shares (in millions)	Face amount	Net amount ⁽³⁾
Class A preferred shares						
Series 2	February 18, 2005	4.65%	n/a	14	\$ 350	\$ 344
Series 3	January 3, 2006	4.50%	n/a	12	300	294
Class 1 preferred shares						
Series 3 ^{(4),(5)}	March 11, 2011	2.178%	June 19, 2021	6	158	155
Series 4	June 20, 2016	floating ⁽⁶⁾	June 19, 2021	2	42	41
Series 5 ^{(4),(5)}	December 6, 2011	3.891%	December 19, 2021	8	200	195
Series 7 ^{(4),(5)}	February 22, 2012	4.312%	March 19, 2022	10	250	244
Series 9 ^{(4),(5)}	May 24, 2012	4.351%	September 19, 2022	10	250	244
Series 11 ^{(4),(5)}	December 4, 2012	4.731%	March 19, 2023	8	200	196
Series 13 ^{(4),(5)}	June 21, 2013	4.414%	September 19, 2023	8	200	196
Series 15 ^{(4),(5)}	February 25, 2014	3.90%	June 19, 2019	8	200	195
Series 17 ^{(4),(5)}	August 15, 2014	3.90%	December 19, 2019	14	350	343
Series 19 ^{(4),(5)}	December 3, 2014	3.80%	March 19, 2020	10	250	246
Series 21 ^{(4),(5)}	February 25, 2016	5.60%	June 19, 2021	17	425	417
Series 23 ^{(4),(5)}	November 22, 2016	4.85%	March 19, 2022	19	475	467
Series 25 ^{(4),(5)}	February 20, 2018	4.70%	June 19, 2023	10	250	245
Total				156	\$ 3,900	\$ 3,822

⁽¹⁾ Holders of Class A and Class 1 preferred shares are entitled to receive non-cumulative preferential cash dividends on a quarterly basis, as and when declared by the Board of Directors.

⁽²⁾ Redemption of all preferred shares is subject to regulatory approval. MFC may redeem each series, in whole or in part, at par, on the earliest redemption date or every five years thereafter, with the exception of Class A Series 2, Class A Series 3 and Class 1 Series 4 preferred shares. Class A Series 2 and Series 3 preferred shares are past their respective earliest redemption date and MFC may redeem these shares, in whole or in part, at par at any time, subject to regulatory approval, as noted. MFC may redeem the Class 1 Series 4, in whole or in part, at any time, at \$25.00 per share if redeemed on June 19, 2021 and on June 19 every five years thereafter, or at \$25.50 per share if redeemed on any other date after June 19, 2016, subject to regulatory approval, as noted.

⁽³⁾ Net of after-tax issuance costs.

⁽⁴⁾ On the earliest redemption date and every five years thereafter, the annual dividend rate will be reset to the five year Government of Canada bond yield plus a yield specified for each series. The specified yield for Class 1 shares is: Series 3 – 1.41%, Series 5 – 2.90%, Series 7 – 3.13%, Series 9 – 2.86%, Series 11 – 2.61%, Series 13 – 2.22%, Series 15 – 2.16%, Series 17 – 2.36%, Series 19 – 2.30%, Series 21 – 4.97%, Series 23 – 3.83% and Series 25 – 2.55%.

⁽⁵⁾ On the earliest redemption date and every five years thereafter, Class 1 preferred shares are convertible at the option of the holder into a new series that is one number higher than their existing series, and the holders are entitled to non-cumulative preferential cash dividends, payable quarterly if and when declared by the Board of Directors, at a rate equal to the three-month Government of Canada Treasury bill yield plus the rate specified in footnote 4 above.

⁽⁶⁾ The floating dividend rate for the Class 1 Shares Series 4 equals the three-month Government of Canada Treasury bill yield plus 1.41%.

(b) Common shares

As at March 31, 2019, there were 27 million outstanding stock options and deferred share units that entitle the holder to receive common shares or payment in cash or common shares, at the option of the holder (December 31, 2018 – 24 million).

For the	three months ended	year ended
Number of common shares (in millions)	March 31, 2019	December 31, 2018
Balance, beginning of period	1,971	1,982
Repurchased for cancellation	(10)	(23)
Issued under dividend reinvestment plan	8	9
Issued on exercise of stock options and deferred share units	1	3
Balance, end of period	1,970	1,971

Normal Course Issuer Bid

On February 19, 2019, the Company announced that the Toronto Stock Exchange approved an amendment to the normal course issuer bid ("NCIB") to increase the number of shares that the Company may purchase from 40 million to 99 million MFC common shares. The current NCIB commenced on November 14, 2018 and will continue until November 13, 2019, when the NCIB expires, or such earlier date as the Company completes its purchases. During the three months ended March 31, 2019, the Company purchased 9.9 million shares for \$206. Of this, \$116 was recorded in common shares and \$90 was recorded in retained earnings in the Consolidated Statements of Changes in Equity.

Dividend Reinvestment Plan

The Company offers a Dividend Reinvestment Program ("DRIP") whereby shareholders may elect to automatically reinvest dividends in the form of MFC common shares instead of receiving cash. The offering of the program and its terms of execution are subject to the Board of Directors' discretion. For the dividend paid on March 19, 2019, common shares in connection with the DRIP were purchased from treasury with a two per cent discount from the market price.

