

Manulife Financial Corporation

Management's Discussion and Analysis

For the three and six months ended June 30, 2018

MANAGEMENT'S DISCUSSION AND ANALYSIS

This Management's Discussion and Analysis ("MD&A") is current as of August 8, 2018, unless otherwise noted. This MD&A should be read in conjunction with our unaudited Interim Consolidated Financial Statements for the three and six months ended June 30, 2018 and the MD&A and audited Consolidated Financial Statements contained in our 2017 Annual Report.

Effective January 1, 2018, the Company's reporting segments have been reorganized. Please refer to section B1 "Second quarter earnings analysis" and section F3 "Performance and Non-GAAP Measures" below for details of these changes.

For further information relating to our risk management practices and risk factors affecting the Company, see "Risk Factors" in our 2017 Annual Information Form, "Risk Management", "Risk Factors" and "Critical Accounting and Actuarial Policies" in the MD&A in our 2017 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.

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A OVERVIEW

A1 Earnings

In the second quarter of 2018 (“2Q18”), Manulife’s net income attributed to shareholders was \$1,262 million, diluted earnings per common share was \$0.61 and return on common shareholders’ equity (“ROE”) was 12.3%, compared with \$1,255 million, \$0.61 and 12.4%, respectively, for the second quarter of 2017 (“2Q17”).

Net income attributed to shareholders is comprised of core earnings¹ (consisting of items we believe reflect the underlying earnings capacity of the business), which amounted to \$1,431 million in 2Q18 compared with \$1,174 million in 2Q17, and items excluded from core earnings, which amounted to a net charge of \$169 million in 2Q18 compared with a net gain of \$81 million in 2Q17.

The \$257 million increase in core earnings was driven by improved policyholder experience, greater expense efficiency, lower U.S. tax rates, a benefit in Canada related to the release of provisions for uncertain tax positions for a prior year and business growth. These items were partially offset by lower core investment gains¹ (\$104 million in 2Q18 compared with \$154 million in 2Q17). Core earnings in 2Q18 included policyholder experience gains of \$11 million post-tax (\$19 million pre-tax) compared with charges of \$58 million post-tax (\$86 million pre-tax) in 2Q17.²

Total investment-related experience gains reported in 2Q18 were \$122 million, compared with \$292 million in 2Q17. The gains in 2Q18 and 2Q17 both reflected the favourable impact of fixed income reinvestment activities on the measurement of our policy liabilities and solid credit experience. In accordance with our definition of core earnings, we included \$104 million of investment-related experience gains in core earnings in 2Q18 and \$154 million in 2Q17. We also reported \$18 million of investment-related experience gains in items excluded from core earnings in 2Q18 and \$138 million in 2Q17.

The \$250 million unfavourable variance in items excluded from core earnings primarily consisted of a restructuring charge of \$200 million (\$250 million pre-tax) in 2Q18 and lower investment-related experience gains as noted above, partially offset by an improvement in the direct impact of markets (2Q18 – gain of \$45 million and 2Q17 – charge of \$37 million). The restructuring charge related to actions that are expected to result in annual run-rate savings of \$300 million pre-tax when fully implemented, with the vast majority of the run-rate savings to be achieved by the end of 2019.³ The charge primarily related to the voluntary exit program in our Canadian operation transformation program and to our North American voluntary early retirement program as well as costs to optimize our real estate footprint in the U.S. and Canada. The net gain from the direct impact of markets was driven by increasing corporate spreads in the U.S., partially offset by losses on the sale of available-for-sale (“AFS”) bonds. The 2Q17 direct impact of markets charge was primarily due to narrowing corporate spreads and widening swap spreads, partially offset by gains due to a flattening yield curve and favourable equity markets.

Net income attributed to shareholders for the 6 months ended June 30, 2018 was \$2,634 million compared with \$2,605 million for the 6 months ended June 30, 2017. Year-to-date core earnings amounted to \$2,734 million in 2018 compared with \$2,275 million in 2017, and items excluded from year-to-date core earnings amounted to a net charge of \$100 million in 2018 compared with a net gain of \$330 million in 2017. The increase in core earnings on a year-to-date basis reflects similar factors as described above for 2Q18 and included core investment gains of \$200 million in both 2018 and 2017. The \$430 million unfavourable variance on a year-to-date basis of items excluded from core earnings primarily consisted of the \$200 million restructuring charge noted above, \$135 million lower direct impact of markets and \$120 million lower investment-related experience outside of core earnings.

A2 Sales

Annualized premium equivalent (“APE”) sales¹ were \$1.2 billion in 2Q18, a decrease of 22%⁴ compared with 2Q17. In Asia, APE sales increased 2% from 2Q17 as double-digit growth in Hong Kong and Asia Other⁵ was mostly offset by competitive pressures in Japan. In Canada, APE sales declined 62% from 2Q17 primarily reflecting a prior year large-case group insurance sale. In the U.S., APE sales decreased by 20% from 2Q17 due to lower international sales following price increases in the third quarter of 2017 (“3Q17”) to improve margins. Year-to-date APE sales of \$2.6 billion in 2018 were 16% lower than the same period of 2017, primarily due to lower sales in Canada and the U.S. The drivers of the year-to-date

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

² Effective the first quarter of 2018 (“1Q18”), policyholder experience is being reported excluding minority interest. Comparative prior periods have been updated.

³ See “Caution regarding forward-looking statements” below.

⁴ Percentage growth / declines in APE sales are stated on a constant exchange rate basis. Constant exchange rate basis is a non-GAAP measure. See “Performance and Non-GAAP Measures” below.

⁵ Asia Other excludes Japan and Hong Kong.

sales results were similar to those for the quarter.

New business value (“NBV”)¹ was \$411 million in 2Q18, an increase of 24%² compared with 2Q17. The increase in NBV was driven by improvements in Asia and Canada. In Asia, NBV increased 27% from 2Q17 to \$334 million due to an improvement in business mix, management actions to increase margins and higher interest rates in key markets. Canada NBV increased 25% from 2Q17 primarily due to price increases in 3Q17 to improve margins. Year-to-date NBV was \$795 million in 2018, an increase of 12% compared with the same period of 2017.

Wealth and asset management (“WAM”) gross flows¹ were \$29.1 billion in 2Q18, a decrease of \$1.2 billion or 2%² compared with \$30.3 billion in 2Q17. The decline was driven by lower gross flows in Asia due to lower mutual fund sales in mainland China, partially offset by higher gross flows in Canada, supported by successful marketing campaigns in retail. In the U.S., higher retirement gross flows and the successful launch of the John Hancock Infrastructure Fund were offset by lower retail gross flows. Year-to-date gross flows of \$65.6 billion in 2018 were 7% higher than the same period of 2017, driven by increases across all business lines in Canada, and broad-based growth in our institutional asset management business in Asia and the U.S., partially offset by lower retail gross flows in the U.S.

Wealth and asset management net flows¹ were \$0.1 billion in 2Q18 compared with \$5.9 billion in 2Q17. The decline in net flows was driven by the termination of three large-case plans in our U.S. retirement business and, to a lesser extent, lower gross flows. Year-to-date net flows were \$10.1 billion in 2018, in line with the same period of 2017 with positive net flows in Canada and Asia offset by negative net flows in the U.S., notably due to the terminations in our U.S. retirement business.

A3 Capital related items

The Office of the Superintendent of Financial Institutions’ Life Insurance Capital Adequacy Test (“LICAT”) regulatory capital regime, came into effect in Canada on January 1, 2018, replacing the Minimum Continuing Capital and Surplus framework. As at June 30, 2018, the LICAT ratio for The Manufacturers Life Insurance Company (“MLI”) was 132%, compared with 129% as at March 31, 2018. The ratio increased three percentage points compared with March 31, 2018 due to a variety of factors including organic capital growth from earnings, a net capital issuance, and a decrease in required capital, primarily due to the reduction of alternative long-duration assets (“ALDA”) in our portfolio asset mix, among other initiatives.

MFC’s LICAT ratio was 121% as at June 30, 2018, compared with 117% as at March 31, 2018. The difference between the MLI and MFC ratios as at June 30, 2018 was largely due to the \$4.6 billion of MFC senior debt outstanding that does not qualify as available capital at the MFC level.

MFC’s financial leverage ratio as at June 30, 2018 was 29.4%, a decrease of 0.3 percentage points from the March 31, 2018 ratio of 29.7%, as growth in retained earnings more than offset a net debt issuance.

A4 Strategic priorities³

At Manulife’s Investor Day on June 27, 2018, we stated our bold ambition of delivering top quartile shareholder returns and introduced mid-term targets for our strategic priorities:

1. **Optimizing our portfolio to make sure we’re putting our capital to best use** – We have set a target to free up \$5 billion in capital from legacy businesses by 2022. The updated target includes \$2 billion from the decision to reduce the allocation of ALDA in our portfolio asset mix supporting our North American legacy businesses that we announced in late 2017.
2. **Managing our costs to be competitive and create value** – We have set a target to achieve a 50% expense efficiency ratio¹ and \$1 billion in expense saving and avoidance by 2022.
3. **Accelerating growth in our highest-potential businesses** – We have set a target to generate two-thirds of core earnings from high potential businesses by 2022.
4. **Focused on putting our customers first** – We have set a target to improve our net promoter score by 30 percentage points by 2022.
5. **Fostering a high performing team and culture** – We have set a target to achieve top quartile employee engagement by 2022.

