

Manulife Financial Corporation  
*Management's Discussion and Analysis*

For the year ended December 31, 2013



## Caution regarding forward-looking statements

This document contains forward-looking statements within the meaning of 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 our 2016 management objectives for core earnings and core ROE, our 2016 goal for pre-tax run rate savings related to our Efficiency and Effectiveness Program, and the potential impact of a new Canadian Actuarial Standards Board Standard related to economic reinvestment assumptions used in the valuation of policy liabilities. The forward-looking statements in this document 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, including in the case of our 2016 management objectives for core earnings and core ROE, the assumptions described under “Key Planning Assumptions and Uncertainties” in this document 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 factors identified in “Key Planning Assumptions and Uncertainties” in this document; 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; 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 and actuarial 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; and our ability to protect our intellectual property and exposure to claims of infringement. Additional information about material 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 the body of this document as well as under “Risk Management and Risk Factors” and “Critical Accounting and Actuarial Policies” in the Management’s Discussion and Analysis and in the “Risk Management” note to the consolidated financial statements as well as under “Risk Factors” in our most recent Annual Information Form and elsewhere in our filings with Canadian and U.S. securities regulators. We do not undertake to update any forward-looking statements, except as required by law.

# 2013 Manulife Financial Corporation Management's Discussion and Analysis

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# MANAGEMENT'S DISCUSSION AND ANALYSIS

This Management's Discussion and Analysis ("MD&A") is current as of February 26, 2014.

## Overview

***Manulife Financial is a leading Canada-based financial services company with principal operations in Asia, Canada and the United States. Manulife Financial's vision is to be the most professional financial services organization in the world, providing strong, reliable, trustworthy and forward-thinking solutions for our clients' most significant financial decisions. Our international network of more than 84,000 employees and agents offers our clients a broad range of financial protection and wealth management products and services. We offer personal and corporate products to millions of customers across our three operating divisions: Asia, Canada and the United States, each of which represents about one third of our overall business.***

***Funds under management<sup>1</sup> by Manulife Financial and its subsidiaries were \$599 billion as at December 31, 2013.***

In this document, the terms "Company", "Manulife Financial", "Manulife" and "we" mean Manulife Financial Corporation ("MFC") and its subsidiaries.

In 2013 we made significant progress towards our strategic priorities:

- Developing our Asian opportunity to the fullest,
- Growing our wealth and asset management businesses in Asia, Canada, and the U.S.,
- Continuing to build our balanced Canadian franchise, and
- Continuing to grow higher return on equity ("ROE"), lower risk U.S. businesses.

Since 2010, we have enjoyed a positive progression in earnings and in 2013 our reported **net income attributed to shareholders** was \$3,130 million, an increase of \$1,320 million compared with \$1,810 million in 2012. The increase was driven by a \$368 million increase in core earnings<sup>1</sup> and \$952 million of items excluded from core earnings, the two most significant items of which were a \$592 million reduction in charges related to changes in actuarial methods and assumptions and a \$350 million gain on the sale of our Taiwan insurance business.

In 2012 we introduced "core earnings" – a non-GAAP financial measure which management believes better reflects our underlying earnings capacity. Core earnings excludes investment-related expense in excess of \$200 million per annum (the \$200 million per annum to be included in core earnings compares with an average of over \$320 million per annum reported from 2007 to 2011). It also excludes the mark-to-market accounting impact of equity markets and interest rates as well as a number of other items, outlined in the "Performance and Non-GAAP Measures" section below.

**Core earnings** in 2013 was \$2,617 million compared with \$2,249 million in 2012. The \$368 million increase in core earnings was driven by higher fee income growth in our wealth management businesses, increased new business margins in our North American insurance businesses and lower amortization of deferred acquisition costs on our closed blocks of variable annuity business, partially offset by higher expenses. The increase in expenses related to higher legal and variable compensation accruals. While we reported overall policy experience losses in both years of about the same amount, there was significantly improved claims experience in the U.S. in 2013 offset by one-time gains reported in 2012 related to specific run-off accident and health reinsurance business settlements and the release of excess Property and Casualty Reinsurance provisions related to 2011 events. We also reported net favourable tax items in both periods of about equal amounts.

**Asia Division** continues to build a pan-Asian life insurance and wealth franchise that is well positioned to satisfy the protection and retirement needs of the fast growing customer base in the region. Our core strategy focuses on expanding our professional agency force and alternative channel distribution, growing our wealth and asset management businesses and investing in our brand across Asia. In 2013, we achieved record sales<sup>1</sup> for wealth products, further expanded our network of bank partnerships and achieved solid growth in our professional agency force in several key markets. Our wealth sales in 2013 grew by 57 per cent over 2012<sup>2</sup>, as new products and expanded distribution contributed to broad-based growth across most of our markets. Our 2013 insurance sales of US\$1.0 billion were below our expectations and decreased 16 per cent compared with 2012. Sales in 2012 were higher primarily due to a run up in cancer product sales in Japan, prior to a tax change in April of last year and lower corporate product sales, a result of pricing actions in late 2012. We did see improved momentum in the fourth quarter of 2013 as both Hong Kong and Indonesia had record sales quarters and Japan sales grew by 18 per cent over the third quarter of 2013.

**Canadian Division** continued to build our diversified Canadian franchise. In 2013, we achieved record full year sales in Manulife Mutual Funds, strong Group Retirement Solutions sales and once again led the market in Group Benefits sales<sup>3</sup>. Manulife Bank responded to significant regulatory changes and ended the year with record net lending assets despite a slowdown in the residential mortgage market and an aggressive competitive environment. We continued to drive our desired shift in product mix in 2013,

<sup>1</sup> This item is a non-GAAP measure. See "Performance and Non-GAAP Measures" below.

<sup>2</sup> Growth (declines) in sales, premiums and deposits and funds under management are stated on a constant currency basis. Constant currency basis is a non-GAAP measure. See "Performance and Non-GAAP Measures" below.

<sup>3</sup> Based on quarterly sales survey by LIMRA, an insurance industry organization as at September 30, 2013.

reducing the proportion of insurance and segregated fund sales with long-duration guarantee features. We expanded our distribution reach by welcoming new advisors, extending existing relationships and enhancing support to our distribution partners as well as through two strategic transactions in travel insurance and mortgage creditor life insurance. In 2013, we were the first company in Canada licensed by the Office of the Superintendent of Financial Institutions ("OSFI") to administer the new federal Pooled Registered Pension Plans ("PRPPs") which are expected to be available for sale in certain provinces in 2014.

**U.S. Division** continued to make substantive progress towards our strategic priority of growing higher ROE and lower risk businesses. Our focus is on building a leading company in the U.S. that helps Americans with their retirement, long-term care and estate planning needs. We are leveraging our trusted brand, diverse and broad distribution, and core business strength of product innovation to profitably grow our de-risked insurance and wealth management franchises. During 2013, we have executed an acquisition of Symetra Investment Services, increasing our affiliated advisor headcount by 15 per cent. We achieved record sales in our mutual fund business in 2013, benefiting from the significant investments made in distribution and the investment product line-up. Through product re-design, re-pricing and business re-positioning, we have reduced the equity and interest rate risk and earnings sensitivity of our product portfolio, while we continue to invest in the growth of fee-based products with lower capital requirements and higher return potential, including our 401(k), mutual fund and lower risk insurance products. We are seeing the desired impact of these actions on our sales mix and improved new business strain with a continued shift away from guaranteed, long-duration products in 2013. To improve operating efficiencies, we combined JH Life Insurance and JH Long-Term Care Insurance into a single business unit. In addition, at the end of 2013, we announced plans to file for state approvals of a long-term care in-force rate increase during 2014. In December 2013, shareholders of the John Hancock Variable Insurance Trust ("JHVIT") Lifestyle Portfolios approved a change to the investment objectives of the JHVIT Lifestyle Portfolios to include a volatility management overlay. The managed volatility program is aimed at helping John Hancock contract owners and policyholders diversify risk, manage volatility of returns, and limit the magnitude of portfolio losses during periods of elevated volatility.

**Investment Division** continued to deliver strong investment-related gains in 2013 with the vast majority of those gains coming from excellent credit experience, fixed income and alternative long-duration asset investing and asset allocation activities that enhanced surplus liquidity and resulted in higher yields in the liability segments. The favourable credit experience reflects the strength of our underwriting combined with the benign economic environment. Attractive long corporate bond and alternative long-duration asset acquisitions enhanced our risk-adjusted returns. We continue to focus our acquisitions on high quality, good relative value assets.

**Manulife Asset Management ("MAM")** experienced significant growth in 2013 across its global franchise, with external assets under management increasing by 18 per cent to \$242.8 billion. We made several strategic additions to our portfolio management teams in the fourth quarter including the purchase of MAAKL Holdings Berhad in Malaysia. Outstanding investment performance continues to differentiate MAM with all public asset classes outperforming their benchmarks on a 1, 3, and 5-year basis.

**The Minimum Continuing Capital and Surplus Requirements ("MCCSR") ratio** for The Manufacturers Life Insurance Company ("MLI") closed 2013 at 248 per cent, up 37 points from the 211 per cent reported at the end of 2012. This increase reflects the contribution from earnings, a reduction in capital requirements for variable annuity and segregated fund guarantees due to the strong equity markets, the sale of our Taiwan insurance business and net capital issuance as well as the 2013 MCCSR Guideline change that reduced capital required for lapse risk.

# Financial Performance

| As at and for the years ended December 31,<br>(C\$ millions, unless otherwise stated)                                     | 2013             | restated <sup>(1)</sup><br>2012 | 2011       |
|---|------------------|---------------------------------|------------|
| <b>Net income attributed to shareholders</b>  | <b>\$ 3,130</b>  | \$ 1,810                        | \$ 129     |
| Preferred share dividends   | <b>(131)</b>     | (112)                           | (85)       |
| <b>Common shareholders' net income</b>  | <b>\$ 2,999</b>  | \$ 1,698                        | \$ 44      |
| Reconciliation of core earnings to net income attributed to shareholders:   |                  |                                 |            |
| <b>Core earnings<sup>(2)</sup></b>  | <b>\$ 2,617</b>  | \$ 2,249                        | \$ 2,169   |
| Investment-related experience in excess of amounts included in core earnings  | <b>706</b>       | 949                             | 1,290      |
| <b>Core earnings plus investment-related experience in excess of amounts included in core earnings</b>                    | <b>\$ 3,323</b>  | \$ 3,198                        | \$ 3,459   |
| Other items to reconcile core earnings to net income attributed to shareholders:  |                  |                                 |            |
| Direct impact of equity markets and interest rates and variable annuity guarantee liabilities that are dynamically hedged | <b>(336)</b>     | (582)                           | (2,217)    |
| Changes in actuarial methods and assumptions  | <b>(489)</b>     | (1,081)                         | (751)      |
| Disposition of Taiwan insurance business <sup>(3)</sup>   | <b>350</b>       | (50)                            | –          |
| Other items   | <b>282</b>       | 325                             | (362)      |
| <b>Net income attributed to shareholders</b>  | <b>\$ 3,130</b>  | \$ 1,810                        | \$ 129     |
| Basic earnings per common share (C\$)   | <b>\$ 1.63</b>   | \$ 0.94                         | \$ 0.02    |
| Diluted earnings per common share (C\$)   | <b>\$ 1.62</b>   | \$ 0.92                         | \$ 0.02    |
| Diluted core earnings per common share (C\$) <sup>(2)</sup>   | <b>\$ 1.34</b>   | \$ 1.15                         | \$ 1.14    |
| Return on common shareholders' equity ("ROE") (%)   | <b>12.8%</b>     | 7.8%                            | 0.2%       |
| Core ROE (%) <sup>(2)</sup>   | <b>10.6%</b>     | 9.8%                            | 9.1%       |
| U.S. GAAP net (loss) income attributed to shareholders <sup>(2)</sup>   | <b>\$ (648)</b>  | \$ 2,557                        | \$ 3,674   |
| Sales <sup>(2)</sup>  |                  |                                 |            |
| Insurance products <sup>(4)</sup>   | <b>\$ 2,757</b>  | \$ 3,279                        | \$ 2,456   |
| Wealth products   | <b>\$ 49,681</b> | \$ 35,940                       | \$ 34,299  |
| Premiums and deposits <sup>(2)</sup>  |                  |                                 |            |
| Insurance products  | <b>\$ 24,549</b> | \$ 24,221                       | \$ 22,278  |
| Wealth products   | <b>\$ 63,701</b> | \$ 51,280                       | \$ 43,783  |
| Funds under management (C\$ billions) <sup>(2)</sup>  | <b>\$ 599</b>    | \$ 531                          | \$ 500     |
| Capital (C\$ billions) <sup>(2)</sup>   | <b>\$ 33.5</b>   | \$ 29.2                         | \$ 29.0    |
| MLI's MCCR ratio  | <b>248%</b>      | 211%                            | 216%       |
| Sensitivities to equity markets and interest rates:   |                  |                                 |            |
| % of underlying earnings sensitivity to equity market movements offset by hedges <sup>(5)</sup>                           | <b>64 to 82%</b> | 72 to 83%                       | 59 to 70%  |
| Earnings impact of a 1% parallel decline in interest rates <sup>(6)</sup>   | <b>\$ (400)</b>  | \$ (400)                        | \$ (1,000) |

<sup>(1)</sup> The 2012 results were restated to reflect the retrospective application of new International Financial Reporting Standards ("IFRS") accounting standards effective January 1, 2013. For a detailed description of the change see note 2 to the 2013 Consolidated Financial Statements. The 2011 results were not required to be restated.

<sup>(2)</sup> This item is a non-GAAP measure. For a discussion of our use of non-GAAP measures, see "Performance and Non-GAAP Measures" below.

<sup>(3)</sup> This \$50 million charge in 2012 represents closing adjustments to the 2011 disposition of our Life Retrocession business.