(c) Earnings per share

The following is a reconciliation of the denominator (number of shares) in the calculation of basic and diluted earnings per share.

For the three months ended March 31,	2019	2018
Weighted average number of common shares (in millions)	1,965	1,983
Dilutive stock-based awards ⁽¹⁾ (in millions)	4	6
Weighted average number of diluted common shares (in millions)	1,969	1,989

⁽¹⁾ The dilutive effect of stock-based awards was calculated using the treasury stock method. This method calculates the number of incremental shares by assuming the outstanding stock-based awards are (i) exercised and (ii) then reduced by the number of shares assumed to be repurchased from the issuance proceeds, using the average market price of MFC common shares for the period.

Note 10 Revenue from Service Contracts

The Company provides investment management services, administrative services and distribution and related services to proprietary and third-party investment funds, retirement plans, group benefit plans and other arrangements. The Company also provides real estate management services to tenants of the Company's investment properties.

The Company's service contracts generally impose single performance obligations, each consisting of a series of similar related services for each customer.

The Company's performance obligations within service arrangements are generally satisfied over time as the customer simultaneously receives and consumes the benefits of the services rendered, measured using an output method. Fees typically include variable consideration and the related revenue is recognized to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty is subsequently resolved.

Asset based fees vary with asset values of accounts under management, subject to market conditions and investor behaviors beyond the Company's control. Transaction processing and administrative fees vary with activity volume, also beyond the Company's control. Some fees, including distribution fees, are based on account balances and transaction volumes. Fees related to account balances and transaction volumes are measured daily. Real estate management service fees include fixed portions plus recovery of variable costs of services rendered to tenants. Fees related to services provided are generally recognized as services are rendered, which is when it becomes highly probable that no significant reversal of cumulative revenue recognized will occur. The Company has determined that its service contracts have no significant financing components as fees are collected monthly. The Company has no significant contract assets or contract liabilities.

The following tables present revenue from service contracts by service lines and reporting segments as disclosed in note 13.

For the three months ended March 31, 2019	Asia	Canada	U.S.	Global WAM	Corporate and Other	Total
Investment management and other related fees	\$ 82	\$ 39	\$ 129	\$ 651	\$ (51)	\$ 850
Transaction processing, administration, and service fees	60	200	4	489	-	753
Distribution fees and other	50	12	45	170	(9)	268
Total included in other revenue	192	251	178	1,310	(60)	1,871
Real estate management services included in net investment income	9	39	36	-	2	86
Total	\$ 201	\$ 290	\$ 214	\$ 1,310	\$ (58)	\$ 1,957

For the three months ended March 31, 2018	Asia	Canada	U.S.	Global WAM	Corporate and Other	Total
Investment management and other related fees	\$ 84	\$ 38	\$ 130	\$ 681	\$ (55)	\$ 878
Transaction processing, administration, and service fees	54	217	4	475	-	750
Distribution fees and other	72	12	162	188	(11)	423
Total included in other revenue	210	267	296	1,344	(66)	2,051
Real estate management services included in net investment income	7	41	38	-	1	87
Total	\$ 217	\$ 308	\$ 334	\$ 1,344	\$ (65)	\$ 2,138

Note 11 Employee Future Benefits

The Company maintains a number of pension plans, both defined benefit and defined contribution, and retiree welfare plans for eligible employees and agents. Information about the cost of the Company's material pension and retiree welfare plans in the U.S. and Canada is as follows.

For the three months ended March 31,	Pension plans		Retiree welfare plans	
	2019	2018	2019	2018
Defined benefit current service cost	\$ 10	\$ 10	\$ -	\$ -
Defined benefit administrative expenses	5	2	-	-
Past service cost amendment ⁽¹⁾	-	8	-	-
Service cost	15	20	-	-
Interest on net defined benefit (asset) liability	4	3	-	1
Defined benefit cost	19	23	-	1
Defined contribution cost	23	22	-	-
Net benefit cost	\$ 42	\$ 45	\$ -	\$ 1

⁽¹⁾ In 2018, past service cost includes \$8, reflecting a surplus sharing agreement between the Company and certain legacy employees in Canada, which received regulatory approval in 2018.

Note 12 Commitments and Contingencies

(a) Legal proceedings

The Company is regularly involved in legal actions, both as a defendant and as a plaintiff. The legal actions where the Company is a party ordinarily relate to its activities as a provider of insurance protection or wealth management products, reinsurance, or its capacity as an investment adviser, employer, or taxpayer. Other life insurers and asset managers, operating in the jurisdictions in which the Company does business, have been subject to a wide variety of other types of actions, some of which resulted in substantial judgments or settlements against the defendants; it is possible that the Company may become involved in similar actions in the future. In addition, government and regulatory bodies in Canada, the United States, Asia and other jurisdictions where the Company conducts business regularly make inquiries and, from time to time, require the production of information or conduct examinations concerning the Company's compliance with, among other things, insurance laws, securities laws, and laws governing the activities of broker-dealers.