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

² Percentage growth / declines in NBV and gross flows are stated on a constant exchange rate basis. Constant exchange rate basis is a non-GAAP measure.

³ See “Caution regarding forward-looking statements.”

A5 ALDA update

In the fourth quarter of 2017, we recorded a \$1 billion post-tax charge related to our decision to reduce the allocation to ALDA in our portfolio asset mix supporting our North American legacy businesses and stated that this is expected to reduce risk and lower volatility in our legacy businesses and free up approximately \$2 billion in capital over the next 12-18 months as the ALDA is sold.¹ ALDA dispositions contributed approximately \$0.4 billion to regulatory capital in 2Q18, for a total contribution of approximately \$0.7 billion in 2018.

A6 Expense efficiency

In Q218, we reported an expense efficiency ratio of 51.2% compared with 54.2% in 2Q17. Growth of general expenses included in core earnings was limited to 4%, while pre-tax core earnings grew 18%, resulting in a 3.0 percentage point improvement in our expense efficiency ratio.

A7 Annual review of actuarial methods and assumptions

In the third quarter of 2018 ("3Q18"), we will complete our annual review of actuarial methods and assumptions. While this review is not complete, preliminary indications suggest that there will be a net post-tax charge of up to \$100 million in 3Q18.¹ Assumptions being reviewed this year include lapse assumptions for U.S. life insurance, certain mortality assumptions for U.S. and Canadian insurance and annuity businesses, certain investment assumptions, and policyholder behaviour assumptions for U.S. variable annuities.

B FINANCIAL HIGHLIGHTS

(\$ millions, unless otherwise stated, unaudited)	Quarterly Results			YTD Results	
	2Q18	1Q18	2Q17	2018	2017
Net income attributed to shareholders	\$ 1,262	\$ 1,372	\$ 1,255	\$ 2,634	\$ 2,605
Preferred share dividends	(44)	(39)	(39)	(83)	(80)
Common shareholders' net income	\$ 1,218	\$ 1,333	\$ 1,216	\$ 2,551	\$ 2,525
Core earnings⁽¹⁾	\$ 1,431	\$ 1,303	\$ 1,174	\$ 2,734	\$ 2,275
Basic earnings per common share (\$)	\$ 0.61	\$ 0.67	\$ 0.62	\$ 1.29	\$ 1.28
Diluted earnings per common share (\$)	\$ 0.61	\$ 0.67	\$ 0.61	\$ 1.28	\$ 1.27
Diluted core earnings per common share (\$) ⁽¹⁾	\$ 0.70	\$ 0.64	\$ 0.57	\$ 1.33	\$ 1.11
Return on common shareholders' equity ("ROE")	12.3%	14.1%	12.4%	13.2%	13.0%
Core ROE ⁽¹⁾	14.0%	13.4%	11.5%	13.7%	11.3%
Sales ⁽¹⁾					
Annualized premium equivalent sales	\$ 1,245	\$ 1,387	\$ 1,612	\$ 2,632	\$ 3,157
Wealth and asset management gross flows	\$ 29,102	\$ 36,466	\$ 30,343	\$ 65,568	\$ 62,702
Wealth and asset management net flows	\$ 92	\$ 9,977	\$ 5,854	\$ 10,069	\$ 10,457
New business value ⁽¹⁾	\$ 411	\$ 384	\$ 338	\$ 795	\$ 724
Premiums and deposits ⁽¹⁾					
Insurance	\$ 11,718	\$ 11,603	\$ 10,784	\$ 23,321	\$ 21,489
Wealth and asset management	\$ 29,102	\$ 36,466	\$ 30,343	\$ 65,568	\$ 62,702
Corporate and Other	\$ 24	\$ 23	\$ 22	\$ 47	\$ 43
Assets under management and administration (\$ billions) ⁽¹⁾	\$ 1,118	\$ 1,098	\$ 1,041	\$ 1,118	\$ 1,041
Capital (\$ billions) ⁽¹⁾	\$ 54.3	\$ 52.5	\$ 52.0	\$ 54.3	\$ 52.0
MLI's LICAT ratio	132%	129%	-	132%	-
MLI's MCCSR ratio	-	-	230%	-	230%

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

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

B1 Second quarter earnings analysis

Effective January 1, 2018, the Company introduced Global Wealth and Asset Management segment as a primary reporting segment. This reflects organizational changes made to drive better alignment with our strategic priorities as well as to increase focus and leverage scale in our global wealth and asset management businesses.

Our reporting segments are:

- **Asia** – providing insurance products and insurance-based wealth accumulation products in Asia.
- **Canada** – providing insurance products, insurance-based wealth accumulation products, and banking services in Canada.
- **U.S.** – providing life insurance products and administering in-force long-term care and insurance-based wealth accumulation products in the U.S.
- **Global Wealth and Asset Management** – providing fee-based wealth solutions with little or no guarantees to our retail, retirement and institutional customers around the world.
- **Corporate and Other** – 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 operating segments); financing costs; our Property and Casualty Reinsurance business; and run-off reinsurance business lines.

In addition to changing the segments, we changed the segment reporting for changes to actuarial methods and assumptions. These changes were previously reported in the Corporate and Other segment and are now reported in the respective operating segment. Other minor adjustments to our reporting are outlined under section F3 “Performance and Non-GAAP Measures” below. Comparative periods, are shown based on the Company’s new reporting segments and reflect changes to the non-GAAP measures.

The table below reconciles core earnings to net income (loss) attributed to shareholders

(\$ millions, unaudited)	Quarterly Results			YTD Results	
	2Q18	1Q18	2Q17	2018	2017
Core earnings⁽¹⁾					
Asia	\$ 406	\$ 427	\$ 350	\$ 833	\$ 707
Canada	403	290	278	693	533
U.S.	456	432	359	888	800
Global Wealth and Asset Management	239	227	214	466	402
Corporate and Other (excluding core investment gains)	(177)	(169)	(181)	(346)	(367)
Core investment gains	104	96	154	200	200
Total core earnings	1,431	1,303	1,174	2,734	2,275
Items excluded from core earnings:					
Investment-related experience outside of core earnings	18	-	138	18	138
Direct impact of equity markets and interest rates and variable annuity guarantee liabilities ^{(2),(3)} (see table below)	45	50	(37)	95	230
Restructuring charge	(200)	-	-	(200)	-
Other	(32)	19	(20)	(13)	(38)
Net income (loss) attributed to shareholders	\$ 1,262	\$ 1,372	\$ 1,255	\$ 2,634	\$ 2,605

⁽¹⁾ This item is a non-GAAP measure. See “Performance and Non-GAAP Measures” below. In addition, all values, including comparative periods, are shown based on the Company’s new reporting segments noted in this section.

⁽²⁾ As outlined under “Critical Accounting and Actuarial Policies” below, net insurance contract liabilities under International Financial Reporting Standards (“IFRS”) for Canadian insurers are determined using the Canadian Asset Liability Method (“CALM”). Under CALM, the measurement of policy liabilities includes estimates regarding future expected investment income on assets supporting the policies. 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. These gains and losses can relate to both the investment returns earned in the period, as well as to the change in our policy liabilities driven by the impact of current period investing activities on future expected investment income assumptions. The direct impact of equity markets and interest rates is separately reported. Our definition of core earnings (see “Performance and Non-GAAP Measures” below) includes up to \$400 million of favourable investment-related experience reported in a single year.

⁽³⁾ The direct impact of equity markets and interest rates is relative to our policy liability valuation assumptions and includes changes to interest rate assumptions, including experience gains and losses on derivatives associated with our macro equity hedges. We also include gains and losses on derivative positions and the sale of available-for-sale (“AFS”) bonds in the Corporate and Other segment. See table below for components of this item.

Components of the direct impact of equity markets and interest rates and variable annuity guarantee liabilities in the table above:

(\$ millions, unaudited)	Quarterly Results			YTD Results	
	2Q18	1Q18	2Q17	2018	2017
Direct impact of equity markets and variable annuity guarantee liabilities	\$ (26)	\$ (187)	\$ 55	\$ (213)	\$ 277
Fixed income reinvestment rates assumed in the valuation of policy liabilities	175	313	(73)	488	(23)
Sale of AFS bonds and derivative positions in the Corporate and Other segment	(104)	(76)	(19)	(180)	(24)
Direct impact of equity markets and interest rates and variable annuity guarantee liabilities	\$ 45	\$ 50	\$ (37)	\$ 95	\$ 230

B2 Revenue

(\$ millions, unaudited)	Quarterly Results			YTD Results	
	2Q18	1Q18	2Q17	2018	2017
Gross premiums	\$ 9,831	\$ 9,466	\$ 9,030	\$ 19,297	\$ 18,115
Premiums ceded to reinsurers	(1,077)	(1,141)	(2,056)	(2,218)	(4,091)
Net premium income	8,754	8,325	6,974	17,079	14,024
Investment income	3,566	3,235	3,444	6,801	6,761
Other revenue	2,964	2,502	2,872	5,466	5,465
Revenue before realized and unrealized investment income gains and losses	15,284	14,062	13,290	29,346	26,250
Realized and unrealized gains and losses on assets supporting insurance and investment contract liabilities and on the macro hedge program	(1,615)	(5,316)	3,303	(6,931)	3,893
Total revenue	\$ 13,669	\$ 8,746	\$ 16,593	\$ 22,415	\$ 30,143

Total revenue in 2Q18 was \$13.7 billion compared with \$16.6 billion in 2Q17. 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 section B6 “Impact of fair value accounting” below). Accordingly, we discuss specific drivers of revenue in each segment before realized and unrealized investment income gains and losses in section C “Performance by Segment” below. 2Q18 revenue before realized and unrealized investment income gains and losses of \$15.3 billion increased \$2.0 billion compared with 2Q17, primarily due to the impact of a structural change in a reinsurance agreement on ceded premiums in Canada and higher large single premium deposits in Canada and business growth in Asia, partially offset by the impact of changes in foreign currency exchange rates.