<sup>(4)</sup> Insurance sales have been adjusted to exclude Taiwan for all periods.

<sup>(5)</sup> The lower end of the range assumes that the change in value of the hedge assets does not completely offset the change in the dynamically hedged variable annuity guarantee liabilities, including the provisions for adverse deviation. The estimated amount that would not be completely offset assumes that provision for adverse deviation is not offset and that the hedge assets are based on the actual position at the period end.

<sup>(6)</sup> The impact above excludes the impact of market value changes in available-for-sale ("AFS") bonds. The AFS bonds provide a natural economic offset to the interest rate risk arising from our product liabilities, and if included would have reduced the impact by \$600 million, \$800 million and \$800 million, respectively, for the years ended December 31, 2013, 2012 and 2011.

## Analysis of Net Income

In 2013, Manulife reported net income attributed to shareholders of \$3,130 million (2012 – \$1,810 million) and core earnings of \$2,617 million (2012 – \$2,249 million). Net income attributed to shareholders increased \$1,320 million compared with 2012, of which \$368 million was driven by higher core earnings and \$952 million related to items excluded from core earnings.

The \$368 million increase in core earnings was driven by growth in fee income due to growth in our wealth businesses, increased new business margins in our North American insurance businesses and lower amortization of deferred acquisition costs on our closed blocks of variable annuity business, partially offset by higher expenses. The increase in expenses related to higher legal and variable compensation accruals. While we reported overall policy experience losses in both years of about the same amount, there was significantly improved claims experience in the U.S. in 2013 offset by one-time gains reported in 2012 related to specific run-off accident and health reinsurance business settlements and the release of excess Property and Casualty Reinsurance provisions related to 2011 events. We also reported net favourable tax items in both periods of about equal amounts.

The net amount of items excluded from core earnings in 2013 was a gain of \$513 million compared to a charge of \$439 million in 2012. This \$952 million change was driven by a \$592 million reduction in charges related to changes in actuarial methods and assumptions (2013 – \$489 million charge, 2012 – \$1,081 million charge) and a \$350 million gain on the sale of our Taiwan insurance business. While investment-related experience was strong in both years, the \$706 million gain reported in 2013 (in excess of the \$200

million of investment gains included in core earnings) was \$243 million lower than in 2012. This decrease was offset by \$246 million of lower charges related to the direct impact of equity markets and interest rates and variable annuity guarantee liabilities that are dynamically hedged. Other items excluded from core earnings netted to a gain of \$282 million in 2013 and \$275 million in 2012. The 2013 amount primarily related to policyholder approved changes to the investment objectives of separate accounts that support our Variable Annuity products in the U.S. and a reinsurance recapture transaction in Asia. The 2012 amount primarily related to in-force product changes, the recapture of a reinsurance treaty and tax items, partially offset by a \$200 million goodwill impairment charge.

As noted above, investment-related experience totaled \$906 million in 2013 and was \$243 million lower than in 2012. The investment-related experience gains are a combination of reported investment experience as well as the impact of investing activities on the measurement of our policy liabilities. The investment-related experience in 2013 included: \$516 million primarily related to the impact of investing activities (both fixed income and alternative long-duration assets) on the measurement of our policy liabilities; \$228 million related to planned asset allocation activities that enhanced surplus liquidity and resulted in higher yielding assets in the respective liability segments; and \$162 million due to favourable credit experience relative to our long-term assumptions. The investment-related experience in 2012 included: \$1,117 million primarily related to the impact of investing activities (both fixed income and alternative long-duration assets) on the measurement of our policy liabilities; and \$32 million due to favourable credit experience relative to our long-term assumptions (see "Financial Performance - Impact of Fair Value Accounting" below).

The table below reconciles 2013 core earnings of \$2,617 million to the reported net income attributed to shareholders of \$3,130 million.

**For the years ended December 31,**

| (C\$ millions, unaudited)  | 2013            | restated <sup>(1)</sup><br>2012 | 2011     |
|--|-----------------|---------------------------------|----------|
| <b>Core earnings<sup>(2)</sup></b>   |                 |                                 |          |
| Asia Division <sup>(3)</sup>   | <b>\$ 921</b>   | \$ 963                          | \$ 938   |
| Canadian Division <sup>(3)</sup>   | <b>905</b>      | 835                             | 849      |
| U.S. Division <sup>(3)</sup>   | <b>1,510</b>    | 1,085                           | 1,005    |
| Corporate and Other (excluding expected cost of macro hedges and core investment gains)  | <b>(506)</b>    | (345)                           | (415)    |
| Expected cost of macro hedges <sup>(3),(4)</sup>   | <b>(413)</b>    | (489)                           | (408)    |
| Investment-related experience in core earnings <sup>(5)</sup>  | <b>200</b>      | 200                             | 200      |
| <b>Total core earnings</b>   | <b>\$ 2,617</b> | \$ 2,249                        | \$ 2,169 |
| Investment-related experience in excess of amounts included in core earnings <sup>(5)</sup>  | <b>706</b>      | 949                             | 1,290    |
| <b>Core earnings plus investment-related experience in excess of amounts included in core earnings</b>   | <b>\$ 3,323</b> | \$ 3,198                        | \$ 3,459 |
| Changes in actuarial methods and assumptions <sup>(6)</sup>  | <b>(489)</b>    | (1,081)                         | (751)    |
| Direct impact of equity markets and interest rates and variable annuity guarantee liabilities that are dynamically hedged <sup>(7)</sup> (see table below) | <b>(336)</b>    | (582)                           | (2,217)  |
| Disposition of Taiwan insurance business in 2013 <sup>(8)</sup>  | <b>350</b>      | (50)                            | 303      |
| Impact of in-force product changes and recapture of reinsurance treaties <sup>(9)</sup>  | <b>261</b>      | 260                             | -        |
| Material and exceptional tax related items <sup>(10)</sup>   | <b>47</b>       | 322                             | -        |
| Goodwill impairment charge   | <b>-</b>        | (200)                           | (665)    |
| Restructuring charge related to organizational design <sup>(11)</sup>  | <b>(26)</b>     | (57)                            | -        |
| <b>Net income attributed to shareholders</b>   | <b>\$ 3,130</b> | \$ 1,810                        | \$ 129   |

<sup>(1)</sup> The 2012 results were restated to reflect the retrospective application of new IFRS accounting standards effective January 1, 2013. For a detailed description of the change see note 2 to the 2013 Consolidated Financial Statements. The 2011 results were not required to be restated.

<sup>(2)</sup> This item is a non-GAAP measure. See "Performance and Non-GAAP Measures" below.

<sup>(3)</sup> The decrease in expected macro hedging cost in 2013 compared with 2012 was partially offset by an increase in dynamic hedging costs included in Asia, Canada and U.S. divisional core earnings.

<sup>(4)</sup> The 2013 net loss from macro equity hedges was \$1,851 million and consisted of a \$413 million charge related to the estimated expected cost of the macro equity hedges relative to our long-term valuation assumptions and a charge of \$1,438 million because actual markets outperformed our valuation assumptions. The latter amount is included in the direct impact of equity markets and interest rates (see table below).

<sup>(5)</sup> As outlined under "Critical Accounting and Actuarial Policies" below, net insurance contract liabilities under 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.

<sup>(6)</sup> Of the \$489 million charge for change in actuarial methods and assumptions in 2013, \$252 million was reported in the third quarter as part of the comprehensive annual review of valuation assumptions. See "Review of Actuarial Methods and Assumptions" section below.

<sup>(7)</sup> The direct impact of equity markets and interest rates is relative to our policy liability valuation assumptions and includes changes to interest rate assumptions, as well as experience gains and losses on derivatives associated with our macro equity hedges. We also include gains and losses on the sale of AFS debt securities as management may have the ability to partially offset the direct impacts of changes in interest rates reported in the liability segments. See table below for components of this item.

<sup>(8)</sup> The 2011 gain of \$303 million relates to the sale of our Life Retrocession business and the \$50 million charge in 2012 represents closing adjustments to that disposition.

<sup>(9)</sup> The 2013 gain of \$261 million includes the impact on the measurement of policy liabilities of policyholder-approved changes to the investment objectives of separate accounts that support our Variable Annuity products in the U.S. and a reinsurance recapture transaction in Asia. The \$260 million gain in 2012 largely relates to a recapture of a reinsurance treaty and in-force segregated funds product changes in Canada.

<sup>(10)</sup> The 2013 tax item primarily reflects the impact on our deferred tax asset position of Canadian provincial tax rate changes. Included in the 2012 tax items are \$264 million of material and exceptional U.S. tax items and \$58 million for changes to tax rates in Japan.

<sup>(11)</sup> The restructuring charge is related to severance, pension and consulting costs for the Company's Organizational Design Project, which was completed in the second quarter of 2013.

The net loss related to the direct impact of equity markets and interest rates and variable annuity guarantee liabilities that are dynamically hedged in the table above is attributable to:

| <b>For the years ended December 31,<br/>C\$ millions, unaudited</b>   | <b>2013</b>     | 2012     | 2011       |
|---|-----------------|----------|------------|
| Variable annuity guarantee liabilities that are dynamically hedged <sup>(1)</sup>                                     | <b>\$ 392</b>   | \$ 176   | \$ (1,153) |
| Variable annuity guarantee liabilities that are not dynamically hedged  | <b>1,293</b>    | 1,078    | (1,092)    |
| General fund equity investments supporting policy liabilities and on fee income <sup>(2)</sup>                        | <b>211</b>      | 108      | (214)      |
| Macro equity hedges relative to expected costs <sup>(3)</sup>   | <b>(1,438)</b>  | (511)    | 636        |
| Direct impact of equity markets and variable annuity guarantees that are dynamically hedged <sup>(4)</sup>            | <b>\$ 458</b>   | \$ 851   | \$ (1,823) |
| Fixed income reinvestment rates assumed in the valuation of policy liabilities <sup>(5)</sup>                         | <b>(276)</b>    | (740)    | (281)      |
| Sale of AFS bonds and derivative positions in the Corporate and Other segment   | <b>(262)</b>    | (16)     | 324        |
| Charges due to lower fixed income URR assumptions used in the valuation of policy liabilities <sup>(6)</sup>          | <b>(256)</b>    | (677)    | (437)      |
| <b>Direct impact of equity markets and interest rates and variable annuity guarantees that are dynamically hedged</b> | <b>\$ (336)</b> | \$ (582) | \$ (2,217) |
| <b>Direct impact of equity markets and interest rates</b>   | <b>\$ (728)</b> | \$ (758) | \$ (1,064) |

<sup>(1)</sup> 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. The gain in 2013 was primarily due to our equity fund results outperforming indices and a gain on the release of provision for adverse deviation associated with more favourable equity markets. See: "Risk Management and Risk Factors" below.

<sup>(2)</sup> The impact on general fund equity investments supporting policy liabilities and on fee income includes the capitalized impact on fees for variable universal life policies.

<sup>(3)</sup> As described in the previous table, we incurred a charge of \$1,438 million in 2013 because actual markets outperformed our valuation assumptions.

<sup>(4)</sup> In 2013, gross equity exposure gains of \$4,357 million were partially offset by gross equity hedging charges of \$1,438 million from macro hedge experience and charges of \$2,461 million from dynamic hedging experience which resulted in a gain of \$458 million.

<sup>(5)</sup> The charge in 2013 for fixed income reinvestment assumptions was driven by the increase in swap spreads and the decrease in corporate spreads, partially offset by the increase in risk free rates.

<sup>(6)</sup> Beginning with the first quarter of 2013 for North America and the third quarter of 2013 for Japan, the URR impact was calculated on a quarterly basis, whereas in 2012, it was calculated on an annual basis in the second quarter.

### Earnings per Common Share and Return on Common Shareholders' Equity

Net income per common share for 2013 was \$1.63, compared to \$0.94 in 2012. Return on common shareholders' equity for 2013 was 12.8 per cent, compared to 7.8 per cent for 2012.

### Sales

**Insurance sales** of \$2.8 billion in 2013 declined by 13 per cent compared with 2012. In Asia, insurance sales declined 16 per cent due to lower sales in Japan as a result of tax and product changes, partially offset by growth in most territories. In Canada, insurance sales declined 14 per cent driven by normal variability in our Group Benefits business. John Hancock Life sales declined six per cent reflecting our actions to reposition our new business mix to products with increased margins and more favourable risk profiles.

Record **wealth sales** of \$49.7 billion in 2013, increased 37 per cent compared to 2012. Record wealth sales in Asia increased 57 per cent driven by new fund launches and strong pension sales following the launch of Hong Kong's Mandatory Provident Fund's ("MPF") new Employee Choice Arrangement. In Canada, wealth sales rose 21 per cent due to continued strong mutual fund sales and higher pension sales. U.S. Division wealth sales rose 39 per cent driven by strong mutual fund sales, partly offset by a decline in pension and annuity sales.

### Premiums and Deposits

Total Company premiums and deposits<sup>4</sup> for insurance products increased to \$24.5 billion in 2013, an increase<sup>5</sup> of two per cent over 2012 which included a two per cent increase in Asia and Canada and a three per cent increase in the U.S.

Total Company premiums and deposits for wealth products increased to \$63.7 billion in 2013, an increase of 24 per cent over 2012. The increase was 54 per cent in Asia, 36 per cent in Canada and 31 per cent in the U.S. The strong total Company result was partly offset by lower Manulife Asset Management institutional deposits, a business line where variability is expected.

### Funds under Management

Funds under management<sup>4</sup> as at December 31, 2013 were a record \$599 billion, an increase of \$68 billion, or eight per cent, compared with December 31, 2012. The increase was largely attributable to growth in our asset management business and favourable equity markets, partially offset by the mark-to-market impact of the increase in interest rates on fixed income investments.

<sup>4</sup> This item is a non-GAAP measure. See "Performance and Non-GAAP Measures" below.