A class action against John Hancock Life Insurance Company (U.S.A.) ("JHUSA") is pending in the U.S. District Court for the Southern District of New York (the "Southern District of NY") in which claims are made that JHUSA breached, and continues to breach, the contractual terms of certain universal life policies issued between approximately 1990 and 2006 by including impermissible charges in its cost of insurance ("COI") calculations and certain other rider charges. The Company believes that its COI calculations have been, and continue to be, in accordance with the terms of the policies. In May 2018, the parties agreed to the financial terms of a settlement in the amount of US\$91. On March 18, 2019, the court approved the US\$91 settlement, and proceeds will be distributed beginning in May 2019.

In June 2018, a class action was initiated against JHUSA and John Hancock Life Insurance Company of New York ("JHNY") in the Southern District of NY on behalf of owners of Performance Universal Life policies issued between 2003 and 2009 whose policies are subject to a COI increase announced in 2018. In October 2018, a second and almost identical class action was initiated against JHUSA and JHNY in the Southern District of NY. The two cases were determined to be related and they were assigned to the same judge. Discovery has commenced in these cases and will continue through 2019. No hearings on substantive matters have been scheduled. It is too early to assess the range of potential outcomes for these two related lawsuits.

(b) Guarantees**(i) Guarantees regarding Manulife Finance (Delaware), L.P. ("MFLP")**

MFC has guaranteed the payment of amounts on the \$650 subordinated debentures due on December 15, 2041 issued by MFLP, a wholly-owned unconsolidated partnership.

(ii) Guarantees regarding The Manufacturers Life Insurance Company

On January 29, 2007, MFC provided a subordinated guarantee, as amended and restated on January 13, 2017, of Class A Shares and Class B Shares of MLI and any other class of preferred shares that rank in parity with Class A Shares or Class B Shares of MLI. MFC has also provided a subordinated guarantee on the day of issuance for the following subordinated debentures issued by MLI: \$500 issued on December 1, 2014; \$750 issued on March 10, 2015; \$350 issued on June 1, 2015; and \$1,000 issued on November 20, 2015.

The following table sets forth certain condensed consolidated financial information for MFC and MFLP.

Condensed Consolidated Statements of Income Information

	MFC (Guarantor)	MLI consolidated	Other subsidiaries of MFC on a combined basis	Consolidation adjustments	Total consolidated amounts	MFLP
For the three months ended March 31, 2019						
Total revenue	\$ (4)	\$ 23,566	\$ -	\$ (13)	\$ 23,549	\$ 5
Net income (loss) attributed to shareholders	2,176	2,261	-	(2,261)	2,176	(3)
	MFC (Guarantor)	MLI consolidated	Other subsidiaries of MFC on a combined basis	Consolidation adjustments	Total consolidated amounts	MFLP
For the three months ended March 31, 2018						
Total revenue	\$ 7	\$ 8,758	\$ 5	\$ (24)	\$ 8,746	\$ 17
Net income (loss) attributed to shareholders	1,372	1,446	(5)	(1,441)	1,372	7

Condensed Consolidated Statements of Financial Position Information

	MFC (Guarantor)	MLI consolidated	Other subsidiaries of MFC on a combined basis	Consolidation adjustments	Total consolidated amounts	MFLP
As at March 31, 2019						
Invested assets	\$ 27	\$ 359,421	\$ 10	\$ -	\$ 359,458	\$ 11
Total other assets	56,781	86,941	3	(57,694)	86,031	1,100
Segregated funds net assets	-	334,425	-	-	334,425	-
Insurance contract liabilities	-	335,269	-	-	335,269	-
Investment contract liabilities	-	3,209	-	-	3,209	-
Segregated funds net liabilities	-	334,425	-	-	334,425	-
Total other liabilities	8,962	50,226	-	(1,171)	58,017	877
	MFC (Guarantor)	MLI consolidated	Other subsidiaries of MFC on a combined basis	Consolidation adjustments	Total consolidated amounts	MFLP
As at December 31, 2018						
Invested assets	\$ 21	\$ 353,632	\$ 11	\$ -	\$ 353,664	\$ 11
Total other assets	54,346	83,523	3	(54,474)	83,398	1,059
Segregated funds net assets	-	313,209	-	-	313,209	-
Insurance contract liabilities	-	328,654	-	-	328,654	-
Investment contract liabilities	-	3,265	-	-	3,265	-
Segregated funds net liabilities	-	313,209	-	-	313,209	-
Total other liabilities	8,403	50,043	-	(454)	57,992	833

(iii) Guarantees regarding John Hancock Life Insurance Company (U.S.A.) ("JHUSA")

Details of guarantees regarding certain securities issued or to be issued by JHUSA are outlined in note 15.

Note 13 Segment and Geographic Reporting

The Company's reporting segments are Asia, Canada, U.S., Global WAM and Corporate and Other. Each reporting segment is responsible for managing its operating results, developing products, defining strategies for services and distribution based on the profile and needs of its business and market. The Company's significant product and service offerings are shown below.