Net realized and unrealized gains and losses on assets supporting insurance and investment contract liabilities and on the macro hedge program was a loss of \$1.6 billion in 2Q18 compared with a gain of \$3.3 billion in 2Q17. The 2Q18 loss was primarily due to an overall increase in interest rates in the U.S. and Hong Kong. The key driver of the gain in 2Q17 was a decline in interest rates in North America and Hong Kong.

On a year-to-date basis, revenue before net realized and unrealized investment income gains and losses was \$3.1 billion higher in 2018 compared with the same period of 2017 driven by similar factors as noted above. Net realized and unrealized gains on assets supporting insurance and investment contract liabilities and on the macro hedge program was a loss of \$6.9 billion for year-to-date 2018 compared with a gain of \$3.9 billion for year-to-date 2017. The key drivers of the fair value impact on a year-to-date basis in 2018 and 2017 were similar to the factors noted above.

B3 Premiums and deposits¹

Premiums and deposits is an additional measure of our top line growth. It includes all new policyholder cash flows and, unlike total revenue, is not impacted by the volatility created by fair value accounting.

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

Premiums and deposits for insurance products were \$11.7 billion in 2Q18, an increase of \$0.9 billion or 11%¹ compared with 2Q17 primarily due to growth in Asia and Canada. Asia reported a 16% increase driven by the growth in recurring premiums from the in-force business and higher single premium deposits. Canada reported a 15% increase due to higher large single premium deposits in group insurance. Year-to-date premiums and deposits for insurance products were \$23.3 billion in 2018, a 11% increase compared with \$21.5 billion in the same period of 2017.

Premiums and deposits for WAM products were \$29.1 billion in 2Q18, a decrease of \$1.2 billion, or 2%, compared with 2Q17. Please refer to WAM gross flows in section A2 “Sales” above. Year-to-date premiums and deposits for WAM products were \$65.6 billion in 2018, an increase compared with \$62.7 billion in the same period of 2017.

B4 Assets under management and administration (“AUMA”)²

AUMA as at June 30, 2018 were \$1.1 trillion, an increase of 1%¹ compared with December 31, 2017. The primary driver of the increase was continued customer net inflows.

B5 Capital²

MFC’s total capital as at June 30, 2018 was \$54.3 billion, an increase of \$2.3 billion compared with June 30, 2017 capital of \$52.0 billion and an increase of \$3.6 billion from December 31, 2017 capital of \$50.7 billion. The increase from December 31, 2017 was primarily driven by net income attributed to shareholders over the last 6 months, the impact of changes in foreign currency exchange rates and the net issuance of capital instruments and preferred shares over the last 6 months, partially offset by dividend payments and a decrease in the market value of available-for-sale securities. As noted in section A3 “Capital related items” above, MLI’s LICAT ratio was 132% as at June 30, 2018.

B6 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 section A1 “Earnings” above for discussion of 2Q18 experience).

Net realized and unrealized losses on assets supporting insurance and investment contract liabilities and on the macro hedge program were \$1.6 billion for 2Q18 (2Q17 – gains of \$3.3 billion) and on a year-to-date basis, the losses were \$6.9 billion for 2018 (year-to-date 2017 – gains of \$3.9 billion). See section B2 “Revenue” above for discussion of results.

As outlined in the “Critical Accounting and Actuarial Policies” in the MD&A in our 2017 Annual Report, net insurance contract liabilities under IFRS are determined using 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).

B7 Impact of foreign currency exchange rates

Changes in foreign currency exchange rates reduced core earnings by \$40 million in 2Q18 compared with 2Q17 and by \$79 million for year-to-date 2018 compared with year-to-date 2017 primarily due to a stronger 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.

¹ Percentage growth / declines in premiums and deposits and AUMA are stated on a constant exchange rate basis. Constant exchange rate basis is a non-GAAP measure. See “Performance and Non-GAAP Measures” below.

² This item is a non-GAAP measure. See “Performance and Non-GAAP Measures” below.

C PERFORMANCE BY SEGMENT

C1 Asia

(\$ millions, unless otherwise stated)	Quarterly Results ⁽¹⁾			YTD Results ⁽¹⁾	
	2Q18	1Q18	2Q17	2018	2017
<i>Canadian dollars</i>					
Net income attributed to shareholders	\$ 363	\$ 448	\$ 508	\$ 811	\$ 1,053
Core earnings ⁽²⁾	406	427	350	833	707
Annualized premium equivalent sales	918	984	923	1,902	1,943
Revenue	4,937	4,305	5,432	9,242	10,567
Revenue before realized and unrealized investment income gains and losses ⁽³⁾	5,354	5,264	4,665	10,618	9,327
Premiums and deposits	5,316	5,640	4,708	10,956	9,387
Assets under management (\$ billions)	98.6	96.1	87.4	98.6	87.4
<i>U.S. dollars</i>					
Net income attributed to shareholders	US\$ 280	US\$ 355	US\$ 377	US\$ 635	US\$ 789
Core earnings ⁽²⁾	315	338	260	653	530
Annualized premium equivalent sales	711	778	686	1,489	1,457
Revenue	3,823	3,404	4,039	7,227	7,919
Revenue before realized and unrealized investment income gains and losses ⁽³⁾	4,146	4,163	3,470	8,309	6,992
Premiums and deposits	4,117	4,460	3,502	8,577	7,035
Assets under management (\$ billions)	74.9	74.5	67.3	74.9	67.3

⁽¹⁾ The Company made a number of reporting changes in 1Q18. Please refer to section B1 "Second quarter earnings analysis" and section F3 "Performance and Non-GAAP Measures" for details.

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

⁽³⁾ See section B6 "Impact of fair value accounting".

Asia's net income attributed to shareholders was \$363 million in 2Q18 compared with \$508 million in 2Q17. Net income attributed to shareholders is comprised of core earnings, which was \$406 million in 2Q18 compared with \$350 million in 2Q17, and items excluded from core earnings, which amounted to a net charge of \$43 million in 2Q18 compared with a net gain of \$158 million in 2Q17. 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 \$15 million unfavourable impact due to changes in foreign currency exchange rates versus the Canadian dollar.

Expressed in U.S. dollars, the presentation currency of the segment, net income attributed to shareholders was US\$280 million in 2Q18 compared with US\$377 million in 2Q17 and core earnings were US\$315 million in 2Q18 compared with US\$260 million in 2Q17. Items excluded from core earnings were a net charge of US\$35 million in 2Q18 compared with a net gain of US\$117 million in 2Q17.

Core earnings in 2Q18 increased 19%¹ compared with 2Q17. The increase in core earnings was driven by Hong Kong and Asia Other, due to a combination of the favourable impact of new business, in-force business growth and scale benefits. This was partially offset by lower core earnings in Japan due to less favourable claims experience and a decline in new business volumes.

The US\$152 million unfavourable change in items excluded from core earnings was primarily due to a net charge related to the direct impact of equity markets in 2Q18 compared with a net gain in 2Q17.

Year-to-date net income attributed to shareholders was US\$635 million in 2018 compared with US\$789 million in the same period of 2017. Year-to-date core earnings of US\$653 million increased 20% compared with the same period of 2017. The increase reflects similar factors as noted above. Items excluded from year-to-date core earnings were a net charge of US\$18 million in 2018 and a net gain of US\$259 million for the same period of 2017. These items are outlined in section F3 "Performance and Non-GAAP Measures".

APE sales in 2Q18 were US\$711 million, an increase of 2% compared with 2Q17 as growth in Hong Kong and Asia Other

¹ Percentage growth/declines in core earnings is stated on a constant exchange rate basis. Constant exchange rate basis is a non-GAAP measure. See "Performance and Non-GAAP Measures" below.

was mostly offset by lower sales volumes in Japan. Japan APE sales were US\$232 million, a decrease of 23% compared with 2Q17 due to continued increased competition in the corporate market segment. Hong Kong APE sales in 2Q18 were US\$142 million, a 14% increase compared with 2Q17 reflecting growth across agency, bancassurance and broker channels. Asia Other APE sales in 2Q18 were US\$337 million, a 23% increase compared with 2Q17 driven by strong growth in both bancassurance and agency channels. Year-to-date APE sales of US\$1.5 billion in 2018 were in line with the same period of 2017, as growth in Hong Kong and Asia Other was offset by lower sales volumes in Japan.