<sup>5</sup> Sales, premiums and deposits and funds under management growth (decline) in rates are quoted on a constant currency basis. Constant currency basis is a non-GAAP measure. See "Performance and Non-GAAP Measures" below.

## Funds under management

| As at December 31,<br>(C\$ millions)                                       | 2013              | restated <sup>(1)</sup><br>2012 | 2011       |
|--|-------------------|---------------------------------|------------|
| General fund   | <b>\$ 232,709</b> | \$ 227,932                      | \$ 226,520 |
| Segregated funds net assets <sup>(2)</sup>                                 | <b>239,871</b>    | 209,197                         | 195,933    |
| Mutual funds, institutional advisory accounts and other <sup>(2),(3)</sup> | <b>126,353</b>    | 94,029                          | 77,199     |
| <b>Total funds under management</b>  | <b>\$ 598,933</b> | \$ 531,158                      | \$ 499,652 |

<sup>(1)</sup> The 2012 results were restated to reflect the retrospective application of new IFRS accounting standards effective January 1, 2013. For a detailed description of the change see note 2 of the Consolidated Financial Statements. The 2011 results were not required to be restated.

<sup>(2)</sup> Segregated fund assets, mutual fund assets and other funds are not available to satisfy the liabilities of the Company's general fund.

<sup>(3)</sup> Other funds represent pension funds, pooled funds, endowment funds and other institutional funds managed by the Company on behalf of others.

## Capital

Total capital<sup>6</sup> was \$33.5 billion as at December 31, 2013 compared to \$29.2 billion as at December 31, 2012, an increase of \$4.3 billion. The increase included net earnings of \$3.1 billion, the \$1 billion impact from favourable currency movements on translation of foreign operations and net capital issued of \$0.7 billion, partially offset by cash dividends of \$0.8 billion over the period.

## Impact of Fair Value Accounting

Fair value accounting policies affect the measurement of both our assets and our liabilities. The difference between the reported amounts of our assets and liabilities determined as of the balance sheet date in accordance with the applicable mark-to-market accounting principles is reported as investment-related experience, the direct impact of equity markets and interest rates and variable annuity guarantees that are dynamically hedged, each of which impacts net income (see "Analysis of Net Income" above).

We reported \$17.6 billion of net realized and unrealized losses reported in investment income in 2013. These amounts were driven by the mark-to-market impact of the increase in interest rates on our bond and fixed income derivative holdings and the increase in equity markets on our equity futures in our macro and dynamic hedging program, as well as other items.

As outlined under "Critical Accounting and Actuarial Policies" below, net insurance contract liabilities under IFRS are determined using the Canadian Asset Liability Method ("CALM"), as required by the Canadian Institute of Actuaries. 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 the 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 the policies will result in an investment-related experience gain (loss).

## Public Equity Risk and Interest Rate Risk Reduction Plans

At December 31, 2013 between 64 per cent and 82 per cent of our underlying earnings sensitivity to a 10 per cent decline in equity markets was offset by hedges and the impact of a 100 basis point decline in interest rates on our earnings was \$400 million. See "Risk Management and Risk Factors" below.

## Fourth Quarter Financial Highlights

| For the quarters ended December 31,<br>(C\$ millions, except per share amounts) | 2013             | restated <sup>(1)</sup><br>2012 | 2011      |
|---|------------------|---------------------------------|-----------|
| Net income (loss) attributed to shareholders                                    | <b>\$ 1,297</b>  | \$ 1,077                        | \$ (69)   |
| Core earnings <sup>(2)</sup> (see table below for reconciliation)               | <b>\$ 685</b>    | \$ 554                          | \$ 373    |
| Diluted earnings (loss) per common share (C\$)                                  | <b>\$ 0.68</b>   | \$ 0.57                         | \$ (0.05) |
| Diluted core earnings per common share (C\$) <sup>(2)</sup>                     | <b>\$ 0.35</b>   | \$ 0.28                         | \$ 0.19   |
| Return on common shareholders' equity (annualized)                              | <b>20.2%</b>     | 19.2%                           | (1.6)%    |
| Sales <sup>(2)</sup>  |                  |                                 |           |
| Insurance products <sup>(3)</sup>   | <b>\$ 617</b>    | \$ 922                          | \$ 619    |
| Wealth products   | <b>\$ 12,241</b> | \$ 10,439                       | \$ 8,141  |
| Premiums and deposits <sup>(2)</sup>  |                  |                                 |           |
| Insurance products  | <b>\$ 6,169</b>  | \$ 6,629                        | \$ 5,749  |
| Wealth products   | <b>\$ 15,367</b> | \$ 17,499                       | \$ 10,168 |

<sup>(1)</sup> The 2012 results were restated to reflect the retrospective application of new IFRS accounting standards effective January 1, 2013. For a detailed description of the change see note 2 to the 2013 Consolidated Financial Statements. The 2011 results were not required to be restated.

<sup>(2)</sup> This item is a non-GAAP measure. See "Performance and Non-GAAP Measures" below.

<sup>(3)</sup> Insurance sales have been adjusted to exclude Taiwan for all periods.

## Net Income Attributed to Shareholders

Manulife reported fourth quarter 2013 net income attributed to shareholders of \$1,297 million and core earnings of \$685 million. Net income attributed to shareholders increased \$220 million compared with the fourth quarter of 2012, of which \$131 million was driven by higher core earnings and \$89 million related to other items.

<sup>6</sup> This item is a non-GAAP measure. See "Performance and Non-GAAP Measures" below.

The \$131 million increase in core earnings was driven by increased new business margins in North America, higher fee income due to growth in our asset management businesses, lower hedging costs and net modestly favourable currency impacts, partially offset by higher legal and variable compensation accruals. Core earnings in the fourth quarter of both 2013 and 2012 included favourable policy related experience and favourable tax related items.

Items excluded from core earnings in the fourth quarter of 2013 netted to a gain of \$612 million and included \$215 million of favourable investment-related experience (in excess of the \$50 million included in core earnings), a \$350 million gain on the sale of our Taiwan insurance business, and \$261 million related to policyholder approved changes to the investment objectives of separate accounts that support our Variable Annuity products in the U.S., as well as a reinsurance recapture transaction in Asia. These items were partially offset by an \$81 million net charge related to the direct impact of equity markets and interest rates and variable annuity guarantee liabilities that are dynamically hedged, and \$133 million related to changes in actuarial methods and assumptions of which \$69 million resulted from our review of our modeling of future tax cash flows for our U.S. Variable Annuity business and the remainder from other modeling refinements. Items excluded from core earnings in the fourth quarter of 2012 netted to a gain of \$523 million.

## Analysis of Net Income

The table below reconciles the fourth quarter 2013 core earnings of \$685 million to the reported net income attributed to shareholders of \$1,297 million.

| (C\$ millions, unaudited)   | 4Q 2013         | restated <sup>(1)</sup><br>4Q 2012 |
|---|-----------------|------------------------------------|
| <b>Core earnings<sup>(2)</sup></b>  |                 |                                    |
| Asia Division <sup>(3)</sup>  | \$ 227          | \$ 180                             |
| Canadian Division <sup>(3)</sup>  | 233             | 233                                |
| U.S. Division <sup>(3)</sup>  | 366             | 293                                |
| Corporate and Other (excluding expected cost of macro hedges and core investment gains)   | (138)           | (62)                               |
| Expected cost of macro hedges <sup>(3),(4)</sup>  | (53)            | (140)                              |
| Investment-related experience in core earnings <sup>(5)</sup>   | 50              | 50                                 |
| <b>Core earnings</b>  | <b>\$ 685</b>   | <b>\$ 554</b>                      |
| Investment-related experience in excess of amounts included in core earnings <sup>(5)</sup>   | 215             | 321                                |
| <b>Core earnings plus investment-related experience in excess of amounts included in core earnings</b>  | <b>\$ 900</b>   | <b>\$ 875</b>                      |
| Other items to reconcile core earnings to net income attributed to shareholders:  |                 |                                    |
| (Charges) gains on direct impact of equity markets and interest rates and variable annuity guarantee liabilities that are dynamically hedged (see table below) <sup>(5),(6)</sup> | (81)            | 82                                 |
| Changes in actuarial methods and assumptions <sup>(7)</sup>   | (133)           | (87)                               |
| Disposition of Taiwan insurance business  | 350             | –                                  |
| Impact of in-force product changes and recapture of a reinsurance treaty <sup>(8)</sup>   | 261             | –                                  |
| Restructuring charge related to organizational design   | –               | (57)                               |
| Material and exceptional tax related items  | –               | 264                                |
| <b>Net income attributed to shareholders</b>  | <b>\$ 1,297</b> | <b>\$ 1,077</b>                    |

<sup>(1)</sup> The 2012 results were restated to reflect the retrospective application of new IFRS accounting standards effective January 1, 2013. For a detailed description of the change see note 2 to the 2013 Consolidated Financial Statements.

<sup>(2)</sup> This is a non-GAAP measure. See "Performance and Non-GAAP Measures" below.

<sup>(3)</sup> The fourth quarter 2013 decrease in the expected cost of macro hedges compared with the fourth quarter 2012 was partially offset by increases in dynamic hedging costs included in core earnings across all divisions.

<sup>(4)</sup> The fourth quarter 2013 net loss from macro equity hedges was \$285 million and consisted of a \$53 million charge related to the estimated expected cost of the macro equity hedges relative to our long-term valuation assumptions and a charge of \$232 million because actual markets outperformed our valuation assumptions. This latter amount is included in the direct impact of equity markets and interest rates.

<sup>(5)</sup> As outlined under "Critical Accounting and Actuarial Policies" below, net insurance contract liabilities under IFRS for Canadian insurers are determined using 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.

<sup>(6)</sup> 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 a quarterly URR update for North America, starting in the first quarter of 2013, and for Japan, starting in the third quarter of 2013, as well as experience gains and losses on derivatives associated with our macro equity hedges. We also include gains and losses on the sale of available-for-sale ("AFS") bonds and derivative positions in the surplus segment. See table below for components of this item.

<sup>(7)</sup> The fourth quarter 2013 charge of \$133 million was primarily attributable to the impact of method and modeling refinements of which \$69 million resulted from our review of our modeling of future tax cash flows for our U.S. Variable Annuity business and the remainder from other modeling refinements.

<sup>(8)</sup> The fourth quarter 2013 gain of \$261 million included \$193 million related to policyholder approved changes to the investment objectives of separate accounts that support our Variable Annuity products in the U.S. and \$68 million related to a recapture of a reinsurance treaty in Asia.

The gain (charge) related to the direct impact of equity markets and interest rates and variable annuity guarantee liabilities that are dynamically hedged in the table above is attributable to:

| (C\$ millions, unaudited)   | 4Q 2013         | 4Q 2012        |
|---|-----------------|----------------|
| Variable annuity guarantee liabilities that are dynamically hedged <sup>(1)</sup>                                     | \$ 101          | \$ 100         |
| Variable annuity guarantee liabilities that are not dynamically hedged  | 155             | 556            |
| General fund equity investments supporting policy liabilities and on fee income <sup>(2)</sup>                        | 81              | 48             |
| Macro equity hedges relative to expected costs <sup>(3)</sup>   | (232)           | (292)          |
| Direct impact of equity markets and variable annuity guarantees that are dynamically hedged <sup>(4)</sup>            | \$ 105          | \$ 412         |
| Fixed income reinvestment rates assumed in the valuation of policy liabilities <sup>(5)</sup>                         | (105)           | (290)          |
| Sale of AFS bonds and derivative positions in the Corporate and Other segment   | (55)            | (40)           |
| Charges due to lower fixed income URR assumptions used in the valuation of policy liabilities <sup>(6)</sup>          | (26)            | –              |
| <b>Direct impact of equity markets and interest rates and variable annuity guarantees that are dynamically hedged</b> | <b>\$ (81)</b>  | <b>\$ 82</b>   |
| <b>Direct impact of equity markets and interest rates</b>   | <b>\$ (182)</b> | <b>\$ (18)</b> |

<sup>(1)</sup> 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. The gain in the fourth quarter of 2013 was primarily due to our equity fund results outperforming indices, and a gain on the release of provision for adverse deviation associated with more favourable equity markets. See “Risk Management and Risk Factors” below.

<sup>(2)</sup> The impact on general fund equity investments supporting policy liabilities and on fee income includes the capitalized impact on fees for variable universal life policies.

<sup>(3)</sup> As described in the previous table, we incurred a charge of \$232 million because actual markets outperformed our valuation assumptions.

<sup>(4)</sup> In the fourth quarter of 2013, gross equity exposure gains of \$1,017 million were partially offset by gross equity hedging charges of \$232 million from macro hedge experience and charges of \$680 million from dynamic hedging experience which resulted in a gain of \$105 million.

<sup>(5)</sup> The charge in the fourth quarter of 2013 for fixed income reinvestment assumptions was driven by a decrease in corporate spreads in North America.

<sup>(6)</sup> Beginning with the first quarter of 2013 for North America and the third quarter of 2013 for Japan, the URR impact was calculated on a quarterly basis, whereas in 2012, it was calculated on an annual basis in the second quarter.

## Sales<sup>7</sup>

**Insurance sales** of \$617 million in the fourth quarter of 2013 decreased 32 per cent<sup>8</sup> compared with the fourth quarter of 2012. While we reported record quarterly sales in Hong Kong and Indonesia, overall sales were lower due to the high level of sales in Japan in fourth quarter 2012 in advance of product changes and normal variability of sales in Canadian Group Benefits. As a result, sales in Asia and Canada declined five per cent and 59 per cent, respectively. In the U.S., insurance sales decreased 21 per cent reflecting our actions to increase margins.