Wealth and asset management businesses (Global WAM) – include mutual funds and exchange traded funds, group retirement and savings products, and institutional asset management services across all major asset classes. These products and services are distributed through multiple distribution channels, including agents and brokers affiliated with the Company, independent securities brokerage firms and financial advisors, pension plan consultants and banks.

Insurance and annuity products (Asia, Canada and U.S.) – includes a variety of individual life insurance, individual and group long-term care insurance and guaranteed and partially guaranteed annuity products. Products are distributed through multiple distribution channels, including insurance agents, brokers, banks, financial planners and direct marketing. Manulife Bank of Canada offers a variety of deposit and credit products to Canadian customers.

Corporate and Other Segment – comprised of investment performance on assets backing capital, net of amounts allocated to operating segments; costs incurred by the corporate office related to shareholder activities (not allocated to the operating segments); financing costs; Property and Casualty Reinsurance Business; and run-off reinsurance operations including variable annuities and accident and health.

Effective January 1, 2019, the Company has updated its methodology for allocating capital and the related earnings to each reporting segment from the Corporate and Other segments. Prior period amounts have been restated to reflect this change.

(a) By Segment

For the three months ended March 31, 2019	Asia	Canada	U.S.	Global WAM	Corporate and Other	Total
Revenue						
Life and health insurance	\$ 4,461	\$ 2,105	\$ 1,487	\$ -	\$ 24	\$ 8,077
Annuities and pensions ⁽¹⁾	708	115	(586)	-	-	237
Net premium income	5,169	2,220	901	-	24	8,314
Net investment income	3,254	4,582	4,588	23	226	12,673
Other revenue	328	288	651	1,311	(16)	2,562
Total revenue	8,751	7,090	6,140	1,334	234	23,549
Contract benefits and expenses						
Life and health insurance	5,458	3,220	5,596	-	(8)	14,266
Annuities and pensions	1,029	2,219	(704)	37	-	2,581
Net benefits and claims	6,487	5,439	4,892	37	(8)	16,847
Interest expense	54	124	9	2	139	328
Other expenses	1,281	755	694	1,028	92	3,850
Total contract benefits and expenses	7,822	6,318	5,595	1,067	223	21,025
Income (loss) before income taxes	929	772	545	267	11	2,524
Income tax recovery (expense)	(117)	(78)	(104)	(34)	44	(289)
Net income (loss)	812	694	441	233	55	2,235
Less net income (loss) attributed to:						
Non-controlling interests	74	-	-	-	(1)	73
Participating policyholders	43	(57)	-	-	-	(14)
Net income (loss) attributed to shareholders	\$ 695	\$ 751	\$ 441	\$ 233	\$ 56	\$ 2,176
Total assets	\$ 117,022	\$ 224,036	\$ 270,476	\$ 139,444	\$ 28,936	\$ 779,914

For the three months ended March 31, 2018	Asia	Canada	U.S.	Global WAM	Corporate and Other	Total
Revenue						
Life and health insurance	\$ 3,741	\$ 2,024	\$ 1,512	\$ -	\$ 23	\$ 7,300
Annuities and pensions	745	129	151	-	-	1,025
Net premium income	4,486	2,153	1,663	-	23	8,325
Net investment income	(439)	669	(2,284)	3	(30)	(2,081)
Other revenue	264	362	627	1,344	(95)	2,502
Total revenue	4,311	3,184	6	1,347	(102)	8,746
Contract benefits and expenses						
Life and health insurance	2,591	1,739	(1,154)	-	11	3,187
Annuities and pensions	35	9	(354)	13	-	(297)
Net benefits and claims	2,626	1,748	(1,508)	13	11	2,890
Interest expense	43	91	11	-	141	286
Other expenses	1,110	742	842	1,081	81	3,856
Total contract benefits and expenses	3,779	2,581	(655)	1,094	233	7,032
Income (loss) before income taxes	532	603	661	253	(335)	1,714
Income tax recovery (expense)	(92)	(132)	(133)	(30)	50	(337)
Net income (loss)	440	471	528	223	(285)	1,377
Less net income (loss) attributed to:						
Non-controlling interests	56	-	-	-	(2)	54
Participating policyholders	(68)	19	-	-	-	(49)
Net income (loss) attributed to shareholders	\$ 452	\$ 452	\$ 528	\$ 223	\$ (283)	\$ 1,372
Total assets	\$ 102,769	\$ 216,314	\$ 263,537	\$ 133,326	\$ 23,877	\$ 739,823

⁽¹⁾ During the period, the Company ceded premiums to RGA and Jackson for the JHNY transactions, refer to note 5(d) for details.