Revenue of US\$3.8 billion in 2Q18 decreased 5% compared with 2Q17. Excluding realized and unrealized investment income gains and losses, revenue was US\$4.1 billion in 2Q18, an increase of 19% compared with 2Q17, driven by recurring premium growth from in-force business and single premium sales. Year-to-date revenue was US\$7.2 billion in 2018 compared with US\$7.9 billion in the same period of 2017. Excluding realized and unrealized investment income gains and losses, year-to-date revenue was US\$8.3 billion in 2018, an increase of 19% compared with the same period of 2017.

Premiums and deposits of US\$4.1 billion in 2Q18 increased 16% compared with 2Q17, driven by the growth in recurring premiums from the in-force business and higher single premium deposits. Year-to-date premiums and deposits were US\$8.6 billion in 2018, an increase of 20% compared with the same period of 2017.

Assets under management were US\$74.9 billion as at June 30, 2018, an increase of 3%¹ compared with December 31, 2017, driven by positive customer net flows of US\$5.1 billion mostly offset by the negative impact on asset values from lower equity markets and higher interest rates.

C2 Canada

(\$ millions, unless otherwise stated)	Quarterly Results ⁽¹⁾			YTD Results ⁽¹⁾	
	2Q18	1Q18	2Q17	2018	2017
Net income (loss) attributed to shareholders	\$ 510	\$ 459	\$ 23	\$ 969	\$ 151
Core earnings ⁽²⁾	403	290	278	693	533
Annualized premium equivalent sales	198	290	524	488	899
Revenue	4,497	3,194	3,205	7,691	6,146
Revenue before realized and unrealized investment income gains and losses ⁽³⁾	4,241	3,582	2,727	7,823	5,334
Premiums and deposits	4,245	3,803	3,693	8,048	7,427
Assets under management (\$ billions)	146.0	144.4	144.9	146.0	144.9

⁽¹⁾ The Company made a number of reporting changes in 1Q18. Please refer to section B1 "Second quarter earnings analysis" and section F3 "Performance and Non-GAAP Measures" for details.

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

⁽³⁾ See section B6 "Impact of fair value accounting".

Canada's 2Q18 net income attributed to shareholders was \$510 million compared with \$23 million in 2Q17. Net income attributed to shareholders is comprised of core earnings, which were \$403 million in 2Q18 compared with \$278 million in 2Q17, and items excluded from core earnings, which were a net gain of \$107 million in 2Q18 compared with a net charge of \$255 million in 2Q17.

Core earnings increased \$125 million or 45% compared with 2Q17 reflecting favourable policyholder experience of \$46 million in our group insurance business versus unfavourable experience in 2Q17, the release of provisions for uncertain tax positions for a prior year of \$48 million, and higher new business margins in individual insurance due to pricing actions taken in late 2017.

The 2Q18 net gain in items excluded from core earnings primarily related to \$83 million of favourable investment-related experience gains. In 2Q17, the above-noted net charge was primarily related to the direct impact of markets.

Year-to-date net income attributed to shareholders was \$969 million in 2018 compared with \$151 million in the same period of 2017 and year-to-date core earnings were \$693 million in 2018 compared with \$533 million in the same period of 2017. The increase in year-to-date core earnings of \$160 million was driven by similar factors as noted above. Items excluded from year-to-date core earnings were a net gain of \$276 million in 2018 and a net charge of \$382 million for the same period of 2017. These items are outlined in section F3 "Performance and Non-GAAP Measures".

¹ Percentage growth/declines in assets under management is stated on a constant exchange rate basis. Constant exchange rate basis is a non-GAAP measure. See "Performance and Non-GAAP Measures" below.

APE sales in 2Q18 were \$198 million, a decrease of \$326 million compared with 2Q17 due to the non-recurrence of a large-case group insurance sale in the prior year. Year-to-date APE sales in 2018 were \$488 million, \$411 million lower than in the same period of 2017. The large-case group insurance sale also impacted the year-to-date variance in sales.

Revenue in 2Q18 was \$4.5 billion compared with \$3.2 billion in 2Q17 and was \$7.7 billion for year-to-date 2018 compared with \$6.1 billion in the same period of 2017. Total revenue before realized and unrealized investment income gains and losses was \$4.2 billion in 2Q18, an increase of \$1.5 billion compared with 2Q17, and was \$7.8 billion year-to-date 2018, an increase of 47% compared with the same period of 2017. The increase in quarterly and year-to-date revenue before realized and unrealized investment income gains and losses was driven by a structural change in a reinsurance agreement in 1Q18, which has reduced ongoing ceded premiums and higher large single premium deposits in group insurance in 2Q18.

Premiums and deposits in 2Q18 were \$4.2 billion, an increase of \$0.5 billion or 15% compared with 2Q17 due to higher large single premium deposits noted above. Year-to-date premiums and deposits were \$8.0 billion in 2018, an increase of \$0.6 billion compared with \$7.4 billion in the same period of 2017. The structural change noted above does not impact this metric.

Assets under management were \$146.0 billion as at June 30, 2018, an increase of \$1.4 billion from December 31, 2017, primarily driven by growth in Manulife Bank net lending assets and the higher single premium deposits in group insurance, partially offset by net outflows in the segregated fund business.

C3 U.S.

(\$ millions, unless otherwise stated) <i>Canadian dollars</i>	Quarterly Results ⁽¹⁾			YTD Results ⁽¹⁾	
	2Q18	1Q18	2Q17	2018	2017
Net income attributed to shareholders	\$ 630	\$ 538	\$ 682	\$ 1,168	\$ 1,375
Core earnings ⁽²⁾	456	432	359	888	800
Annualized premium equivalent sales	129	113	165	242	315
Revenue	2,982	19	6,671	3,001	10,925
Revenue before realized and unrealized investment income gains and losses ⁽³⁾	4,461	3,981	4,541	8,442	8,974
Premiums and deposits	2,156	2,160	2,382	4,316	4,676
Assets under management (\$ billions)	233.5	229.8	230.3	233.5	230.3
<i>U.S. dollars</i>					
Net income attributed to shareholders	US\$ 488	US\$ 425	US\$ 507	US\$ 913	US\$ 1,031
Core earnings ⁽²⁾	353	341	267	694	600
Annualized premium equivalent sales	99	90	123	189	236
Revenue	2,308	16	4,960	2,324	8,174
Revenue before realized and unrealized investment income gains and losses ⁽³⁾	3,454	3,148	3,375	6,602	6,724
Premiums and deposits	1,670	1,709	1,772	3,379	3,505
Assets under management (\$ billions)	177.4	178.2	177.5	177.4	177.5

⁽¹⁾ The Company made a number of reporting changes in 1Q18. Please refer to section B1 "Second quarter earnings analysis" and section F3 "Performance and Non-GAAP Measures" for details.

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

⁽³⁾ See section B6 "Impact of fair value accounting".

U.S. 2Q18 net income attributed to shareholders was \$630 million compared with \$682 million in 2Q17. Net income attributed to shareholders is comprised of core earnings, which amounted to \$456 million in 2Q18 compared with \$359 million in 2Q17, and items excluded from core earnings, which amounted to a net gain of \$174 million in 2Q18 compared with a net gain of \$323 million in 2Q17. 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 \$19 million unfavourable currency impact from the weakening of the U.S. dollar compared with the Canadian dollar.

Expressed in U.S. dollars, the functional currency of the segment, 2Q18 net income attributed to shareholders was US\$488 million compared with US\$507 million in 2Q17, core earnings were US\$353 million in 2Q18 compared with US\$267 million in 2Q17, and items excluded from core earnings were a net gain of US\$135 million in 2Q18 compared with a net gain of US\$240 million in 2Q17.

The US\$86 million increase in core earnings included US\$43 million related to lower U.S. tax rates, lower charges related to policyholder experience and lower amortization of deferred acquisition costs on our legacy variable annuity business, partially offset by the impact of lower sales volume and product mix changes. Policyholder experience in our long-term care business was neutral in 2Q18.

The net gains in items excluded from core earnings were US\$105 million less favourable in 2Q18 compared with 2Q17 primarily due to investment-related experience losses in 2Q18 compared with gains in 2Q17, partially offset by higher gains from the direct impact of markets in 2Q18 compared with 2Q17.

Year-to-date net income attributed to shareholders was US\$913 million in 2018 compared with US\$1,031 million in the same period of 2017 and year-to-date core earnings were US\$694 million in 2018 compared with US\$600 million in the same period of 2017. The increase in year-to-date core earnings of US\$94 million was driven by the favourable impact of lower U.S. tax rates, favourable policyholder experience, a gain related to a historical annuity reinsurance item, and lower amortization of deferred acquisition costs on the legacy variable annuity business, partially offset by the impact of lower sales volume and product mix changes. Year-to-date policyholder experience was a small gain in 2018. Items excluded from year-to-date core earnings were a net gain of US\$219 million in 2018 and a net gain of US\$431 million for the same period of 2017. These items are outlined in section F3 “Performance and Non-GAAP Measures”.

APE sales in 2Q18 of US\$99 million decreased 20% compared with 2Q17, primarily due to lower 2Q18 international sales, which continue to be impacted by increased competitive pressures, while 2Q17 sales were unusually high in advance of price increases. Domestic sales declined only 2% as record quarterly sales of products with the John Hancock Vitality feature benefited multiple products in 2Q18. Year-to-date sales in 2018 of US\$189 million decreased 20% compared with the same period of 2017 primarily due to lower international sales and variable universal life sales.