**Wealth sales** exceeded \$12 billion in the fourth quarter of 2013, an increase of 15 per cent compared with the fourth quarter of 2012. In Asia, fourth quarter wealth sales exceeded US\$1.5 billion, a decline of 18 per cent from a fourth quarter of 2012 that benefited from a successful fund launch in Japan and the start of Hong Kong MPF’s Employee Choice Arrangement. Fourth quarter Canadian and U.S. wealth sales reported year-over-year growth of 24 per cent and 22 per cent, respectively, driven by continued strong mutual fund sales and also included a 79 per cent increase in Canadian Group Retirement Solutions sales.

<sup>7</sup> This is a non-GAAP measure. See “Performance and Non-GAAP Measures” below.

<sup>8</sup> Growth (declines) in sales, premiums and deposits and funds under management are stated on a constant currency basis. Constant currency basis is a non-GAAP measure. See “Performance and Non-GAAP Measures” below.

# Performance by Division

## Asia Division

*Manulife Financial has a demonstrated business expertise in Asia dating back more than 100 years. Since issuing our first Asian policy in Shanghai in 1897, we have pursued strong, sustained growth and remained a leading provider of financial protection and wealth management products in Asia. We are relentlessly focused on helping our Asian customers prepare for their futures, and that focus drives our growth strategy and underpins our commitment to the region. We are diversified across Asia, including some of the world's largest and fastest-growing economies, with operations in Hong Kong, Japan, Indonesia, the Philippines, Singapore, China, Taiwan, Vietnam, Malaysia, Thailand, Macau and Cambodia. We now have more than 57,000 contracted agents selling our products and have expanded our distribution capabilities to include more than 100 bank partnerships and more than 500 dealers, independent agents and brokers.*

In 2013, Asia Division contributed 19 per cent of total premiums and deposits and, as at December 31, 2013, accounted for 13 per cent of the Company's funds under management.

### Financial Performance

Asia Division's net income attributed to shareholders was US\$2,451 million in 2013 compared to US\$1,979 million for 2012. The increase was driven by the gain on the sale of our Taiwan insurance business and higher earnings from the direct impact of equity markets and interest rates and other investment-related items, partially offset by a decrease in core earnings, primarily related to changes in currency rates.

Core earnings of US\$893 million decreased by US\$70 million primarily related to changes in currency rates. On a currency neutral basis, the favourable impact on core earnings from the growth in in-force business was more than offset by higher dynamic hedging costs and the high new business margins reported in the first half of 2012 in Japan in advance of tax changes. Sales of these high margin products significantly declined following the tax changes.

On a Canadian dollar basis, the net income attributed to shareholders for 2013 was \$2,519 million compared to \$1,969 million reported a year earlier.

The table below reconciles core earnings to net income (loss) attributed to shareholders for Asia Division for 2013, 2012 and 2011.

| For the years ended December 31,<br>(\$ millions)  | Canadian \$     |          |         | US \$           |          |         |
|--|-----------------|----------|---------|-----------------|----------|---------|
|  | 2013            | 2012     | 2011    | 2013            | 2012     | 2011    |
| <b>Core earnings<sup>(1)</sup></b>   | <b>\$ 921</b>   | \$ 963   | \$ 938  | <b>\$ 893</b>   | \$ 963   | \$ 950  |
| Items to reconcile core earnings to net income attributed to shareholders:   |                 |          |         |                 |          |         |
| Direct impact of equity markets and interest rates and variable annuity guarantee liabilities that are dynamically hedged <sup>(2)</sup>   | <b>1,164</b>    | 911      | (1,190) | <b>1,142</b>    | 920      | (1,217) |
| Investment-related experience related to fixed income trading, market value increases in excess of expected alternative assets investment returns, asset mix changes and credit experience | <b>16</b>       | 55       | 204     | <b>18</b>       | 56       | 205     |
| Favourable impact of enacted tax rate changes  | <b>–</b>        | 40       | –       | <b>–</b>        | 40       | –       |
| Disposition of Taiwan insurance business   | <b>350</b>      | –        | –       | <b>334</b>      | –        | –       |
| Impact of recapture of a reinsurance treaty  | <b>68</b>       | –        | –       | <b>64</b>       | –        | –       |
| <b>Net income (loss) attributed to shareholders</b>  | <b>\$ 2,519</b> | \$ 1,969 | \$ (48) | <b>\$ 2,451</b> | \$ 1,979 | \$ (62) |

<sup>(1)</sup> This item is non-GAAP measure. See "Performance and Non-GAAP Measure" below.

<sup>(2)</sup> The direct impact of equity markets and interest rates is relative to our policy liability valuation assumptions and includes changes to interest rate assumptions. The net gain of C\$1,192 million in 2013 (2012 – net gain of C\$906 million) consisted of a C\$1,057 million gain (2012 – C\$946 million gain) related to variable annuities that are not dynamically hedged, a C\$60 million gain (2012 – C\$70 million gain) on general fund equity investments supporting policy liabilities and on fee income and a C\$75 million gain (2012 – C\$110 million loss) related to fixed income reinvestment rates assumed in the valuation of policy liabilities and a C\$28 million charge (2012 – C\$5 million gain) related to variable annuity guarantee liabilities that are dynamically hedged. The amount of variable annuity guaranteed value that was dynamically hedged at the end of 2013 was 49 per cent (2012 – 14 per cent). 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.

### Sales

**Asia Division's insurance sales** in 2013 were US\$1.0 billion, a decrease of 16 per cent compared with 2012. Sales in Japan of US\$400 million were 36 per cent lower in 2013 than the prior year due to the run up in sales of cancer products prior to a tax change in April of last year and lower corporate product sales, a result of pricing actions in late 2012. Indonesia sales of US\$120 million increased 18 per cent from 2012, driven by improved agency productivity and by sales generated by Bank Danamon which continue to meet our expectations set when we entered the exclusive relationship. Sales in Hong Kong of US\$256 million were in line with 2012 as the favourable impact of 12 per cent more professional agents during 2013 was offset by the higher sales in 2012 related to announced pricing actions. Asia Other insurance sales (Asia excluding Japan, Hong Kong, Indonesia and Taiwan) of US\$244 million were five per cent higher than 2012 primarily driven by an expanded agency force in Vietnam.

**Asia Division's wealth sales** in 2013 were a record US\$8.3 billion, an increase of 57 per cent compared with 2012. Japan sales of US\$1.9 billion increased 33 per cent from 2012, driven by higher sales of the Strategic Income Fund during the first half of 2013, along with new fund launches in the second half of the year. Indonesia sales of US\$974 million were in line with last year. A significant rise in Indonesian interest rates, a drop in the local equity market and depreciation of the Rupiah in the second half of 2013 caused many investors to delay investment decisions. Hong Kong sales of US\$1.1 billion increased 44 per cent from 2012, primarily driven by continued momentum in Pension sales following the launch of the Mandatory Provident Fund's new Employee Choice Arrangement late last year. Asia Other wealth sales (Asia excluding Japan, Hong Kong and Indonesia) reached a record level of US\$4.3 billion, almost double 2012 sales, driven by new fund launches in China, higher mutual fund sales in Taiwan and strong single premium unit-linked product sales in the Philippines in the first half of the year.

## Sales

| For the years ended December 31,<br>(\$ millions) | Canadian \$ |          |          | US \$    |          |          |
|---|-------------|----------|----------|----------|----------|----------|
|   | 2013        | 2012     | 2011     | 2013     | 2012     | 2011     |
| Insurance products <sup>(1)</sup>                 | \$ 1,052    | \$ 1,370 | \$ 1,179 | \$ 1,020 | \$ 1,370 | \$ 1,193 |
| Wealth products                                   | 8,536       | 5,690    | 4,131    | 8,319    | 5,698    | 4,186    |

<sup>(1)</sup> All periods have been restated to exclude insurance product sales from Taiwan.

## Premiums and Deposits

Premiums and deposits in 2013 were US\$16.1 billion, up 29 per cent over 2012 on a constant currency basis.

Insurance premiums and deposits increased by two per cent to US\$6.2 billion in 2013 driven by in-force business growth partly offset by a 2012 one-time initial reinsurance premium, the exceptionally high level of cancer product sales prior to tax changes in the first half of 2012 and strong corporate product sales prior to pricing actions in the fourth quarter of 2012 in Japan.

Wealth premiums and deposits increased by 54 per cent to US\$9.9 billion, for the same reasons as noted in the wealth sales section above.

## Premiums and Deposits

| For the years ended December 31,<br>(\$ millions) | Canadian \$      |                  |                  | US \$            |                  |                  |
|---|------------------|------------------|------------------|------------------|------------------|------------------|
|   | 2013             | 2012             | 2011             | 2013             | 2012             | 2011             |
| Insurance products                                | \$ 6,337         | \$ 6,650         | \$ 5,311         | \$ 6,154         | \$ 6,655         | \$ 5,365         |
| Wealth products                                   | 10,167           | 6,811            | 4,992            | 9,908            | 6,822            | 5,057            |
| <b>Total premiums and deposits</b>                | <b>\$ 16,504</b> | <b>\$ 13,461</b> | <b>\$ 10,303</b> | <b>\$ 16,062</b> | <b>\$ 13,477</b> | <b>\$ 10,422</b> |

## Funds under Management

Asia Division funds under management as at December 31, 2013 were US\$72.0 billion, an increase of one per cent on a constant currency basis, compared with December 31, 2012. Net policyholder cash flows of US\$4.8 billion and favourable investment returns in the past year were mostly offset by the negative impact of a weaker Japanese Yen compared to the U.S. dollar and the sale of our Taiwan insurance business.

## Funds under Management

| As at December 31,<br>(\$ millions) | Canadian \$      |                  |                  | US \$            |                  |                  |
|-------------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|
|                                     | 2013             | 2012             | 2011             | 2013             | 2012             | 2011             |
| General funds                       | \$ 34,756        | \$ 37,798        | \$ 34,757        | \$ 32,680        | \$ 38,002        | \$ 34,172        |
| Segregated funds                    | 23,568           | 23,435           | 23,524           | 22,160           | 23,558           | 23,130           |
| Mutual and other funds              | 18,254           | 16,480           | 13,109           | 17,164           | 16,563           | 12,889           |
| <b>Total funds under management</b> | <b>\$ 76,578</b> | <b>\$ 77,713</b> | <b>\$ 71,390</b> | <b>\$ 72,004</b> | <b>\$ 78,123</b> | <b>\$ 70,191</b> |

## Strategic Direction

Asia Division continues to build a premier pan-Asian insurance and wealth franchise that is well positioned to meet the evolving protection, savings and retirement needs of the customers in the region. Our core strategy focuses on expanding our professional agency force and alternative channel distribution, building and expanding our portfolio of products in wealth and protection, as well as investing in our brand across Asia. We remain committed to grow our wealth and asset management businesses to leverage our asset management capabilities.

In 2013, we further expanded our network of bank partnerships, highlighted by our exclusive agreement with Alliance Bank in Malaysia, achieved solid growth in our professional agency force in key markets and strengthened our brand awareness in Asia through various brand building campaigns and activities. We also acquired a 100 per cent interest in MAAKL Mutual Bhd, lifting our asset management franchise in Malaysia to a Top 10 market position<sup>9</sup>.

<sup>9</sup> Based on pro-forma Lipper rankings of all private unit trust funds in Malaysia as at December 31, 2013.

In Hong Kong, we continue to execute our growth strategy based on diversified product offerings and broadened distribution capabilities. Our professional agency force now exceeds 6,200, and we signed up two new brokerage partners to distribute our insurance products. We successfully executed on the new Employee Choice Arrangement within the Mandatory Provident Fund business, and improved our market share from 17.0% to 17.7%<sup>10</sup>. We also launched a suite of new protection products, including a medical product targeting the high net-worth segment and three new critical illness products. On the technology side, we continue to make progress in rolling out our mobile point of sales platform, which enables our advisors to perform financial planning analysis and complete an insurance application electronically.

In Japan, we focused on growing the number of captive agents, maintaining our strong momentum in the corporate market and continuing the build out of the retail business in the independent agent channel. Our mutual fund business grew significantly with a series of new fund launches and expansion of the distributor network. We are well placed to take advantage of the new Nippon Individual Savings Account program to further grow our mutual fund business in 2014.

In Indonesia, we continued to expand our distribution network and product mix. In 2013, we achieved double digit insurance sales growth over the prior year despite a challenging economic environment in the second half of the year. Growth in our professional agency force was relatively flat, as we shifted our strategy to focus on enhancing productivity and professionalism. Our partnership with Bank Danamon that began in July 2012 delivered strong results, consistent with our expectations. We plan to launch a series of new products in 2014 to cater to the growing protection and investment needs of the middle class. We also launched a series of branding campaigns in 2013 to further our brand awareness in the market.

In the Other Asia territories, we continued investing to expand and diversify our distribution channels, as well as develop our wealth and asset management businesses. We achieved a record number of agents in 2013 in the Philippines, Vietnam and Thailand. We also significantly grew our wealth sales through our bank partners in the Philippines, Malaysia and Thailand. In China, Manulife Sinochem is now licensed in 51 cities (2012 – 50 cities) within 14 provinces and municipalities, one of the broadest geographic footprints among foreign joint venture insurance companies. Our focus in China has shifted to enhancing the productivity and professionalism of our agency force. We have also recently expanded into bancassurance and direct distribution channels, and we are exploring ways to capitalize on potential pension and mutual fund distribution opportunities in China.

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<sup>10</sup> The calculation of market share is based on the Aggregate Net Asset Values of all Mandatory Provident Fund Schemes (including assets transferred from Occupational Retirement Schemes) as at September 30, 2013, as published in the Statistical Digest by the Mandatory Provident Fund Schemes Authority.