(b) By Geographic Location

For the three months ended March 31, 2019	Asia	Canada	U.S.	Other	Total
Revenue					
Life and health insurance	\$ 4,481	\$ 2,003	\$ 1,487	\$ 106	\$ 8,077
Annuities and pensions	708	115	(586)	-	237
Net premium income	5,189	2,118	901	106	8,314
Net investment income	3,346	4,649	4,626	52	12,673
Other revenue	526	659	1,375	2	2,562
Total revenue	\$ 9,061	\$ 7,426	\$ 6,902	\$ 160	\$ 23,549

For the three months ended March 31, 2018	Asia	Canada	U.S.	Other	Total
Revenue					
Life and health insurance	\$ 3,759	\$ 1,918	\$ 1,512	\$ 111	\$ 7,300
Annuities and pensions	745	129	151	-	1,025
Net premium income	4,504	2,047	1,663	111	8,325
Net investment income	(420)	760	(2,440)	19	(2,081)
Other revenue	468	733	1,305	(4)	2,502
Total revenue	\$ 4,552	\$ 3,540	\$ 528	\$ 126	\$ 8,746

Note 14 Segregated Funds

The Company manages a number of segregated funds on behalf of policyholders. Policyholders are provided with the opportunity to invest in different categories of segregated funds that respectively hold a range of underlying investments. The underlying investments of the segregated funds consist of both individual securities and mutual funds (collectively “net assets”). The carrying value and change in segregated funds net assets are as follows.

Segregated funds net assets

As at	March 31, 2019	December 31, 2018
Investments at market value		
Cash and short-term securities	\$ 3,460	\$ 3,700
Debt securities	16,351	15,313
Equities	12,784	11,661
Mutual funds	298,100	277,133
Other investments	4,640	4,678
Accrued investment income	319	1,811
Other assets and liabilities, net	(812)	(700)
Total segregated funds net assets	\$ 334,842	\$ 313,596
Composition of segregated funds net assets		
Held by policyholders	\$ 334,425	\$ 313,209
Held by the Company	417	387
Total segregated funds net assets	\$ 334,842	\$ 313,596

Changes in segregated funds net assets

For the three months ended March 31,	2019	2018
Net policyholder cash flow		
Deposits from policyholders	\$ 10,586	\$ 9,728
Net transfers to general fund	(249)	(367)
Payments to policyholders	(11,568)	(11,392)
	(1,231)	(2,031)
Investment related		
Interest and dividends	1,249	908
Net realized and unrealized investment gains (losses)	26,681	(2,339)
	27,930	(1,431)
Other		
Management and administration fees	(1,037)	(895)
Impact of changes in foreign exchange rates	(4,416)	6,060
	(5,453)	5,165
Net additions (deductions)	21,246	1,703
Segregated funds net assets, beginning of period	313,596	324,808
Segregated funds net assets, end of period	\$ 334,842	\$ 326,511

Segregated funds assets may be exposed to a variety of financial and other risks. These risks are primarily mitigated by investment guidelines that are actively monitored by professional and experienced portfolio advisors. The Company is not exposed to these risks beyond the liabilities related to the guarantees associated with certain variable life and annuity products. Accordingly, the Company’s exposure to loss from segregated fund products is limited to the value of these guarantees.

These guarantees are recorded within the Company’s insurance contract liabilities. Assets supporting these guarantees are recognized in invested assets according to their investment type. The “Risk Management and Risk Factors Update” section of the Company’s First Quarter 2019 Management Discussion and Analysis provides information regarding the risks associated with variable annuity and segregated fund guarantees.

Note 15 Information Provided in Connection with Investments in Deferred Annuity Contracts and Signature Notes Issued or Assumed by John Hancock Life Insurance Company (U.S.A.)

The following condensed consolidating financial information, presented in accordance with IFRS, and the related disclosure have been included in these Interim Consolidated Financial Statements with respect to JHUSA in compliance with Regulation S-X and Rule 12h-5 of the United States Securities and Exchange Commission (the "Commission"). These financial statements are (i) incorporated by reference in the registration statements of MFC and JHUSA that relate to MFC's guarantee of certain securities to be issued by JHUSA and (ii) are provided in reliance on an exemption from continuous disclosure obligations of JHUSA. For information about JHUSA, the MFC guarantees and restrictions on the ability of MFC to obtain funds from its subsidiaries by dividend or loan, refer to note 23 to the Company's 2018 Annual Consolidated Financial Statements.

Condensed Consolidated Statement of Financial Position

As at March 31, 2019	MFC (Guarantor)	JHUSA (Issuer)	Other subsidiaries	Consolidation adjustments	Consolidated MFC
Assets					
Invested assets	\$ 27	\$ 103,830	\$ 255,959	\$ (358)	\$ 359,458
Investments in unconsolidated subsidiaries	56,536	7,445	18,029	(82,010)	-
Reinsurance assets	-	62,457	9,827	(29,854)	42,430
Other assets	245	17,925	46,104	(20,673)	43,601
Segregated funds net assets	-	178,954	157,356	(1,885)	334,425
Total assets	\$ 56,808	\$ 370,611	\$ 487,275	\$ (134,780)	\$ 779,914
Liabilities and equity					
Insurance contract liabilities	\$ -	\$ 154,464	\$ 211,329	\$ (30,524)	\$ 335,269
Investment contract liabilities	-	1,157	2,054	(2)	3,209
Other liabilities	966	17,388	47,254	(20,448)	45,160
Long-term debt	4,672	-	-	-	4,672
Capital instruments	3,324	619	4,242	-	8,185
Segregated funds net liabilities	-	178,954	157,356	(1,885)	334,425
Shareholders' equity	47,846	18,029	63,892	(81,921)	47,846
Participating policyholders' equity	-	-	77	-	77
Non-controlling interests	-	-	1,071	-	1,071
Total liabilities and equity	\$ 56,808	\$ 370,611	\$ 487,275	\$ (134,780)	\$ 779,914