Revenue in 2Q18 was US\$2.3 billion, a decrease compared with US\$5.0 billion in 2Q17. The decrease is primarily attributable to mark-to-market losses on fixed income and derivative asset holdings due to interest rate movements in 2Q18. Revenue before net realized and unrealized investment income gains and losses was US\$3.5 billion in 2Q18, an increase of 2% compared with 2Q17. The US\$79 million increase was driven by higher investment income, partially offset by lower premium income consistent with the run-off nature of the annuities business. Year-to-date revenue was US\$2.3 billion in 2018, a decrease compared with US\$8.2 billion in the same period of 2017. Excluding realized and unrealized investment income gains and losses on assets supporting insurance and investment contract liabilities, year-to-date revenue was US\$6.6 billion in 2018, a decrease of 2% compared with the same period of 2017.

Premiums and deposits for 2Q18 were US\$1.7 billion, a decrease of 6% compared with 2Q17 primarily driven by lower first year premiums in life insurance from lower sales. Year-to-date premiums and deposits were US\$3.4 billion in 2018, a decrease of 4% compared with the same period of 2017.

Assets under management as at June 30, 2018 were US\$177.4 billion, down 3% from December 31, 2017. The decrease was driven by unfavourable mark-to-market movement in our insurance business primarily from interest rate movements, as well as the continued run-off of our annuities business.

C4 Global Wealth and Asset Management

(\$ millions, unless otherwise stated)	Quarterly Results ⁽¹⁾			YTD Results ⁽¹⁾	
	2Q18	1Q18	2Q17	2018	2017
Net income attributed to shareholders	\$ 233	\$ 223	\$ 201	\$ 456	\$ 376
Core earnings ⁽²⁾	239	227	214	466	402
Core EBITDA ⁽³⁾	370	360	377	730	719
Sales					
Wealth and asset management gross flows	29,102	36,466	30,343	65,568	62,702
Wealth and asset management net flows	92	9,977	5,854	10,069	10,457
Revenue	1,359	1,347	1,315	2,706	2,584
Premiums and deposits	29,102	36,466	30,343	65,568	62,702
Assets under management and administration (\$ billions)	639.9	626.9	582.7	639.9	582.7

⁽¹⁾ The Company made a number of reporting changes in 1Q18. Please refer to section B1 “Second quarter earnings analysis” and section F3 “Performance and Non-GAAP Measures” for details.

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

⁽³⁾ Core EBITDA is a non-GAAP measure and is equal to core earnings before interest, taxes, depreciation and amortization. See F3 “Performance and Non-GAAP Measures” below.

Global Wealth and Asset Management's net income attributed to shareholders was \$233 million in 2Q18 compared with \$201 million in 2Q17. Net income attributed to shareholders is comprised of core earnings, which were \$239 million in 2Q18 compared with \$214 million in 2Q17, and items excluded from core earnings, which were a net charge of \$6 million in 2Q18 compared with a net charge of \$13 million in 2Q17. Items excluded from core earnings are related to integration costs in our Canadian businesses.

Core earnings in 2Q18 increased 15% compared with 2Q17 driven by higher fee income on higher average asset levels and \$16 million from lower U.S. tax rates, partially offset by higher expenses from the non-recurrence of a favourable expense adjustment of \$22 million (\$14 million post-tax) in 2Q17 related to the timing of compensation expenses.

Core EBITDA was \$370 million in 2Q18, an increase of 1%¹ compared with 2Q17 driven by higher fee income partially offset by higher expenses as noted above.

Year-to-date net income attributed to shareholders was \$456 million in 2018 compared with \$376 million in the same period of 2017. Year-to-date core earnings of \$466 million increased 20% compared with the same period of 2017. The increase reflects higher fee income on higher average asset levels and lower U.S. tax rates, partially offset by higher expenses including the favourable adjustment in 2Q17 noted above. Items excluded from year-to-date core earnings were a net charge of \$10 million in 2018 and a net charge of \$26 million for the same period of 2017. These items are outlined in section F3 "Performance and Non-GAAP Measures".

Year-to-date Core EBITDA was \$730 million in 2018, an increase of 5% compared with the same period of 2017. The increase was driven by higher fee income on higher average asset levels partially offset by higher expenses as noted above.

Global WAM gross flows were \$29.1 billion in 2Q18, a decrease of 2% compared with \$30.3 billion in 2Q17. The decline was driven by lower gross flows in Asia, due to lower mutual fund sales in mainland China, partially offset by higher gross flows in Canada, supported by successful marketing campaigns in retail. In the U.S., higher retirement gross flows and the successful launch of the John Hancock Infrastructure Fund were offset by lower retail gross flows. Year-to-date gross flows in 2018 of \$65.6 billion were \$2.9 billion or 7% higher than the same period of 2017.

Global WAM net flows were \$0.1 billion in 2Q18 compared with \$5.9 billion in 2Q17. The decline in net flows was driven by the termination of three large-case plans in our U.S. retirement business and, to a lesser extent, lower gross flows. Year-to-date net flows in 2018 of \$10.1 billion were \$0.4 billion lower than the same period of 2017.

Revenue in 2Q18 was \$1,359 million, an increase compared with \$1,315 million in 2Q17. This increase was driven by higher fee income on higher average asset levels. Year-to-date revenue in 2018 was \$2,706 million, an increase compared with \$2,584 million in the same period of 2017.

Premiums and deposits for 2Q18 were \$29.1 billion, a decrease of 2% compared with 2Q17 for the reasons noted above for Global WAM gross flows. Year-to-date premiums and deposits for 2018 were \$65.6 billion, an increase of 7% compared with the same period of 2017.

Global WAM assets under management and administration as at June 30, 2018 were \$639.9 billion, an increase of 1% compared with December 31, 2017 driven by positive year-to-date net flows of \$10.1 billion. Global WAM also manages \$187.3 billion in assets for the Company's non-WAM reporting segments, and including those managed assets, AUMA managed by Global WAM was \$827.2 billion as at June 30, 2018.

¹ Percentage growth / declines in core EBITDA is stated on a constant exchange rate basis. Constant exchange rate basis is a non-GAAP measure. See "Performance and Non-GAAP Measures" below.

C5 Corporate and Other

(\$ millions, unless otherwise stated)	Quarterly Results ⁽¹⁾			YTD Results ⁽¹⁾	
	2Q18	1Q18	2Q17	2018	2017
Net income (loss) attributed to shareholders	\$ (474)	\$ (296)	\$ (159)	\$ (770)	\$ (350)
Core loss excluding core investment gains ⁽²⁾	\$ (177)	\$ (169)	\$ (181)	\$ (346)	\$ (367)
Core investment gains	104	96	154	200	200
Total core gain (loss)	\$ (73)	\$ (73)	\$ (27)	\$ (146)	\$ (167)
Revenue	\$ (106)	\$ (119)	\$ (30)	\$ (225)	\$ (79)
Premiums and deposits	24	23	22	47	43
Assets under management (\$ billions)	0.3	0.9	(4.1)	0.3	(4.1)

⁽¹⁾ The Company made a number of reporting changes in 1Q18. Please refer to section B1 "Second quarter earnings analysis" and section F3 "Performance and Non-GAAP Measures" for details.

⁽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); 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 this segment'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 loss attributed to shareholders of \$474 million in 2Q18 compared with a net loss attributed to shareholders of \$159 million in 2Q17. The net loss attributed to shareholders was comprised of core loss and items excluded from core loss. The core loss was \$73 million in 2Q18 compared with a core loss of \$27 million in 2Q17 and the items excluded from core loss amounted to a net charge of \$401 million in 2Q18 compared with a net charge of \$132 million in 2Q17.

The \$46 million increase in core loss was primarily due to \$50 million of lower core investment gains (\$104 million gain in 2Q18 and \$154 million gain in 2Q17) and an unfavourable impact of lower U.S. tax rates of \$15 million, partially offset by higher net investment-related income.

The items excluded from core loss amounted to a net charge of \$401 million in 2Q18, which includes a \$104 million reclassification to core investment gains, the \$200 million restructuring charge, \$85 million related to net realized losses on AFS bonds, and other charges related to the direct impact of markets.

On a year-to-date basis, the net loss attributed to shareholders was \$770 million in 2018 compared with a net loss attributed to shareholders of \$350 million in the same period of 2017. The year-to-date core loss was \$146 million in 2018 compared with \$167 million in the same period of 2017. The favourable variance in the year-to-date core loss of \$21 million was attributable to higher net investment-related income partially offset by the impact of lower U.S. tax rates. Items excluded from the year-to-date core loss were a net charge of \$624 million in 2018 compared with a net charge of \$183 million in the same period of 2017. Of the \$441 million unfavourable variance in items excluded from core loss, \$200 million related to the restructuring charge. The remaining difference was primarily driven by higher net realized losses on AFS bonds and a net charge from the direct impact of markets.

Revenue in 2Q18 was a loss of \$106 million compared with a loss of \$30 million in 2Q17. The variance was primarily driven by higher realized losses on the sale of AFS bonds. Year-to-date revenue was a loss of \$225 million in 2018 compared with a loss of \$79 million in the same period of 2017.