## Canadian Division

*Serving one in five Canadians, Canadian Division is one of the leading financial services organizations in Canada. We offer a broad portfolio of protection, estate planning, investment and banking solutions through a diversified independent distribution network, supported by a team of more than 8,700 employees.*

*Our Individual Insurance business offers a broad portfolio of insurance products, including universal, whole and term life, as well as living benefits insurance, designed to meet protection, estate and retirement planning needs for middle- and upper-income customers. Manulife Investments offers a range of investment products and services that span the investor spectrum, from those just starting to build their financial portfolio to individuals and families with complex retirement and estate planning needs, while Manulife Private Wealth provides personalized investment management, private banking and estate solutions to affluent clients. Manulife Bank helps Canadians with flexible debt and cash flow management solutions as part of their financial plan. We provide group life, health, disability and retirement solutions to Canadian employers; more than 19,000 Canadian businesses and organizations entrust their employee benefit programs to Manulife's Group Benefits. Life, health and specialty products, such as travel insurance, are also offered through alternative distribution channels, including sponsor groups and associations, as well as direct-to-customer marketing.*

In 2013, Canadian Division contributed 24 per cent of the Company's total premiums and deposits and, as at December 31, 2013, accounted for 24 per cent of the Company's funds under management.

### Financial Performance

Canadian Division's net income attributed to shareholders was \$828 million in 2013 compared with \$1,169 million in 2012. The decline was primarily related to the favourable impacts in 2012 of a major reinsurance transaction and reserve releases due to segregated funds product changes, as well as the unfavourable direct impact of interest rates on the valuation of policy liabilities in 2013.

Core earnings were \$905 million in 2013 compared with \$835 million in 2012. The \$70 million increase in core earnings was driven by growth of in-force business, including higher fee income on higher assets under management; higher new business margins, due to price increases and higher interest rates; and improvements in operational efficiency. These increases were partially offset by unfavourable policyholder experience and a lower release of tax provisions related to the closure of prior years' tax filings.

The table below reconciles core earnings to the net income attributed to shareholders for Canadian Division for 2013, 2012 and 2011.

**For the years ended December 31,**  
(C\$ millions)

|   | 2013          | 2012     | 2011   |
|---|---------------|----------|--------|
| <b>Core earnings<sup>(1),(2)</sup></b>  | <b>\$ 905</b> | \$ 835   | \$ 849 |
| Items to reconcile core earnings to net income attributed to shareholders:  |               |          |        |
| Impact of recapture of a reinsurance treaty and in-force product changes <sup>(3)</sup>   | –             | 259      | –      |
| Direct impact of equity markets and interest rates and variable annuity guarantee liabilities that are dynamically hedged <sup>(4)</sup>                                      | <b>(40)</b>   | 85       | (266)  |
| Investment gains related to fixed income trading, market value increases in excess of expected alternative assets investment returns, asset mix changes and credit experience | <b>(34)</b>   | (10)     | 344    |
| Impact of change in marginal tax rate <sup>(5)</sup>  | <b>(3)</b>    | –        | –      |
| <b>Net income attributed to shareholders</b>  | <b>\$ 828</b> | \$ 1,169 | \$ 927 |

<sup>(1)</sup> The Company moved the reporting of its International Group Program business unit from the U.S. Division to the Canadian Division in 2012. Prior period results have been restated to reflect this change.

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

<sup>(3)</sup> The \$259 million gain in 2012 included \$137 million related to the recapture of a reinsurance treaty and \$122 million related to in-force segregated funds product changes.

<sup>(4)</sup> The direct impact of equity markets and interest rates is relative to our policy liability valuation assumptions and includes changes to interest rate assumptions. The loss of \$40 million in 2013 (2012 – \$85 million gain) consisted of a \$28 million gain (2012 – nil) on general fund equity investments supporting policy liabilities, a \$187 million loss (2012 – \$31 million gain) related to fixed income reinvestment rates assumed in the valuation of policy liabilities, a \$12 million gain (2012 – \$4 million gain) related to unhedged variable annuities and a \$107 million gain (2012 – \$50 million gain) related to variable annuity guarantee liabilities that are dynamically hedged. The amount of variable annuity guaranteed value that was dynamically hedged at the end of 2013 was 92 per cent (2012 – 86 per cent). 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.

<sup>(5)</sup> Impact of enacted or substantially enacted income tax rate changes.

### Sales

Sales of wealth products in 2013 were a record \$12.1 billion, an increase of \$2.1 billion or 21 per cent from 2012 levels driven by record mutual fund deposits and strong sales in Group Retirement Solutions ("GRS"). Manulife Bank's new loan volumes declined modestly from 2012 reflecting an industry-wide slowdown in the retail mortgage market and a highly competitive environment. Sales of segregated funds<sup>11</sup> and Individual Insurance continued to reflect the impact of our deliberate product re-positioning away from long duration guarantees.

<sup>11</sup> Segregated fund products include guarantees. These products are also referred to as variable annuities.

Gross mutual fund deposits of \$6.6 billion were 60 per cent higher than 2012 levels. The sales success reflects our expanded distribution reach and strong fund performance, leveraging our global asset management expertise across a diverse global platform. GRS ranked second<sup>12</sup> in the Canadian group retirement industry for the first three quarters of 2013 and had sales of \$1.4 billion in 2013, 25 per cent higher than 2012 levels. Manulife Bank achieved record net lending assets of \$19 billion at December 31, 2013, up nine per cent from 2012 due to continued favourable retention and new lending volumes of \$4.1 billion for the year. Fixed product sales of \$379 million increased 25 per cent compared with 2012, while segregated fund sales of \$1.5 billion were 28 per cent lower than in 2012.

Insurance sales for 2013 were \$1.1 billion, 14 per cent lower than our record 2012 sales. Sales in both 2013 and 2012 included significant one-time single premium sales. Excluding these single premium sales, insurance sales decreased eight per cent from 2012. Group Benefits led the market in sales<sup>12</sup> for the first three quarters of 2013. Sales in Individual Insurance declined by one per cent as we continued to reduce exposure to long-term guarantees.

## Sales

For the years ended December 31,  
(C\$ millions)

|                    | 2013     | 2012     | 2011   |
|--------------------|----------|----------|--------|
| Insurance products | \$ 1,125 | \$ 1,310 | \$ 658 |
| Wealth products    | 12,133   | 10,057   | 10,784 |

## Premiums and Deposits

Canadian Division premiums and deposits of \$21.2 billion in 2013 grew 17 per cent from \$18.1 billion in 2012. The increase was driven by record mutual fund deposits and growth in our group retirement business driven by sales and deposits from a growing in-force block of plan participants.

## Premiums and Deposits

For the years ended December 31,  
(C\$ millions)

|                                    | 2013             | 2012             | 2011             |
|------------------------------------|------------------|------------------|------------------|
| Insurance products                 | \$ 10,552        | \$ 10,310        | \$ 9,603         |
| Wealth products                    | 10,620           | 7,809            | 8,213            |
| <b>Total premiums and deposits</b> | <b>\$ 21,172</b> | <b>\$ 18,119</b> | <b>\$ 17,816</b> |

## Funds under Management

Funds under management of \$145.2 billion as at December 31, 2013 grew by \$12.0 billion or nine per cent from \$133.2 billion at December 31, 2012 driven by business growth in our wealth management business.

## Funds under Management

As at December 31,  
(C\$ millions)

|  | 2013              | 2012              | 2011              |
|--|-------------------|-------------------|-------------------|
| General fund                               | \$ 80,611         | \$ 79,961         | \$ 73,926         |
| Segregated funds                           | 51,681            | 44,701            | 40,826            |
| Mutual and other funds                     | 27,560            | 20,675            | 17,708            |
| Less mutual funds held by segregated funds | (14,641)          | (12,138)          | (10,333)          |
| <b>Total funds under management</b>        | <b>\$ 145,211</b> | <b>\$ 133,199</b> | <b>\$ 122,127</b> |

## Strategic Direction

Our strategic aspiration is to be the trusted partner for broad-based integrated financial solutions in Canada. We have realigned our organization to facilitate a more unified approach to enhancing our customer focus in everything we do. We will continue to leverage our historic core competencies of product innovation, distribution excellence and service quality to meet our customers' needs in the manner suited to them. We have built a large customer base and strong market positions in our core businesses. Through disciplined, risk-appropriate growth, we aim to achieve scale in our less mature businesses and maintain or improve market share in our core businesses in order to deliver high quality sustainable earnings and shareholder value.

With over 70,000 licensed advisors and 650 Manulife sales professionals, we serve one in five Canadians. In 2013, we expanded our distribution reach through increased broker-dealer penetration; by adding new advisors and extending existing relationships; as well as through two strategic transactions in the mortgage creditor life and travel insurance businesses. We will continue to expand our distribution relationships and to invest in support for our advisors to help their businesses thrive, including our wholesaler teams that assist advisors with creative product and sales solutions for their customers, as well as our leading professional tax and estate planning teams. We will also continue to develop our cross-selling and direct-to-consumer marketing capabilities, which will help build stronger relationships with a broader base of customers in a manner tailored to their needs.

<sup>12</sup> As per quarterly sales surveys by LIMRA, an insurance industry organization, as at September 30, 2013.

Our broad product offerings, including our ability to offer guarantees, is a key competitive strength. Further expansion and integration of this broad portfolio, combined with expanded distribution capabilities and enhanced service delivery, will allow us to provide solutions that meet our customers' needs. In 2013, we launched RetirementPlus, an innovative, flexible retirement savings and income solution which customers can personalize to meet their retirement needs. This further enhanced our retail wealth management platform, which spans the investor spectrum, ranging from those just starting out to established individuals and families with more complex retirement and estate planning needs.

In the group benefits and retirement markets, we will continue to increase our profile with small business employers and leverage our strong market position to support employers across all market segments by providing cost effective options to their employees. In 2013, we were the first company in Canada licensed by the Office of the Superintendent of Financial Institutions ("OSFI") to administer the new federal Pooled Registered Pension Plans ("PRPPs") which are expected to be available for sale in certain provinces in 2014, providing new opportunities for growth in the small business market.

Service quality is critical to building relationships with existing customers and to attracting new customers. We closely monitor customer and advisor feedback to proactively improve the service experience. We will continue to focus on enhancing our customers' experience, putting their needs at the centre of everything we do as we make service improvements across the Division through process improvement initiatives, increased automation and outsourcing and off-shoring opportunities.

## U.S. Division

*In the United States, Manulife Financial operates as John Hancock with a team of approximately 6,000 employees. John Hancock's core retail products in the U.S. focus on providing financial solutions at every stage of the financial lives of our customers. We distribute our products primarily through licensed financial advisors and through Signator Investors, Inc. ("Signator"), our affiliated broker-dealers comprised of a national network of independent firms. John Hancock is the number one provider of target Lifestyle Portfolios in the U.S. based on assets invested in Annuities, Retirement Plan Services, Variable Life Insurance and Mutual Funds. John Hancock has become a household name in the U.S. with 89 per cent overall brand recognition<sup>13</sup>.*

*Our U.S. insurance businesses include John Hancock Life ("JH Life") and John Hancock Long-Term Care ("JH LTC"). JH Life offers a broad portfolio of insurance products, including universal, variable, whole, and term life insurance designed to provide estate, business, and retirement solutions for high net worth and emerging affluent markets. JH LTC provides solutions for middle-income through affluent clients in need of care advisory services, support, and financial resources that help cover the cost of long-term care in the event of an illness, accident, or through the normal effects of aging.*

*U.S. Wealth Management offers a broad range of products and services focused on individuals and business markets, as well as institutional oriented products for employee benefit plan funding solutions. John Hancock Retirement Plan Services ("Retirement Plan Services") provides 401(k) plans to small and medium-sized businesses. John Hancock Investments ("JH Investments") offers a variety of mutual funds and 529 College Savings plans. Our Annuity business manages an in-force block of fixed deferred, variable deferred and payout annuity products.*

In 2013, U.S. Division contributed 53 per cent of the Company's total premiums and deposits and, as at December 31, 2013, accounted for 57 per cent of the Company's funds under management.

### Financial Performance

U.S. Division reported net income attributed to shareholders of US\$2,820 million for 2013 compared to US\$1,926 million for 2012. Of the US\$894 million increase, US\$381 million was attributable to an increase in core earnings. Core earnings were US\$1,469 million in 2013 compared with US\$1,088 million in 2012 and increased due to: higher insurance new business margins resulting from product design actions, price increases and business mix; lower amortization of variable annuity deferred acquisition costs; improved claims experience primarily in our Life business; higher fee income from growth in our assets under management and the favourable impact of changes related to uncertain tax positions. These items were partially offset by costs associated with dynamically hedging additional in-force variable annuity guaranteed value.

Gains excluded from core earnings totaled US\$1,351 million in 2013 and netted to US\$838 million in 2012. Similar to the results at the total Company level, we reported favourable investment-related experience in both periods (2013 – US\$868 million and 2012 – US\$1,029 million). These investment-related experience gains were a result of the same factors as outlined in the "Analysis of Income" section for the full year above. Other items excluded from core earnings are outlined in the table below.

On a Canadian dollar basis, the net income attributed to shareholders for 2013 was \$2,908 million compared to \$1,919 million in 2012.

<sup>13</sup> The 2013 GfK Brand Tracking Study.