Condensed Consolidated Statement of Financial Position

As at December 31, 2018	MFC (Guarantor)	JHUSA (Issuer)	Other subsidiaries	Consolidation adjustments	Consolidated MFC
Assets					
Invested assets	\$ 21	\$ 105,043	\$ 248,962	\$ (362)	\$ 353,664
Investments in unconsolidated subsidiaries	54,015	7,356	17,738	(79,109)	-
Reinsurance assets	-	63,435	9,136	(29,518)	43,053
Other assets	331	17,025	43,213	(20,224)	40,345
Segregated funds net assets	-	168,476	146,671	(1,938)	313,209
Total assets	\$ 54,367	\$ 361,335	\$ 465,720	\$ (131,151)	\$ 750,271
Liabilities and equity					
Insurance contract liabilities	\$ -	\$ 155,162	\$ 203,682	\$ (30,190)	\$ 328,654
Investment contract liabilities	-	1,191	2,076	(2)	3,265
Other liabilities	275	18,136	46,072	(19,992)	44,491
Long-term debt	4,769	-	-	-	4,769
Capital instruments	3,359	632	4,741	-	8,732
Segregated funds net liabilities	-	168,476	146,671	(1,938)	313,209
Shareholders' equity	45,964	17,738	61,291	(79,029)	45,964
Participating policyholders' equity	-	-	94	-	94
Non-controlling interests	-	-	1,093	-	1,093
Total liabilities and equity	\$ 54,367	\$ 361,335	\$ 465,720	\$ (131,151)	\$ 750,271

Condensed Consolidated Statement of Income

For the three months ended March 31, 2019	MFC (Guarantor)	JHUSA (Issuer)	Other subsidiaries	Consolidation adjustments	Consolidated MFC
Revenue					
Net premium income	\$ -	\$ 1,183	\$ 7,131	\$ -	\$ 8,314
Net investment income (loss)	(8)	3,406	9,301	(26)	12,673
Net other revenue	4	767	2,835	(1,044)	2,562
Total revenue	(4)	5,356	19,267	(1,070)	23,549
Contract benefits and expenses					
Net benefits and claims	-	4,413	13,097	(663)	16,847
Commissions, investment and general expenses	8	768	3,353	(377)	3,752
Other expenses	100	53	303	(30)	426
Total contract benefits and expenses	108	5,234	16,753	(1,070)	21,025
Income (loss) before income taxes	(112)	122	2,514	-	2,524
Income tax (expense) recovery	29	(2)	(316)	-	(289)
Income (loss) after income taxes	(83)	120	2,198	-	2,235
Equity in net income (loss) of unconsolidated subsidiaries	2,259	238	358	(2,855)	-
Net income (loss)	\$ 2,176	\$ 358	\$ 2,556	\$ (2,855)	\$ 2,235
Net income (loss) attributed to:					
Non-controlling interests	\$ -	\$ -	\$ 73	\$ -	\$ 73
Participating policyholders	-	-	(14)	-	(14)
Shareholders	2,176	358	2,497	(2,855)	2,176
	\$ 2,176	\$ 358	\$ 2,556	\$ (2,855)	\$ 2,235

Condensed Consolidated Statement of Income

For the three months ended March 31, 2018	MFC (Guarantor)	JHUSA (Issuer)	Other subsidiaries	Consolidation adjustments	Consolidated MFC
Revenue					
Net premium income	\$ -	\$ 1,151	\$ 7,174	\$ -	\$ 8,325
Net investment income (loss)	7	(2,096)	27	(19)	(2,081)
Net other revenue	-	422	1,471	609	2,502
Total revenue	7	(523)	8,672	590	8,746
Contract benefits and expenses					
Net benefits and claims	-	(1,823)	3,662	1,051	2,890
Commissions, investment and general expenses	3	809	3,386	(436)	3,762
Other expenses	92	50	263	(25)	380
Total contract benefits and expenses	95	(964)	7,311	590	7,032
Income (loss) before income taxes	(88)	441	1,361	-	1,714
Income tax (expense) recovery	23	(82)	(278)	-	(337)
Income (loss) after income taxes	(65)	359	1,083	-	1,377
Equity in net income (loss) of unconsolidated subsidiaries	1,437	242	601	(2,280)	-
Net income (loss)	\$ 1,372	\$ 601	\$ 1,684	\$ (2,280)	\$ 1,377
Net income (loss) attributed to:					
Non-controlling interests	\$ -	\$ -	\$ 54	\$ -	\$ 54
Participating policyholders	-	34	(49)	(34)	(49)
Shareholders	1,372	567	1,679	(2,246)	1,372
	\$ 1,372	\$ 601	\$ 1,684	\$ (2,280)	\$ 1,377