Premiums for the P&C Reinsurance business in 2Q18 were \$24 million compared with \$22 million in 2Q17. Year-to-date premiums were \$47 million in 2018 compared with \$43 million in the same period of 2017.

D 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 2017 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.

D1 Variable annuity and segregated fund guarantees

As described in the MD&A in our 2017 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 2018 to 2038.

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 D3 “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)	June 30, 2018			December 31, 2017		
	Guarantee value	Fund value	Amount at risk ^{(4),(5)}	Guarantee value	Fund value	Amount at risk ^{(4),(5)}
Guaranteed minimum income benefit ⁽¹⁾	\$ 5,265	\$ 4,167	\$ 1,143	\$ 5,201	\$ 4,195	\$ 1,074
Guaranteed minimum withdrawal benefit	61,891	54,973	7,299	61,767	56,512	5,943
Guaranteed minimum accumulation benefit	18,095	18,478	23	18,162	18,705	11
Gross living benefits ⁽²⁾	85,251	77,618	8,465	85,130	79,412	7,028
Gross death benefits ⁽³⁾	10,834	16,797	1,045	10,743	16,973	1,001
Total gross of reinsurance	96,085	94,415	9,510	95,873	96,385	8,029
Living benefits reinsured	4,522	3,603	951	4,522	3,667	911
Death benefits reinsured	2,367	2,299	400	3,014	3,040	435
Total reinsured	6,889	5,902	1,351	7,536	6,707	1,346
Total, net of reinsurance	\$ 89,196	\$ 88,513	\$ 8,159	\$ 88,337	\$ 89,678	\$ 6,683

⁽¹⁾ Contracts with guaranteed long-term care benefits are included in this category.

⁽²⁾ 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.

⁽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 June 30, 2018 was \$8,159 million (December 31, 2017 – \$6,683 million) of which: US\$4,708 million (December 31, 2017 – US\$3,982 million) was on our U.S. business, \$1,495 million (December 31, 2017 – \$1,342 million) was on our Canadian business, US\$170 million (December 31, 2017 – US\$95 million) was on our Japan business and US\$183 million (December 31, 2017 – US\$181 million) was related to Asia (other than Japan) and our run-off reinsurance business.

D2 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 will be as indicated or on MLL's LICAT ratio will be as indicated.

D3 Publicly traded equity performance risk

As outlined in our 2017 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 52 and 53 of our 2017 Annual Report).

The tables below 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. 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 E2 "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 June 30, 2018 (\$ millions)	-30%	-20%	-10%	10%	20%	30%
Underlying sensitivity to net income attributed to shareholders⁽⁴⁾						
Variable annuity guarantees	\$ (4,060)	\$ (2,440)	\$ (1,090)	\$ 790	\$ 1,350	\$ 1,780
Asset based fees	(510)	(340)	(170)	170	340	510
General fund equity investments ⁽⁵⁾	(1,030)	(670)	(290)	280	570	840
Total underlying sensitivity before hedging	(5,600)	(3,450)	(1,550)	1,240	2,260	3,130
Impact of macro and dynamic hedge assets ⁽⁶⁾	3,310	1,980	840	(750)	(1,310)	(1,720)
Net potential impact on net income after impact of hedging	\$ (2,290)	\$ (1,470)	\$ (710)	\$ 490	\$ 950	\$ 1,410
As at December 31, 2017						
(\$ millions)	-30%	-20%	-10%	10%	20%	30%
Underlying sensitivity to net income attributed to shareholders⁽⁴⁾						
Variable annuity guarantees	\$ (3,940)	\$ (2,260)	\$ (960)	\$ 670	\$ 1,110	\$ 1,410
Asset based fees	(510)	(340)	(170)	170	340	510
General fund equity investments ⁽⁵⁾	(930)	(590)	(270)	270	540	810
Total underlying sensitivity before hedging	(5,380)	(3,190)	(1,400)	1,110	1,990	2,730
Impact of macro and dynamic hedge assets ⁽⁶⁾	3,220	1,850	790	(640)	(1,100)	(1,410)
Net potential impact on net income after impact of hedging	\$ (2,160)	\$ (1,340)	\$ (610)	\$ 470	\$ 890	\$ 1,320

(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 E2 "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 ratio. The following table shows the potential impact to MLI's LICAT ratio resulting from changes in public equity market values, assuming that the change in the value of the hedge assets does not completely offset the change of the related variable annuity guarantee liabilities.

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

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

(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.

D4 Interest rate and spread risk

As at June 30, 2018, 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 \$100 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 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, 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 surplus 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 assets. Rising interest rates could negatively impact the value of our ALDA assets (see “Critical Accounting and Actuarial Policies – Fair Value of Invested Assets”, on page 75 of our 2017 Annual Report). More information on ALDA can be found in section D5 “Alternative long-duration asset (“ALDA”) performance risk”.

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 surplus segment, which could be realized through the sale of these assets.

Potential impact on net income attributed to shareholders and MLI’s LICAT 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	June 30, 2018		December 31, 2017	
	-50bp	+50bp	-50bp	+50bp
Net income attributed to shareholders (\$ millions)				
Excluding change in market value of AFS fixed income assets held in the surplus segment	\$ (200)	\$ 100	\$ (200)	\$ 100
From fair value changes in AFS fixed income assets held in surplus, if realized	1,400	(1,200)	1,100	(1,000)
MLI’s LICAT ratio (Percentage points)				
LICAT ratio change in percentage points ⁽⁵⁾	3	(2)		

(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 surplus 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 change in AFS fixed income assets. The LICAT ratio is not applicable before January 1, 2018.

The following table shows 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 arising from changes to corporate spreads and swap spreads^{(1),(2),(3)}

As at (\$ millions)	June 30, 2018		December 31, 2017	
Corporate spreads^{(4),(5)}				
Increase 50 basis points	\$	700	\$	1,000
Decrease 50 basis points		(800)		(1,000)
Swap spreads				
Increase 20 basis points	\$	(300)	\$	(400)
Decrease 20 basis points		300		400

(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 surplus 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.

D5 Alternative long-duration asset ("ALDA") performance risk

The following table shows the potential impact on net income attributed to shareholders resulting from changes in market values of ALDA that differ from the expected levels assumed in the valuation of policy liabilities.

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

As at (\$ millions)	June 30, 2018		December 31, 2017	
	-10%	10%	-10%	10%
Real estate, agriculture and timber assets	\$ (1,400)	\$ 1,400	\$ (1,300)	\$ 1,300
Private equities and other ALDA	(1,600)	1,500	(1,500)	1,400
Alternative long-duration assets	\$ (3,000)	\$ 2,900	\$ (2,800)	\$ 2,700

(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 E2 "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 sensitivities as at June 30, 2018 reflect ALDA dispositions completed as of that date. Further ALDA dispositions as part of our decision to change the portfolio asset mix supporting our North American legacy business will be reflected in the sensitivity as they occur.

E ACCOUNTING MATTERS AND CONTROLS

E1 Critical accounting and actuarial policies

Our significant accounting policies are described in note 1 to our Consolidated Financial Statements for the year ended December 31, 2017. The critical accounting policies and the estimation processes relate to the determination of insurance and investment contract liabilities, assessment of relationships with other entities for consolidation, fair value of certain financial instruments, provisioning for asset impairment, accounting for derivative financial instruments, determination of pension and other post-employment benefit obligations and expenses, income taxes and uncertain tax positions and valuation and impairment of goodwill and intangible assets are described on pages 68 to 79 of our 2017 Annual Report.

E2 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 income			
	June 30, 2018		December 31, 2017	
	Increase	Decrease	Increase	Decrease
Asset related assumptions updated periodically in valuation basis changes				
100 basis point change in future annual returns for public equities ⁽¹⁾	\$ 500	\$ (500)	\$ 400	\$ (400)
100 basis point change in future annual returns for ALDA ⁽²⁾	3,600	(4,100)	3,600	(4,100)
100 basis point change in equity volatility assumption for stochastic segregated fund modelling ⁽³⁾	(200)	200	(200)	200

⁽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. 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 8.1% and 9.9%.

⁽²⁾ 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 12%, with an average of 9.5% based on the current asset mix backing our guaranteed insurance and annuity business as of June 30, 2018, adjusted to reflect our decision to reduce the allocation to ALDA in the portfolio asset mix of 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 June 30, 2018, adjusted to reflect our decision to reduce the allocation to ALDA in the portfolio asset mix of our North American legacy businesses. See section A5 "ALDA update".

⁽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%.

E3 Accounting and reporting changes

Refer to note 2 of our unaudited Interim Consolidated Financial Statements for the three and six months ended June 30, 2018 for accounting and reporting changes during the quarter.