The table below reconciles core earnings to net income attributed to shareholders for U.S. Division for 2013, 2012 and 2011.

| For the years ended December 31,<br>(\$ million)   | Canadian \$     |                                 |          | US \$           |                                 |          |
|--|-----------------|---------------------------------|----------|-----------------|---------------------------------|----------|
|  | 2013            | restated <sup>(1)</sup><br>2012 | 2011     | 2013            | restated <sup>(1)</sup><br>2012 | 2011     |
| <b>Core earnings<sup>(2)</sup></b>   | <b>\$ 1,510</b> | \$ 1,085                        | \$ 1,005 | <b>\$ 1,469</b> | \$ 1,088                        | \$ 1,018 |
| Items to reconcile core earnings to net income<br>attributed to shareholders:  |                 |                                 |          |                 |                                 |          |
| Investment-related experience related to fixed<br>income trading, market value increases in<br>excess of expected alternative assets<br>investment returns, asset mix changes and<br>credit experience | <b>893</b>      | 1,026                           | 857      | <b>868</b>      | 1,029                           | 871      |
| Impact of release of tax reserves, in-force<br>product changes and major reinsurance<br>transactions <sup>(3),(4)</sup>  | <b>193</b>      | 171                             | –        | <b>184</b>      | 173                             | –        |
| Direct impact of equity markets and interest<br>rates and on variable annuity guarantee<br>liabilities that are dynamically hedged <sup>(5)</sup>  | <b>312</b>      | (363)                           | (1,241)  | <b>299</b>      | (364)                           | (1,275)  |
| <b>Net income attributed to shareholders</b>   | <b>\$ 2,908</b> | \$ 1,919                        | \$ 621   | <b>\$ 2,820</b> | \$ 1,926                        | \$ 614   |

<sup>(1)</sup> The 2012 results were restated to reflect the retrospective application of new International Financial Reporting Standards (“IFRS”) accounting standards effective January 1, 2013. For a detailed description of the change see note 2 to the 2013 Consolidated Financial Statements. The 2011 results were not required to be restated.

<sup>(2)</sup> Core earnings is a non-GAAP measure. See “Performance and Non-GAAP Measure” below.

<sup>(3)</sup> The US\$173 million net gain for impact of release of tax reserves and recapture of reinsurance treaties in 2012 included US\$172 million due to an updated assessment of prior years’ uncertain tax positions and net gains of US\$10 million on the Life recapture of a reinsurance treaty offset by net losses of US\$9 million on the fixed deferred annuity reinsurance transactions.

<sup>(4)</sup> The US\$184 million gain in 2013 was related to policyholder-approved changes to the investment objectives of separate accounts that support our Variable Annuity products.

<sup>(5)</sup> The direct impact of equity markets and interest rates is relative to our policy liability valuation assumptions and includes changes to interest rate assumptions. 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. The US\$299 million gain in 2013 (2012 – US\$364 million loss) consisted of a US\$121 million gain (2012 – US\$38 million gain) on general fund equity investments supporting policy liabilities, a US\$321 million loss (2012 – US\$665 million loss) related to fixed income reinvestment rates assumed in the valuation of policy liabilities, a US\$197 million gain (2012 – US\$140 million gain) related to variable annuities that are not dynamically hedged, and a US\$302 million gain (2012 – US\$123 million gain) related to variable annuities that are dynamically hedged. The amount of variable annuity guaranteed value that was dynamically hedged or reinsured at the end of 2013 was 94 per cent (2012 – 60 per cent).

## Sales

In 2013, U.S. Division achieved record sales in our mutual fund business and continued to achieve success in the repositioning of our insurance products. However, sales in our 401(k) business declined due to lower market activity and competitive pressures.

U.S. Division sales of insurance products were US\$563 million in 2013, a decrease of US\$36 million or six per cent compared with 2012. Through product redesign, repricing and business repositioning, we have reduced the equity and interest rate risk and earnings sensitivity of our product portfolio. JH Life’s sales declined six per cent. The business continued to drive improvements in business mix and profitability driven by double digit growth of targeted Protection universal life (“UL”) and Indexed UL products in 2013. JH LTC’s sales declined five per cent due to the closure of group plans to new entrants and the non-recurrence of the Federal Government Plan buy-up option in 2012, partially offset by higher retail product sales.

U.S. Division sales of wealth management products were US\$28.2 billion in 2013, an increase of US\$8.0 billion or 39 per cent compared with 2012. Wealth Asset Management sales increased 47 per cent driven by record mutual funds sales. Improved sales force productivity, strong focus on key distribution partners and continued strong product performance drove the record sales and increases across all distribution channels. The increase in mutual fund sales was partially offset by lower 401(k) sales and the closure of sales in our Annuity business.

## Sales

| For the years ended December 31,<br>(\$ millions) | Canadian \$   |        |        | US \$         |        |        |
|---|---------------|--------|--------|---------------|--------|--------|
|   | 2013          | 2012   | 2011   | 2013          | 2012   | 2011   |
| Insurance products                                | <b>\$ 580</b> | \$ 599 | \$ 619 | <b>\$ 563</b> | \$ 599 | \$ 625 |
| Wealth management products                        | <b>29,012</b> | 20,193 | 19,384 | <b>28,174</b> | 20,213 | 19,609 |

## Premiums and Deposits

U.S. Division total premiums and deposits for 2013 were US\$45.2 billion, an increase of US\$9.2 billion or 26 per cent compared with 2012.

Premiums and deposits for 2013 for insurance products of US\$7.4 billion increased US\$0.2 billion, compared with 2012, driven by UL premiums and the termination of a reinsurance assumed contract in 2012.

Premiums and deposits for 2013 for wealth management products of US\$37.8 billion increased US\$9.0 billion compared with 2012, for reasons consistent with the wealth sales results discussed above.

## Premiums and Deposits

| For the years ended December 31,<br>(\$ millions) | Canadian \$      |                  |                  | US \$            |                  |                  |
|---|------------------|------------------|------------------|------------------|------------------|------------------|
|   | 2013             | 2012             | 2011             | 2013             | 2012             | 2011             |
| Insurance products                                | \$ 7,579         | \$ 7,165         | \$ 6,999         | \$ 7,359         | \$ 7,168         | \$ 7,070         |
| Wealth management products                        | 38,939           | 28,779           | 27,413           | 37,827           | 28,799           | 27,737           |
| <b>Total premiums and deposits</b>                | <b>\$ 46,518</b> | <b>\$ 35,944</b> | <b>\$ 34,412</b> | <b>\$ 45,186</b> | <b>\$ 35,967</b> | <b>\$ 34,807</b> |

## Funds under Management

U.S. Division funds under management as at December 31, 2013 were a record US\$320.1 billion, up nine per cent from December 31, 2012. The increase was due to positive investment returns and strong net mutual fund sales in John Hancock Wealth Asset Management partially offset by surrender and benefit payments in John Hancock Annuities.

## Funds under Management

| As at December 31,<br>(\$ millions) | Canadian \$       |                   |                   | US \$             |                                 |                   |
|-------------------------------------|-------------------|-------------------|-------------------|-------------------|---------------------------------|-------------------|
|                                     | 2013              | 2012              | 2011              | 2013              | restated <sup>(1)</sup><br>2012 | 2011              |
| General fund                        | \$ 112,930        | \$ 112,405        | \$ 114,939        | \$ 106,177        | \$ 112,979                      | \$ 113,018        |
| Segregated funds                    | 162,596           | 137,931           | 129,581           | 152,873           | 138,635                         | 127,415           |
| Mutual funds and other              | 64,894            | 42,321            | 35,063            | 61,014            | 42,536                          | 34,475            |
| <b>Total funds under management</b> | <b>\$ 340,420</b> | <b>\$ 292,657</b> | <b>\$ 279,583</b> | <b>\$ 320,064</b> | <b>\$ 294,150</b>               | <b>\$ 274,908</b> |

<sup>(1)</sup> The 2012 results were restated to reflect the retrospective application of new IFRS accounting standards effective January 1, 2013. For a detailed description of the change see note 2 to the 2013 Consolidated Financial Statements. The 2011 results were not required to be restated.

## Strategic Direction

Execution of the U.S. Division strategy is aimed at driving sustainable earnings growth and sales growth in select markets we are targeting. Our focus remains building a leading company that leverages our trusted brand and capabilities to provide innovative solutions to our customers' wealth and protection needs. We will use our diverse and broad distribution and core business strength of product innovation to profitably grow our insurance and wealth management franchises. Our growth focus on selective business lines has allowed us to preserve scale in our businesses while retaining significant relationships with our distributors and strong brand awareness by our customers. Our strategic direction continues to build on the priority of growing our higher ROE, lower risk businesses. Our objectives are to:

- Expand our insurance business into new market segments and distribution channels;
- Retain leadership in our core retirement plan services market while continuing to execute on our expansion to the mid-sized plan market;
- Grow our mutual fund product lineup and increase the efficiency of our distribution;
- Grow and improve the productivity of our affiliated broker-dealers;
- Develop and implement a centralized customer service centre to provide a uniform service experience while also benefiting from scale and expense efficiencies; and
- Explore new and innovative distribution models.

In our U.S. Insurance business, JH Life has successfully transitioned away from guaranteed products on the strength of our highly regarded distribution franchise. New product development continues to drive success with new indexed universal life insurance products helping to make this rapidly growing product category a significant contributor to overall sales. We intend to build on this success with new products and to leverage and expand our strong distribution relationships, innovative underwriting and new business processes, and service to support profitable growth. By integrating JH Life and JH LTC into a single business unit we are able to achieve expense efficiencies and invest in technology and business process improvements to enhance the overall service experience.

We remain an active participant in the long-term care insurance market and continue to work on new product design ideas that make sense in the low interest rate environment as well as address affordability of coverage and help to fill a gap in customers' retirement planning. Benefit Builder, a product that offers an innovative alternative to traditional inflation options, gained momentum in 2013. We also continue to actively manage our in-force block of Long-Term Care Insurance. At the end of 2013, we announced plans to file for state approvals of an in-force rate increase during 2014.

Our mutual fund business, JH Investments, achieved very strong growth in 2013. We will continue to leverage the significant investments made in distribution, investment product line-up, and the continued identification and launch of superior risk-adjusted return products in order to drive earnings growth. We will also continue to drive growth through expanding distribution relationships and through our success in adding our funds to strategic partner recommended lists. JH Investments and Manulife Asset Management are working closely together on plans to capitalize on and to further develop our in-house asset management capabilities into products that will support future growth.

Retirement Plan Services plans on maintaining its strong market position in the core 401(k) small plan market segment while expanding in the mid-sized plan segment, a market we entered in 2013. We will continue to leverage our core strengths including service excellence, participant enrollment and education, distribution and field infrastructure to drive success in this business line. Our mid-size plan platform uses industry-leading technology to support our service focus and innovative product features and benefits. We believe our technology can be a significant differentiator as we continue our expansion efforts.

In addition, the Retirement Plan Services will continue to drive growth in the 401(k) roll-in and roll-over market. We offer a dedicated "Consolidation Centre" where John Hancock employees work with new enrollees to identify old 401(k) plans a participant has that can be consolidated into a 401(k) account with us. We also offer an education centre for when participants leave a plan that is staffed with customer service employees and licensed registered representatives. The education centre is able to provide a full range of services from basic information and forms to full financial planning and investment advice, depending upon the level of guidance the participant needs.

We administer over one million annuity contracts. In December 2013, shareholders of the JH Variable Insurance Trust ("JHVIT") Lifestyle Portfolios approved a change to the investment objectives of the JHVIT Lifestyle Portfolios to include a volatility management overlay. The managed volatility program is aimed at helping John Hancock contract owners and policyholders diversify risk, manage volatility of returns, and limit the magnitude of portfolio losses during periods of elevated volatility. If the new investment objectives are successful in improving performance and achieving more consistent returns over time, the John Hancock life insurance companies will benefit from reduced financial exposure to the guarantees of the contracts and correspondingly lower financial resources to support these guarantees.

We continue to expand Signator (formally "John Hancock Financial Network"). Signator is a strong distributor of insurance products and is building capacity to grow wealth product sales. During 2013 we executed the acquisition of Symetra Investment Services, increasing our affiliated advisor headcount by 15 per cent. We continue to invest in this enterprise that provides meaningful and diversified distribution opportunities to support our growth in the Retirement Planning and Insurance markets.

# Corporate and Other

**Corporate and Other is comprised of investment performance on assets backing capital, net of amounts allocated to operating divisions, financing costs, Investment Division's external asset management business (Manulife Asset Management), our Property and Casualty ("P&C") Reinsurance business as well as our run-off reinsurance business lines including variable annuities and accident and health.**

For segment reporting purposes the impact of updates to actuarial assumptions, settlement costs for macro equity hedges and other non-operating items are included in this segment's earnings.

As at December 31, 2013, Corporate and Other contributed five per cent of the Company's premiums and deposits and as at December 31, 2013, accounted for six per cent of the Company's funds under management.

## Financial Performance

Corporate and Other reported a full year net loss attributed to shareholders of \$3,125 million in 2013 compared to a net loss of \$3,247 million in 2012. Core losses were \$719 million in 2013 compared with \$634 million in 2012 and both years included \$200 million of favourable total company investment-related experience that are reported in core earnings. Items excluded from core losses improved by \$207 million from charges of \$2,613 million in 2012 to charges of \$2,406 million in 2013.

The \$85 million increase in core losses in 2013 compared to 2012 related to two items reported in 2012: a release of excess P&C Reinsurance provisions related to the 2011 Japan earthquake and tsunami and commutation gains related to our run-off accident and health reinsurance business. In addition, the reduction in macro hedging costs in 2013 compared with 2012 was mostly offset by higher expenses and tax related items. The \$207 million improvement in charges excluded from core earnings was primarily due to a \$592 million lower charge related to changes in actuarial methods and assumptions (see "Critical Accounting and Actuarial Policies" below); the non-recurrence of a \$677 million charge in 2012 related to lower fixed income URR assumptions used in the valuation of policy liabilities (starting in 2013 the URR assumptions were updated quarterly and reported in the operating segments); and a \$200 million goodwill impairment charge in 2012. These items were partially offset by higher losses of \$1,234 million primarily related to the impact of higher equity markets and interest rates on our equity (macro) hedges and interest rate sensitivity management strategies.