Consolidated Statement of Cash Flows

For the three months ended March 31, 2019	MFC (Guarantor)	JHUSA (Issuer)	Other subsidiaries	Consolidation adjustments	Consolidated MFC
Operating activities					
Net income (loss)	\$ 2,176	\$ 358	\$ 2,556	\$ (2,855)	\$ 2,235
Adjustments:					
Equity in net income of unconsolidated subsidiaries	(2,259)	(238)	(358)	2,855	-
Increase (decrease) in insurance contract liabilities	-	3,147	8,260	-	11,407
Increase (decrease) in investment contract liabilities	-	13	30	-	43
(Increase) decrease in reinsurance assets excluding coinsurance transactions	-	(357)	771	-	414
Amortization of (premium) discount on invested assets	-	7	23	-	30
Other amortization	1	29	125	-	155
Net realized and unrealized (gains) losses and impairment on assets	(1)	(2,226)	(7,084)	-	(9,311)
Deferred income tax expense (recovery)	(30)	(1)	163	-	132
Stock option expense	-	(1)	4	-	3
Cash provided by (used in) operating activities before unnoted items	(113)	731	4,490	-	5,108
Dividends from unconsolidated subsidiary	-	1	-	(1)	-
Changes in policy related and operating receivables and payables	(84)	(1,568)	455	-	(1,197)
Cash provided by (used in) operating activities	(197)	(836)	4,945	(1)	3,911
Investing activities					
Purchases and mortgage advances	-	(5,416)	(14,109)	-	(19,525)
Disposals and repayments	-	5,860	10,065	-	15,925
Changes in investment broker net receivables and payables	-	(2)	132	-	130
Net cash increase (decrease) from sale and purchase of subsidiaries and businesses	-	-	253	-	253
Return of capital from unconsolidated subsidiaries	-	67	-	(67)	-
Notes receivable from parent	-	-	(815)	815	-
Notes receivable from subsidiaries	(81)	-	-	81	-
Cash provided by (used in) investing activities	(81)	509	(4,474)	829	(3,217)
Financing activities					
Increase (decrease) in repurchase agreements and securities sold but not yet purchased	-	-	203	-	203
Redemption of capital instruments	-	-	(500)	-	(500)
Changes in deposits from Bank clients, net	-	-	308	-	308
Lease payments	-	(2)	(25)	-	(27)
Shareholders' dividends paid in cash	(339)	-	-	-	(339)
Dividends paid to parent	-	-	(1)	1	-
Common shares repurchased	(206)	-	-	-	(206)
Common shares issued, net	14	-	-	-	14
Return of capital to parent	-	-	(67)	67	-
Notes payable to parent	-	-	81	(81)	-
Notes payable to subsidiaries	815	-	-	(815)	-
Cash provided by (used in) financing activities	284	(2)	(1)	(828)	(547)
Cash and short-term securities					
Increase (decrease) during the period	6	(329)	470	-	147
Effect of foreign exchange rate changes on cash and short-term securities	-	(54)	(152)	-	(206)
Balance, beginning of period	21	2,317	13,044	-	15,382
Balance, end of period	27	1,934	13,362	-	15,323
Cash and short-term securities					
Beginning of period					
Gross cash and short-term securities	21	2,783	13,411	-	16,215
Net payments in transit, included in other liabilities	-	(466)	(367)	-	(833)
Net cash and short-term securities, beginning of period	21	2,317	13,044	-	15,382
End of period					
Gross cash and short-term securities	27	2,345	13,725	-	16,097
Net payments in transit, included in other liabilities	-	(411)	(363)	-	(774)
Net cash and short-term securities, end of period	\$ 27	\$ 1,934	\$ 13,362	\$ -	\$ 15,323
Supplemental disclosures on cash flow information:					
Interest received	\$ 28	\$ 1,100	\$ 1,724	\$ (91)	\$ 2,761
Interest paid	143	17	190	(91)	259
Income taxes paid (refund)	-	(1)	303	-	302