E4 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 (\$ millions, except per share amounts or otherwise stated, unaudited)	Jun 30, 2018	Mar 31, 2018	Dec 31, 2017	Sept 30, 2017	Jun 30, 2017	Mar 31, 2017	Dec 31, 2016	Sept 30, 2016
Revenue								
Premium income								
Life and health insurance	\$ 7,628	\$ 7,300	\$ 6,000	\$ 6,321	\$ 6,040	\$ 5,994	\$ 6,093	\$ 5,950
Annuities and pensions	1,126	1,025	943	922	934	1,056	908	1,247
Net premium income	8,754	8,325	6,943	7,243	6,974	7,050	7,001	7,197
Investment income	3,566	3,235	3,579	3,309	3,444	3,317	3,309	3,568
Realized and unrealized gains and losses on assets supporting insurance and investment contract liabilities ⁽¹⁾	(1,615)	(5,316)	2,988	(1,163)	3,303	590	(16,421)	771
Other revenue	2,964	2,502	2,737	2,544	2,872	2,593	2,637	2,921
Total revenue	\$ 13,669	\$ 8,746	\$ 16,247	\$ 11,933	\$ 16,593	\$ 13,550	\$(3,474)	\$ 14,457
Income (loss) before income taxes	\$ 1,535	\$ 1,714	\$(2,123)	\$ 1,269	\$ 1,618	\$ 1,737	\$(285)	\$ 1,314
Income tax (expense) recovery	(246)	(337)	424	(13)	(304)	(346)	450	(117)
Net income (loss)	\$ 1,289	\$ 1,377	\$(1,699)	\$ 1,256	\$ 1,314	\$ 1,391	\$ 165	\$ 1,197
Net income (loss) attributed to shareholders	\$ 1,262	\$ 1,372	\$(1,606)	\$ 1,105	\$ 1,255	\$ 1,350	\$ 63	\$ 1,117
Reconciliation of core earnings to net income attributed to shareholders								
Total core earnings ⁽²⁾	\$ 1,431	\$ 1,303	\$ 1,205	\$ 1,085	\$ 1,174	\$ 1,101	\$ 1,287	\$ 996
Other items to reconcile net income attributed to shareholders to core earnings ⁽³⁾ :								
Investment-related experience outside of core earnings	18	-	18	11	138	-	-	280
Direct impact of equity markets, interest rates and variable annuity guarantee liabilities	45	50	(68)	47	(37)	267	(1,202)	414
Change in actuarial methods and assumptions	-	-	(33)	(2)	-	-	(10)	(455)
Charge related to decision to change asset mix in legacy businesses	-	-	(1,032)	-	-	-	-	-
Charge related to U.S. Tax Reform	-	-	(1,777)	-	-	-	-	-
Restructuring charges	(200)	-	-	-	-	-	-	-
Other	(32)	19	81	(36)	(20)	(18)	(12)	(118)
Net income (loss) attributed to shareholders	\$ 1,262	\$ 1,372	\$(1,606)	\$ 1,105	\$ 1,255	\$ 1,350	\$ 63	\$ 1,117
Basic earnings (loss) per common share	\$ 0.61	\$ 0.67	\$(0.83)	\$ 0.54	\$ 0.62	\$ 0.66	\$ 0.01	\$ 0.55
Diluted earnings (loss) per common share	\$ 0.61	\$ 0.67	\$(0.83)	\$ 0.54	\$ 0.61	\$ 0.66	\$ 0.01	\$ 0.55
Segregated funds deposits	\$ 9,872	\$ 9,728	\$ 8,421	\$ 8,179	\$ 8,544	\$ 9,632	\$ 8,247	\$ 8,291
Total assets (in billions)	\$ 752	\$ 740	\$ 730	\$ 713	\$ 726	\$ 728	\$ 721	\$ 742
Weighted average common shares (in millions)	1,984	1,983	1,980	1,978	1,977	1,976	1,974	1,973
Diluted weighted average common shares (in millions)	1,989	1,989	1,988	1,986	1,984	1,984	1,980	1,976
Dividends per common share	\$ 0.220	\$ 0.220	\$ 0.205	\$ 0.205	\$ 0.205	\$ 0.205	\$ 0.185	\$ 0.185
CDN\$ to US\$1 - Statement of Financial Position	1.3168	1.2894	1.2545	1.2480	1.2977	1.3323	1.3426	1.3116
CDN\$ to US\$1 - Statement of Income	1.2912	1.2647	1.2712	1.2528	1.3450	1.3238	1.3343	1.3050

⁽¹⁾ 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.

⁽²⁾ Core earnings is a non-GAAP measure. See "Performance and Non-GAAP Measures" below.

⁽³⁾ For explanations of other items, see "Q2 earnings analysis" table in section B "Financial Highlights" and for an operating segment split of these items see the 8 quarter trend tables in section F3 "Performance and Non-GAAP Measures" which reconcile net income attributed to shareholders to core earnings.

E5 Other

No changes were made in our internal control over financial reporting during the three and six months ended June 30, 2018, 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.

F OTHER

F1 Quarterly dividend

The Company also announced today that the Board of Directors approved a quarterly dividend in the amount of \$0.22 per Manulife common share, payable on or after September 19, 2018 to shareholders of record at the close of business on August 21, 2018. Participants in the Company's dividend reinvestment and share purchase plans in Canada and the U.S.

will receive common shares purchased on the open market at a price based on the average actual cost to purchase the shares with no discount.

The Board also declared dividends on the following non-cumulative preferred shares, payable on or after September 19, 2018 to shareholders of record at the close of business on August 21, 2018.

Class A Shares Series 2 – \$0.29063 per share	Class 1 Shares Series 13 – \$0.2375 per share
Class A Shares Series 3 – \$0.28125 per share	Class 1 Shares Series 15 – \$0.24375 per share
Class 1 Shares Series 3 – \$0.136125 per share	Class 1 Shares Series 17 – \$0.24375 per share
Class 1 Shares Series 4 – \$0.168625 per share	Class 1 Shares Series 19 – \$0.2375 per share
Class 1 Shares Series 5 – \$0.243188 per share	Class 1 Shares Series 21 – \$0.35 per share
Class 1 Shares Series 7 – \$0.2695 per share	Class 1 Shares Series 23 – \$0.303125 per share
Class 1 Shares Series 9 – \$0.271938 per share	Class 1 Shares Series 25 – \$0.29375 per share
Class 1 Shares Series 11 – \$0.295688 per share	

F2 Outstanding shares – selected information

Common Shares

As at August 2, 2018 MFC had 1,984,162,384 common shares outstanding.

F3 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 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/declines in core earnings, sales, APE sales, gross flows, premiums and deposits, core EBITDA, new business value, new business value margin, assets under management and assets under management and administration); assets under administration; expense efficiency ratio; premiums and deposits; assets under management and administration; assets under management; 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.

Effective January 1, 2018, the Company's reporting segments have been reorganized as outlined under section B1 "Second quarter earnings analysis". In addition, we made the following adjustments to our reporting:

- The definition of the Global Wealth and Asset Management business now includes the Guaranteed Interest Account portion of the Canadian Pension defined contribution business.
- The NBV calculation has been refined for our Canadian segregated fund guarantee business.
- The calculation of net flows and AUMA now includes the sale of non-proprietary products in Canada.

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 are 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” above 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 2017 was \$475 million (2012 to the end of 2016 was \$456 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 have refined our description of investment-related experience 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 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 Accounting and Actuarial 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. All values are shown based on the Company's new reporting segments. Please refer to Section B1 "Second quarter earnings analysis" for details.

Total Company

(\$ millions, unaudited)	Quarterly Results							
	2Q18	1Q18	4Q17	3Q17	2Q17	1Q17	4Q16	3Q16
Core earnings (loss)								
Asia	\$ 406	\$ 427	\$ 372	\$ 374	\$ 350	\$ 357	\$ 341	\$ 342
Canada	403	290	273	403	278	255	308	312
U.S.	456	432	463	346	359	441	387	312
Global Wealth and Asset Management	239	227	198	216	214	188	186	168
Corporate and Other (excluding core investment gains)	(177)	(169)	(201)	(354)	(181)	(186)	(115)	(155)
Core investment gains	104	96	100	100	154	46	180	17
Total core earnings (loss)	1,431	1,303	1,205	1,085	1,174	1,101	1,287	996
Items to reconcile core earnings (loss) to net income (loss) attributed to shareholders:								
Investment-related experience outside of core earnings	18	-	18	11	138	-	-	280
Direct impact of equity markets and interest rates and variable annuity guarantee liabilities	45	50	(68)	47	(37)	267	(1,202)	414
Change in actuarial methods and assumptions	-	-	(33)	(2)	-	-	(10)	(455)
Charge related to decision to change portfolio asset mix supporting our legacy businesses	-	-	(1,032)	-	-	-	-	-
Charge related to U.S. Tax Reform	-	-	(1,777)	-	-	-	-	-
Restructuring charges	(200)	-	-	-	-	-	-	-
Other	(32)	19	81	(36)	(20)	(18)	(12)	(118)
Net income (loss) attributed to shareholders	\$ 1,262	\$ 1,372	\$ (1,606)	\$ 1,105	\$ 1,255	\$ 1,350	\$ 63	\$ 1,117

Asia

(\$ millions, unaudited)	Quarterly Results							
	2Q18	1Q18	4Q17	3Q17	2Q17	1Q17	4Q16	3Q16
Asia core earnings (loss)	\$ 406	\$ 427	\$ 372	\$ 374	\$ 350	\$ 357	\$ 341	\$ 342
Items to reconcile core earnings (loss) to net income (loss) attributed to shareholders:								
Investment-related experience outside of core earnings	46	48	62	48	62	69	74	62
Direct impact of equity markets and interest rates and variable annuity guarantee liabilities	(86)	(27)	(140)	(62)	96	119	(15)	107
Change in actuarial methods and assumptions	-	-	5	161	-	-	(38)	(92)
Other	(3)	-	(39)	-	-	-	(10)	-
Net income (loss) attributed to shareholders	\$ 363	\$ 448	\$ 260	\$ 521	\$ 508	\$ 545	\$ 352	\$ 419