The table below reconciles core losses to the net loss attributed to shareholders for Corporate and Other for 2013, 2012 and 2011.

| <b>For the years ended December 31,<br/>(C\$ millions)</b>                                   | <b>2013</b>       | restated <sup>(1)</sup><br>2012 | 2011       |
|--|-------------------|---------------------------------|------------|
| Core losses excluding expected cost of macro hedges and core investment gains <sup>(1)</sup> | <b>\$ (506)</b>   | \$ (345)                        | \$ (415)   |
| Expected cost of macro hedges  | <b>(413)</b>      | (489)                           | (408)      |
| Investment-related experience included in core earnings                                      | <b>200</b>        | 200                             | 200        |
| <b>Total core losses<sup>(2)</sup></b>   | <b>\$ (719)</b>   | \$ (634)                        | \$ (623)   |
| Items to reconcile core earnings to net loss attributed to shareholders:                     |                   |                                 |            |
| Direct impact of equity markets and interest rates <sup>(3)</sup>                            | <b>\$ (1,772)</b> | \$ (1,215)                      | \$ 480     |
| Changes in actuarial methods and assumptions   | <b>(489)</b>      | (1,081)                         | (751)      |
| Goodwill impairment charge   | –                 | (200)                           | (665)      |
| Investment-related experience related to mark-to-market items <sup>(4)</sup>                 | <b>31</b>         | 78                              | 85         |
| Offset to core investment-related experience above   | <b>(200)</b>      | (200)                           | (200)      |
| Restructuring charges  | <b>(26)</b>       | (57)                            | –          |
| Impact of tax changes and business dispositions  | <b>50</b>         | 62                              | 303        |
| <b>Net loss attributed to shareholders</b>   | <b>\$ (3,125)</b> | \$ (3,247)                      | \$ (1,371) |

<sup>(1)</sup> The 2012 results were restated to reflect the retrospective application of new IFRS accounting standards effective January 1, 2013. For a detailed description of the change see note 2 to the 2013 Consolidated Financial Statements. 2011 results were not required to be restated.

<sup>(2)</sup> Core earnings (losses) is a non-GAAP measure. See "Performance and Non-GAAP Measures" below.

<sup>(3)</sup> The direct impact of equity markets and interest rates included \$1,438 million (2012 – \$511 million) of losses on derivatives associated with our macro equity hedges and losses of \$262 million (2012 – \$16 million) on the sale of AFS bonds. In 2012 it also included a \$677 million charge related to lower fixed income URR assumptions used in the valuation of policy liabilities. Starting in 2013 the URR assumptions were updated quarterly and reported in the operating segments. In 2013 the charge reported in the operating divisions was \$256 million. Other items in this category netted to a charge of \$72 million (2012 – charge of \$11 million).

<sup>(4)</sup> Investment-related experience includes 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.

## Premiums and Deposits

Premiums and deposits were \$4.1 billion for 2013 compared with \$8.0 billion reported in 2012. The 2012 amount included a substantial institutional fixed income investment mandate awarded to Manulife Asset Management in the fourth quarter of 2012.

## Premiums and Deposits

For the years ended December 31,  
(C\$ millions)

|                                    | 2013            | 2012            | 2011            |
|------------------------------------|-----------------|-----------------|-----------------|
| Life Retrocession                  | \$ 2            | \$ 2            | \$ 253          |
| Property and Casualty Reinsurance  | 80              | 95              | 113             |
| Institutional and other deposits   | 3,974           | 7,880           | 3,164           |
| <b>Total premiums and deposits</b> | <b>\$ 4,056</b> | <b>\$ 7,977</b> | <b>\$ 3,530</b> |

## Funds under Management

Funds under management of \$36.7 billion as at December 31, 2013 (December 31, 2012 – \$27.6 billion) included assets managed by Manulife Asset Management on behalf of institutional clients of \$32.5 billion (2012 – \$28.8 billion) and the Company's own funds of \$4.2 billion (2012 – \$(1.2) billion). The increase in the Company's own funds primarily related to the adjustment of net derivative positions from invested assets to other assets and other liabilities and was partially offset by tax payments in the U.S. and an increase in assets allocated to the operating divisions.

## Funds under Management

As at December 31,  
(C\$ millions)

|   | 2013             | restated <sup>(1)</sup><br>2012 | 2011             |
|---|------------------|---------------------------------|------------------|
| General fund  | \$ 4,413         | \$ (1,043)                      | \$ 2,898         |
| Segregated funds – elimination of amounts held by the Company | (175)            | (166)                           | (124)            |
| Institutional advisory accounts                               | 32,486           | 28,776                          | 23,778           |
| <b>Total funds under management</b>                           | <b>\$ 36,724</b> | <b>\$ 27,567</b>                | <b>\$ 26,552</b> |

<sup>(1)</sup> The 2012 results were restated to reflect the retrospective application of new IFRS accounting standards effective January 1, 2013. For a detailed description of the change see note 2 to the 2013 Consolidated Financial Statements. The 2011 results were not required to be restated.

## Strategic Direction

Our Property and Casualty Reinsurance business provides substantial retrocessional capacity for a very select clientele in the property and aviation reinsurance markets. The Company continues to monitor its exposure to natural catastrophes and manages such exposures in relation to the overall balance sheet risk and volatility. The amount of premium we write each year may fluctuate depending on prevailing market conditions.

The strategic direction for our Manulife Asset Management business is included in the "Investment Division" section that follows.

# Investment Division

The Investment Division has two major businesses: management of the Company's General Fund investments and Manulife Asset Management ("MAM"), a leading global asset management business.

The General Fund is comprised of a broad range of investments including: public and private bonds, mortgages, public and private equities, and real assets, which include real estate, power and infrastructure, oil and gas, timberland and farmland. Our investment philosophy for the General Fund is to invest in an asset mix that optimizes our risk adjusted returns and matches the characteristics of our underlying liabilities.

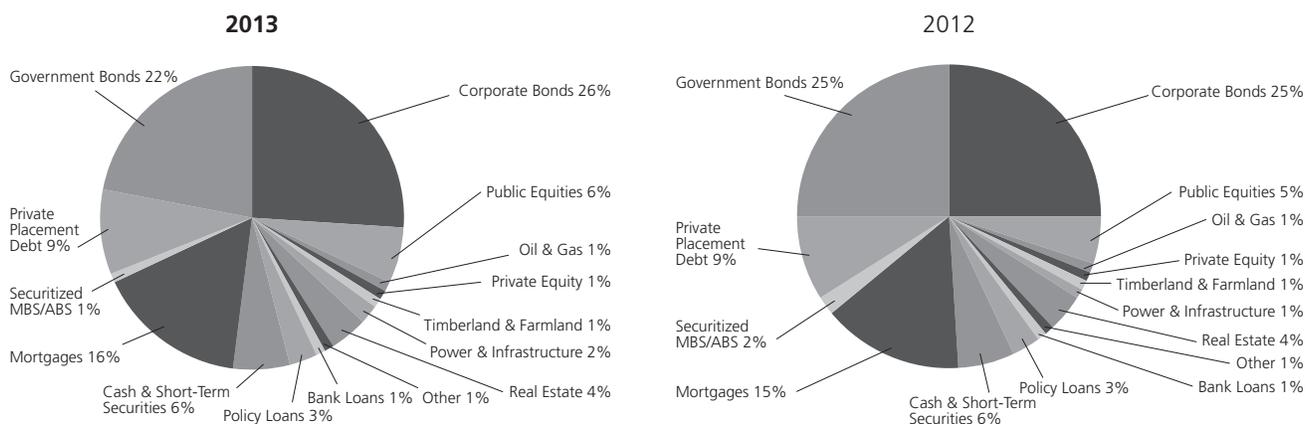
Manulife Asset Management is the global asset management arm of Manulife Financial, providing comprehensive asset management solutions for institutional investors and retail clients in key markets around the world. Our expertise extends across a broad range of public and private asset classes as well as asset allocation solutions. We serve retail clients, through our wealth management affiliates, and directly service institutional clients such as pension plans, foundations, endowments and financial institutions. In 2013, we introduced a new unit, Manulife Asset Management Private Markets, to bring together our specialized private market teams managing funds for third party investors and to provide access to the Company's other specialized teams that historically have primarily served the General Fund.

## General Fund Investment Philosophy

Our investment philosophy employs a bottom-up approach which combines our strong asset management skills with an in-depth understanding of the characteristics of each investment. We invest in a diversified blend of assets, including a variety of alternative long-duration asset classes. Our diversification strategy has historically produced superior risk adjusted returns while reducing overall risk. We use a disciplined approach across all asset classes and we do not chase yield in the riskier end of the fixed income market. This strategy has resulted in a well-diversified, high quality investment portfolio which continues to deliver strong and steady investment-related experience. Our risk management strategy is outlined in the "Risk Management and Risk Factors" section below.

## General Fund Assets

As at December 31, 2013, our General Fund invested assets totaled \$232.7 billion compared to \$227.9 billion at the end of 2012. The following charts show the asset class composition as at December 31, 2013 and December 31, 2012.



## Net Investment Income

| For the year ended December 31,  | 2013               |                     | 2012             |                     |
|--|--------------------|---------------------|------------------|---------------------|
|  | Income             | Yield <sup>14</sup> | Income           | Yield <sup>14</sup> |
| Interest income  | \$ 8,670           | 3.8%                | \$ 8,629         | 3.9%                |
| Dividend, rental and other income  | 1,425              | 0.6%                | 1,180            | 0.5%                |
| Impairments and provision for loan losses  | (30)               | 0.0%                | (106)            | 0.0%                |
| Other  | (195)              | -0.1%               | 99               | 0.0%                |
|  | <b>\$ 9,870</b>    |                     | <b>\$ 9,802</b>  |                     |
| Realized and unrealized gains (losses) on assets supporting insurance and investment contract liabilities and on macro equity hedges |                    |                     |                  |                     |
| Debt securities  | \$ (7,759)         | -3.3%               | \$ 2,874         | 1.3%                |
| Public equities  | 1,351              | 0.6%                | 826              | 0.4%                |
| Mortgages  | 53                 | 0.0%                | 103              | 0.0%                |
| Private placements   | (15)               | 0.0%                | 94               | 0.0%                |
| Real estate  | 98                 | 0.0%                | 420              | 0.2%                |
| Other investments  | 615                | 0.3%                | 307              | 0.1%                |
| Derivatives, including macro equity hedging program  | (11,960)           | -5.0%               | (2,799)          | -1.2%               |
|  | <b>\$ (17,617)</b> |                     | <b>\$ 1,825</b>  |                     |
| <b>Total investment income</b>   | <b>\$ (7,747)</b>  | <b>-3.3%</b>        | <b>\$ 11,627</b> | <b>5.3%</b>         |

Realized and unrealized gains and losses of \$17.6 billion were primarily due to the impact of changes in interest rates and equity markets on assets carried at fair value. In 2013, the general increase in interest rates resulted in losses of \$7.8 billion on debt securities while the general increase in equity markets resulted in gains of \$1.4 billion on public equities supporting insurance and investment contract liabilities. There was a net charge of \$12.0 billion on derivatives, including the macro equity hedging program, primarily related to the impact of higher interest rates on the fair value of interest rate swaps and the impact of higher equity markets on shorted equity futures. Other net realized gains were \$0.8 billion. As the measurement of insurance and investment contract liabilities includes estimates regarding future expected investment income on assets supporting the insurance and investment contract liabilities, only the difference between the mark-to-market accounting on the measurement of both assets and liabilities impacts net income. Refer to "Financial Performance" section above.

### Debt Securities and Private Placement Debt

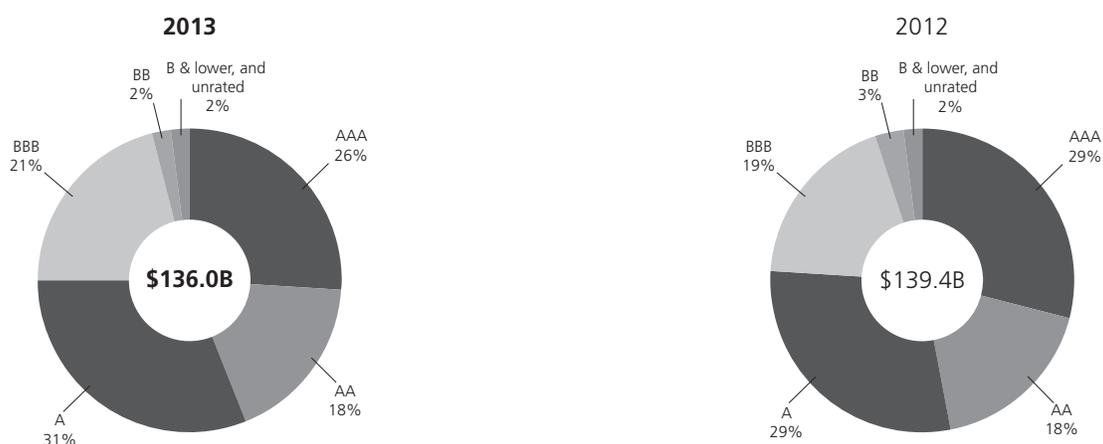
We manage our high quality fixed income portfolio to optimize yield and quality while ensuring that the asset portfolio remains diversified by sector, industry, duration, issuer, and geography.

As at December 31, 2013, the fixed income portfolio of \$136.0 billion (2012 – \$139.4 billion) was 96 per cent investment grade and 75 per cent was rated A or higher (2012 – 95 and 76 per cent, respectively). The private placement debt holdings provide diversification benefits (issuer, industry, and geography) and, because they often provide stronger protective covenants and collateral than debt securities, they typically provide better credit protection and potentially higher recoveries in the event of default. As at December 31, 2013, 50 per cent of the portfolio was invested in the United States (2012 – 51 per cent), 29 per cent in Canada (2012 – 28 per cent), 17 per cent in Asia and Other (2012 – 17 per cent), and four per cent in Europe (2012 – four per cent).

<sup>14</sup> Yields are based on IFRS income and are calculated using the geometric average of assets held at IFRS carrying value during the reporting period.