Consolidated Statement of Cash Flows

For the three months ended March 31, 2018	MFC (Guarantor)	JHUSA (Issuer)	Other subsidiaries	Consolidation adjustments	Consolidated MFC
Operating activities					
Net income (loss)	\$ 1,372	\$ 601	\$ 1,684	\$ (2,280)	\$ 1,377
Adjustments:					
Equity in net income of unconsolidated subsidiaries	(1,437)	(242)	(601)	2,280	-
Increase (decrease) in insurance contract liabilities	-	(3,735)	1,168	-	(2,567)
Increase (decrease) in investment contract liabilities	-	(20)	64	-	44
(Increase) decrease in reinsurance assets	-	852	(873)	-	(21)
Amortization of (premium) discount on invested assets	-	15	41	-	56
Other amortization	1	18	120	-	139
Net realized and unrealized (gains) losses and impairment on assets	(3)	3,261	1,567	-	4,825
Deferred income tax expense (recovery)	(23)	-	24	-	1
Stock option expense	-	-	1	-	1
Cash provided by (used in) operating activities before undernoted items	(90)	750	3,195	-	3,855
Dividends from unconsolidated subsidiary	-	3	-	(3)	-
Changes in policy related and operating receivables and payables	(29)	(1,013)	1,035	-	(7)
Cash provided by (used in) operating activities	(119)	(260)	4,230	(3)	3,848
Investing activities					
Purchases and mortgage advances	-	(11,103)	(12,507)	-	(23,610)
Disposals and repayments	-	11,094	8,798	-	19,892
Changes in investment broker net receivables and payables	-	(154)	133	-	(21)
Investment in common shares of subsidiaries	(250)	-	-	250	-
Capital contribution to unconsolidated subsidiaries	-	(1)	-	1	-
Return of capital from unconsolidated subsidiaries	-	47	-	(47)	-
Notes receivable from parent	-	-	(20,712)	20,712	-
Notes receivable from subsidiaries	(20,135)	-	-	20,135	-
Cash provided by (used in) investing activities	(20,385)	(117)	(24,288)	41,051	(3,739)
Financing activities					
Increase (decrease) in repurchase agreements and securities sold but not yet purchased	-	-	137	-	137
Redemption of capital instruments	-	-	(200)	-	(200)
Changes in deposits from Bank clients, net	-	-	840	-	840
Shareholders' dividends paid in cash	(468)	-	-	-	(468)
Dividends paid to parent	-	-	(3)	3	-
Contributions from (distributions to) non-controlling interests, net	-	-	1	-	1
Common shares issued, net	21	-	250	(250)	21
Preferred shares issued, net	245	-	-	-	245
Capital contributions by parent	-	-	1	(1)	-
Return of capital to parent	-	-	(47)	47	-
Notes payable to parent	-	-	20,135	(20,135)	-
Notes payable to subsidiaries	20,712	-	-	(20,712)	-
Cash provided by (used in) financing activities	20,510	-	21,114	(41,048)	576
Cash and short-term securities					
Increase (decrease) during the period	6	(377)	1,056	-	685
Effect of foreign exchange rate changes on cash and short-term securities	-	113	232	-	345
Balance, beginning of period	21	3,638	11,439	-	15,098
Balance, end of period	27	3,374	12,727	-	16,128
Cash and short-term securities					
Beginning of period					
Gross cash and short-term securities	21	4,133	11,811	-	15,965
Net payments in transit, included in other liabilities	-	(495)	(372)	-	(867)
Net cash and short-term securities, beginning of period	21	3,638	11,439	-	15,098
End of period					
Gross cash and short-term securities	27	3,929	13,064	-	17,020
Net payments in transit, included in other liabilities	-	(555)	(337)	-	(892)
Net cash and short-term securities, end of period	\$ 27	\$ 3,374	\$ 12,727	\$ -	\$ 16,128
Supplemental disclosures on cash flow information:					
Interest received	\$ 27	\$ 1,053	\$ 1,528	\$ (85)	\$ 2,523
Interest paid	131	12	189	(85)	247
Income taxes paid (refund)	-	(5)	273	-	268

Note 16 Comparatives

Certain comparative amounts have been reclassified to conform to the current period's presentation.

SHAREHOLDER INFORMATION

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SHAREHOLDER SERVICES

For information or assistance regarding your share account, including dividends, changes of address or ownership, lost certificates, to eliminate duplicate mailings or to receive shareholder material electronically, please contact our Transfer Agents in Canada, the United States, Hong Kong or the Philippines. If you live outside one of these countries, please contact our Canadian Transfer Agent.

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Chartered Professional Accountants
Licensed Public Accountants
Toronto, Canada

The following Manulife documents are available online at www.manulife.com

- Annual Report and Proxy Circular
- Notice of Annual Meeting
- Shareholders Reports
- Public Accountability Statement
- Corporate Governance material

Rating

Financial strength is a key factor in generating new business, maintaining and expanding distribution relations and providing a base for expansion, acquisitions and growth. As at March 31, 2019, Manulife had total capital of C\$57.3 billion, including C\$47.8 billion of total shareholders' equity. The Manufacturers Life Insurance Company's financial strength and claims paying ability ratings are among the strongest in the insurance industry.

Rating Agency	Rating	Rank
S&P Global Ratings	AA-	(4 th of 21 ratings)
Moody's Investors Services	A1	(5 th of 21 ratings)
Fitch Ratings Inc.	AA-	(4 th of 19 ratings)
DBRS Limited	AA (low)	(4 th of 22 ratings)
A.M. Best Company	A+ (Superior)	(2 nd of 13 ratings)

Common Stock Trading Data

The following values are the high, low and close prices plus the average daily trading volume for Manulife Financial Corporation's common stock on the Toronto Stock Exchange, the U.S. exchanges, The Stock Exchange of Hong Kong and the Philippine Stock Exchange for the first quarter. The common stock symbol is **MFC** on all exchanges except Hong Kong where it is **945**.

As at March 31, 2019, there were 1,970 million common shares outstanding.

January 1 – March 31, 2019	Toronto Canadian \$	U.S. Composite United States \$	Hong Kong Hong Kong \$	Philippines Philippine Peso
High	\$23.85	\$17.96	\$138.90	P 825
Low	\$18.94	\$13.90	\$112.00	P 750
Close	\$22.60	\$16.91	\$133.40	P 785
Average Daily Volume (000)	9,420	2,172	27	0.15

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We will notify you when documents will be available on the Web site and confirm the instructions for accessing the documents at the same time. In the event that the documents are not available on our Web site, paper copies will be mailed to you.

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