Canada

(\$ millions, unaudited)	Quarterly Results							
	2Q18	1Q18	4Q17	3Q17	2Q17	1Q17	4Q16	3Q16
Canada core earnings (loss)	\$ 403	\$ 290	\$ 273	\$ 403	\$ 278	\$ 255	\$ 308	\$ 312
Items to reconcile core earnings (loss) to net income (loss) attributed to shareholders:								
Investment-related experience outside of core earnings	83	145	76	(125)	(12)	(38)	17	35
Direct impact of equity markets and interest rates and variable annuity guarantee liabilities	13	(60)	(21)	115	(238)	(83)	(266)	59
Change in actuarial methods and assumptions	-	-	(7)	43	-	-	68	(56)
Charge related to decision to change portfolio asset mix supporting our legacy businesses	-	-	(343)	-	-	-	-	-
Other	11	84	(7)	(4)	(5)	(6)	(11)	(8)
Net income (loss) attributed to shareholders	\$ 510	\$ 459	\$ (29)	\$ 432	\$ 23	\$ 128	\$ 116	\$ 342

U.S.

(\$ millions, unaudited)	Quarterly Results							
	2Q18	1Q18	4Q17	3Q17	2Q17	1Q17	4Q16	3Q16
U.S. core earnings (loss)	\$ 456	\$ 432	\$ 463	\$ 346	\$ 359	\$ 441	\$ 387	\$ 312
Items to reconcile core earnings (loss) to net income (loss) attributed to shareholders:								
Investment-related experience outside of core earnings	(59)	(101)	(33)	181	164	30	97	192
Direct impact of equity markets and interest rates and variable annuity guarantee liabilities	267	268	75	50	159	222	(623)	72
Change in actuarial methods and assumptions	-	-	(31)	(214)	-	-	(39)	(309)
Charge related to decision to change portfolio asset mix supporting our legacy businesses	-	-	(689)	-	-	-	-	-
Charge related to U.S. Tax Reform	-	-	(2,822)	-	-	-	-	-
Other	(34)	(61)	139	(41)	-	-	(18)	(97)
Net income (loss) attributed to shareholders	\$ 630	\$ 538	\$(2,898)	\$ 322	\$ 682	\$ 693	\$ (196)	\$ 170

Global Wealth and Asset Management

(\$ millions, unaudited)	Quarterly Results							
	2Q18	1Q18	4Q17	3Q17	2Q17	1Q17	4Q16	3Q16
Global WAM core earnings (loss)	\$ 239	\$ 227	\$ 198	\$ 216	\$ 214	\$ 188	\$ 186	\$ 168
Items to reconcile core earnings (loss) to net income (loss) attributed to shareholders:								
Impact related to U.S. Tax Reform	-	-	308	-	-	-	-	-
Other	(6)	(4)	(10)	(10)	(13)	(13)	(14)	(12)
Net income (loss) attributed to shareholders	\$ 233	\$ 223	\$ 496	\$ 206	\$ 201	\$ 175	\$ 172	\$ 156

Corporate and Other

(\$ millions, unaudited)	Quarterly Results							
	2Q18	1Q18	4Q17	3Q17	2Q17	1Q17	4Q16	3Q16
Corporate and Other core income (loss) (excluding core investment gains)⁽¹⁾	\$ (177)	\$ (169)	\$ (201)	\$ (354)	\$ (181)	\$ (186)	\$ (115)	\$ (155)
Core investment gains (loss)	104	96	100	100	154	46	180	17
Total core earnings (loss)	(73)	(73)	(101)	(254)	(27)	(140)	65	(138)
Other items to reconcile core earnings (loss) to net income (loss) attributed to shareholders:								
Investment-related experience outside of core earnings	(52)	(92)	(87)	(92)	(79)	(61)	(187)	(10)
Direct impact of equity markets and interest rates and variable annuity guarantee liabilities	(149)	(131)	17	(56)	(53)	9	(298)	175
Changes in actuarial methods and assumptions	-	-	-	8	-	-	-	1
Impact related to U.S. Tax Reform	-	-	737	-	-	-	-	-
Restructuring charges	(200)	-	-	-	-	-	-	-
Other	-	-	(1)	18	-	1	39	-
Net income (loss) attributed to shareholders⁽¹⁾	\$ (474)	\$ (296)	\$ 565	\$ (376)	\$ (159)	\$ (191)	\$ (381)	\$ 28

⁽¹⁾ The Corporate and Other segment includes earnings on assets backing capital net of amounts allocated to operating segments.

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 2Q18. Measures that are reported on a constant exchange rate basis include growth in core earnings, sales, APE sales, gross flows, premiums and deposits, core EBITDA, new business value, new business value margin, assets under management and assets under management and administration.

Premiums and deposits is a non-GAAP measure of top line growth. The Company calculates premiums and deposits as the aggregate of (i) general fund premiums, net of reinsurance, reported as premiums on the Consolidated Statements of

Income and investment contract deposits, (ii) segregated fund deposits, excluding seed money, (“deposits from policyholders”), (iii) mutual fund deposits, (iv) deposits into institutional advisory accounts, (v) premium equivalents for “administration services only” group benefit contracts (“ASO premium equivalents”), (vi) premiums in the Canada Group Benefits reinsurance ceded agreement, and (vii) other deposits in other managed funds.

Premiums and deposits (\$ millions)	Quarterly Results		
	2Q18	1Q18	2Q17
Gross premiums	\$ 9,831	\$ 9,466	\$ 9,030
Ceded premiums (excluding Canada Group Benefits reinsurance)	(949)	(1,012)	(1,002)
Segregated fund deposits	9,872	9,728	8,544
Mutual fund deposits	16,450	21,610	19,545
Institutional advisory account deposits	4,592	7,222	3,983
Other fund deposits	191	239	198
ASO premium equivalents	848	821	812
Investment contract deposits	9	18	39
Total premiums and deposits	40,844	48,092	41,149
Currency impact	-	668	(992)
Premiums and deposits at constant exchange rates	\$ 40,844	\$ 48,760	\$ 40,157

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)	June 30, 2018	March 31, 2018	June 30, 2017
Total invested assets	\$ 348,974	\$ 342,389	\$ 329,296
Segregated funds net assets	331,995	326,011	321,267
Assets under management per financial statements	680,969	668,400	650,563
Mutual funds	201,839	197,854	179,979
Institutional advisory accounts (excluding segregated funds)	100,777	98,275	86,916
Other funds	7,711	7,247	6,638
Total assets under management	991,296	971,776	924,096
Other assets under administration	127,058	126,271	117,064
Currency impact	-	12,820	11,384
AUMA at constant exchange rates	\$ 1,118,354	\$ 1,110,867	\$ 1,052,544

Capital The definition we use for capital, a non-GAAP measure, 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. 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.

Capital			
As at			
(\$ millions)	June 30, 2018	March 31, 2018	June 30, 2017
Total equity	\$ 45,318	\$ 44,089	\$ 44,225
Add AOCI loss on cash flow hedges	139	146	148
Add liabilities for capital instruments	8,888	8,275	7,630
Total capital	\$ 54,345	\$ 52,510	\$ 52,003

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 the 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							
	2Q18	1Q18	4Q17	3Q17	2Q17	1Q17	4Q16	3Q16
Core EBITDA	\$ 370	\$ 360	\$ 355	\$ 352	\$ 377	\$ 342	\$ 315	\$ 298
Amortization of deferred acquisition costs and other depreciation	75	73	87	84	88	85	85	89
Amortization of deferred sales commissions	24	29	25	23	23	28	24	24
Core earnings before income taxes	271	258	243	245	266	229	206	185
Core income tax (expense) recovery	(32)	(31)	(45)	(29)	(52)	(41)	(20)	(16)
Core earnings	\$ 239	\$ 227	\$ 198	\$ 216	\$ 214	\$ 188	\$ 186	\$ 169

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 MCCR framework. The MCCR framework was replaced by the LICAT framework on January 1, 2018 and LICAT will be used to calculate EV as at December 31, 2018. It has been used to calculate quarterly NBV starting January 1, 2018. 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 the 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.

F4 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 Company’s strategic priorities and 2022 targets for net promoter score, employee engagement, its highest potential businesses, expense efficiency and portfolio optimization; the expected annual run-rate savings resulting from Manulife’s announced expense initiatives; the expected impact of our decision to reduce the allocation to ALDA in our portfolio asset mix supporting our legacy business; and the estimated impact of the annual review of actuarial methods and assumptions, 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: the final interpretation of U.S. Tax Reform by tax authorities, the amount of time required to reduce the allocation to ALDA in our asset mix supporting our legacy business and redeploy capital towards higher-return businesses, the specific type of ALDA we dispose of and the value realized from such dispositions; the amount and timing of strategic investment in our business; 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 Accounting and Actuarial Policies", under "Risk Management", "Risk Factors" and "Critical Accounting and Actuarial 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.