The following charts provide information on the credit quality of these assets as at December 31, 2013 and December 31, 2012.

### Debt Securities and Private Placement Debt – Credit Quality<sup>(1)</sup>



<sup>(1)</sup> Reflects credit quality ratings as assigned by Nationally Recognized Statistical Rating Organizations (“NRSRO”) using the following priority sequence order: Standard & Poor’s, Moody’s, Dominion Bond Rating Service, Fitch, and Japan Credit Rating. For those assets where ratings by NRSRO are not available, disclosures are based upon internal ratings as described in the “Risk Management and Risk Factors” section below.

| As at December 31,<br>Per cent of carrying value | 2013            |                        |                 | 2012            |                        |                 |
|--|-----------------|------------------------|-----------------|-----------------|------------------------|-----------------|
|  | Debt securities | Private placement debt | Total           | Debt securities | Private placement debt | Total           |
| Government and agency                            | 44              | 10                     | 39              | 48              | 10                     | 42              |
| Financial  | 16              | 9                      | 15              | 15              | 11                     | 15              |
| Telecommunications                               | 2               | –                      | 2               | 2               | 1                      | 2               |
| Utilities  | 12              | 41                     | 17              | 11              | 38                     | 15              |
| Energy   | 7               | 9                      | 7               | 7               | 8                      | 7               |
| Industrial                                       | 5               | 7                      | 5               | 5               | 8                      | 5               |
| Securitized (MBS/ABS)                            | 3               | –                      | 2               | 3               | –                      | 3               |
| Consumer (non-cyclical)                          | 5               | 10                     | 6               | 4               | 12                     | 5               |
| Consumer (cyclical)                              | 2               | 7                      | 2               | 1               | 6                      | 2               |
| Basic materials                                  | 2               | 6                      | 3               | 2               | 5                      | 2               |
| Technology                                       | 1               | –                      | 1               | 1               | –                      | 1               |
| Media and internet                               | 1               | 1                      | 1               | 1               | 1                      | 1               |
| <b>Total per cent</b>                            | <b>100</b>      | <b>100</b>             | <b>100</b>      | <b>100</b>      | <b>100</b>             | <b>100</b>      |
| <b>Total carrying value (\$ billions)</b>        | <b>\$ 115.0</b> | <b>\$ 21.0</b>         | <b>\$ 136.0</b> | <b>\$ 119.1</b> | <b>\$ 20.3</b>         | <b>\$ 139.4</b> |

As at December 31, 2013, gross unrealized losses on our fixed income holdings were \$2.9 billion or two per cent of the amortized cost of these holdings (2012 – \$0.7 billion or one per cent). Of this amount, \$73 million (2012 – \$160 million) relates to debt securities trading below 80 per cent of amortized cost for more than six months. Securitized assets represented \$55 million of the gross unrealized losses and \$14 million of the amounts trading below 80 per cent of amortized cost for more than six months (2012 – \$116 million and \$80 million, respectively). After adjusting for debt securities held in the participating policyholder and other pass-through segments, as well as the provisions for credit included in the policy liabilities, the potential impact to shareholders’ pre-tax earnings for bonds trading at less than 80 per cent of amortized cost for greater than six months was approximately \$52 million as at December 31, 2013 (2012 – \$93 million).

As at December 31, 2013, the Company had \$3.4 billion of both public and private securitized assets, consisting of Commercial Mortgage Backed Securities (“CMBS”), Residential Mortgage Backed Securities (“RMBS”), and Asset Backed Securities (“ABS”) representing one per cent of total invested assets (2012 – \$3.8 billion and two per cent).

### Mortgages

As at December 31, 2013, mortgages represented 16 per cent (2012 – 15 per cent) of invested assets with 62 per cent of the mortgage portfolio invested in Canada (2012 – 63 per cent) and 38 per cent in the U.S. (2012 – 37 per cent). The overall portfolio is also diversified by geographic region, property type, and borrower. Of the total mortgage portfolio, 28 per cent (2012 – 31 per cent) is insured, primarily by Canada Mortgage and Housing Corporation (“CMHC”) – Canada’s AAA rated government backed national housing agency, with 54 per cent (2012 – 61 per cent) of residential mortgages insured and seven per cent (2012 – eight per cent) of commercial mortgages insured.

The following table shows the distribution of the carrying value of the mortgage portfolio by property type.

## Mortgages

| As at December 31,<br>(C\$ millions) | 2013             |            | 2012             |            |
|--------------------------------------|------------------|------------|------------------|------------|
|                                      | Carrying value   | % of total | Carrying value   | % of total |
| Commercial                           |                  |            |                  |            |
| Multi-family residential             | \$ 3,533         | 9          | \$ 3,320         | 9          |
| Retail                               | 5,901            | 16         | 5,689            | 16         |
| Office                               | 5,647            | 15         | 5,169            | 15         |
| Industrial                           | 2,103            | 6          | 2,394            | 7          |
| Other commercial                     | 2,143            | 6          | 1,957            | 6          |
|                                      | \$ 19,327        | 52         | \$ 18,529        | 53         |
| Manulife Bank single residential     | 16,998           | 45         | 15,220           | 43         |
| Agriculture                          | 1,233            | 3          | 1,333            | 4          |
| <b>Total mortgages</b>               | <b>\$ 37,558</b> | <b>100</b> | <b>\$ 35,082</b> | <b>100</b> |

Commercial mortgages have been conservatively underwritten and accounted for 52 per cent (2012 – 53 per cent) of total mortgages. Geographically, 33 per cent are in Canada and 67 per cent are in the U.S. (2012 – 37 per cent and 63 per cent, respectively). We are well diversified by property type and largely avoid risky market segments such as hotels, construction loans and second liens. As noted in the table below, the mortgages have low loan-to-value ratios, high debt-service coverage ratios, and very few loans are in arrears.

## Non-CMHC Insured Commercial Mortgages<sup>(1),(2)</sup>

| As at December 31,                         | 2013      |           | 2012      |           |
|--|-----------|-----------|-----------|-----------|
|  | Canada    | U.S.      | Canada    | U.S.      |
| Loan-to-Value ratio <sup>(3)</sup>         | 59%       | 61%       | 59%       | 63%       |
| Debt-Service Coverage ratio <sup>(3)</sup> | 1.47x     | 1.85x     | 1.48x     | 1.75x     |
| Average duration                           | 3.1 years | 5.6 years | 2.8 years | 5.5 years |
| Average loan size (\$ millions)            | \$ 5.4    | \$ 12.0   | \$ 4.9    | \$ 10.4   |
| Loans in arrears <sup>(4)</sup>            | 0.00%     | 0.00%     | 0.01%     | 0.00%     |

<sup>(1)</sup> CMHC is Canada Mortgage and Housing Corporation, Canada's AAA rated national housing agency.

<sup>(2)</sup> Excludes Manulife Bank commercial mortgage loans of \$38 million (2012 – \$23 million).

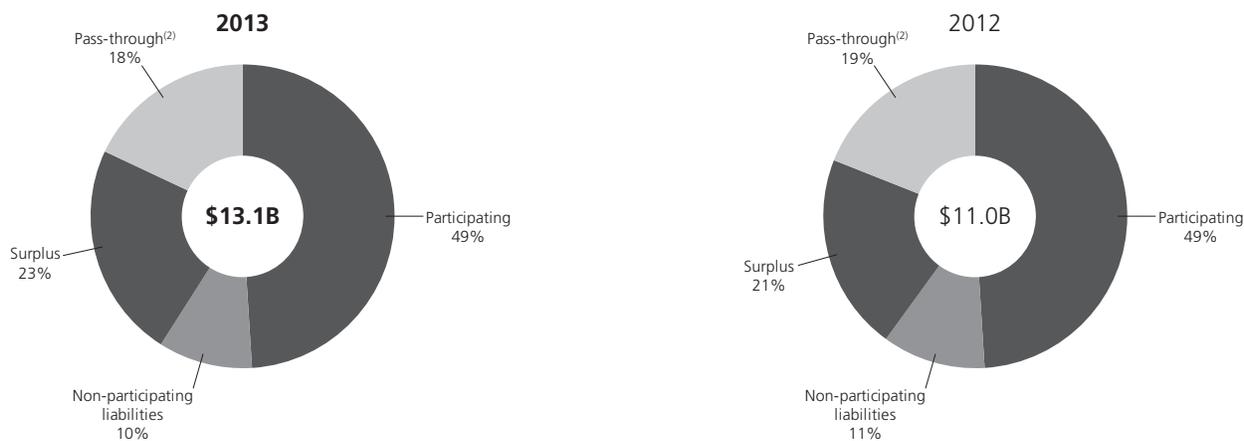
<sup>(3)</sup> Loan-to-Value and Debt-Service Coverage are based on re-underwritten cash flows.

<sup>(4)</sup> Arrears defined as over 90 days past due in Canada and over 60 days past due in the U.S.

## Public Equities

As at December 31, 2013, public equity holdings of \$13.1 billion represented six per cent (2012 – \$11.0 billion and five per cent) of invested assets, and when excluding pass-through and participating business, represent two per cent (2012 – two per cent) of invested assets. The portfolio is diversified by industry sector and issuer. Geographically, 34 per cent (2012 – 36 per cent) is held in Canada, 32 per cent (2012 – 29 per cent) is held in the U.S., and the remaining 34 per cent (2012 – 35 per cent) is held in Asia, Europe and other geographic areas. The composition of holdings by segment is outlined below.

## Public Equities – by Segment<sup>(1)</sup>



<sup>(1)</sup> Restated for a reclassification of certain assets, which primarily included public equities, from General Fund AUM to External Clients AUM. In reviewing our segregated fund arrangements, the Company also corrected the classification of certain funds. This retroactive correction resulted in an increase in both segregated fund net assets and net liabilities and a corresponding decrease in both total invested assets and insurance contract liabilities as at December 31, 2012.

<sup>(2)</sup> Public equities denoted as pass-through are held by the Company to support the yield credited on equity-linked investment funds for Canadian and Indonesian life insurance products.

## Alternative Long-Duration Assets

Our alternative long-duration asset portfolio is comprised of a diverse range of asset classes with varying but largely uncorrelated characteristics. These are typically private assets representing investments in varied sectors of the economy which act as a hedge against future inflation and serve as an alternative source of asset supply to long-term corporate bonds. In addition to being a suitable match against our long-duration liabilities, these assets provide enhanced yields and diversification relative to traditional fixed income markets. The vast majority of our alternative long-duration assets are managed in-house.

As at December 31, 2013, alternative long-duration assets of \$19.9 billion represented nine per cent (2012 – \$16.8 billion and seven per cent) of invested assets. The fair value of total alternative long-duration assets was \$20.8 billion at December 31, 2013 (2012 – \$17.6 billion). The carrying value by sector and/or asset type as follows:

### Alternative Long-Duration Assets

| As at December 31,<br>(C\$ millions)          | 2013             |                              | 2012             |                              |
|---|------------------|------------------------------|------------------|------------------------------|
|   | Carrying value   | % of total<br>carrying value | Carrying value   | % of total<br>carrying value |
| Real estate                                   |                  |                              |                  |                              |
| Office  | \$ 7,149         | 36                           | \$ 6,168         | 37                           |
| Industrial                                    | 603              | 3                            | 614              | 4                            |
| Company use                                   | 804              | 4                            | 789              | 5                            |
| Other   | 1,152            | 6                            | 942              | 6                            |
| <b>Total real estate</b>                      | <b>\$ 9,708</b>  | <b>49</b>                    | <b>\$ 8,513</b>  | <b>52</b>                    |
| Power and infrastructure                      | 3,486            | 18                           | 2,913            | 17                           |
| Private equity                                | 2,181            | 11                           | 1,761            | 10                           |
| Timberland                                    | 1,712            | 9                            | 1,489            | 9                            |
| Oil and gas                                   | 1,643            | 8                            | 1,355            | 8                            |
| Farmland                                      | 1,058            | 5                            | 754              | 4                            |
| Other   | 126              | –                            | –                | –                            |
| <b>Total alternative long-duration assets</b> | <b>\$ 19,914</b> | <b>100</b>                   | <b>\$ 16,785</b> | <b>100</b>                   |

### Real Estate

The real estate portfolio is diversified by geographic region, with 61 per cent located in the U.S., 35 per cent in Canada, and four per cent in Asia as at December 31, 2013 (2012 – 56 per cent, 40 per cent, and four per cent, respectively). The high quality portfolio has virtually no leverage and is primarily invested in premium urban office towers, concentrated in cities with stable growth, and highly diverse economies in North America and Asia. The portfolio is well positioned with an average occupancy rate of 95 per cent (2012 – 94.6 per cent) and an average lease term of 6.5 years (2012 – 6.1 years). During 2013 we executed five acquisitions, representing over \$0.8 billion market value of commercial real estate assets.

### Power & Infrastructure

Investments include electrical power generation, electricity transmission, water distribution, toll roads, ports, social infrastructure investments (including schools and hospitals), and midstream gas infrastructure assets (including gas gathering, transportation, distribution and storage). The portfolio is well diversified geographically across over 300 portfolio companies, with holdings predominantly in the U.S. and Canada, but also in the U.K., Western Europe and Australia.

### Timberland & Farmland

The Company's timberland and farmland assets are managed by our proprietary Hancock Natural Resources Group ("HNRG"). In addition to being the world's largest timberland investment manager for institutional investors<sup>15</sup>, with properties in the U.S., New Zealand and Australia, HNRG also manages farmland properties in the U.S., Australia and Canada. The General Fund's timberland portfolio comprised 17 per cent of HNRG's total timberland assets under management ("AUM") (2012 – 18 per cent). The farmland portfolio includes annual (row) crops, fruit crops, wine grapes, and nut crops. The Company's holdings comprised 45 per cent of HNRG's total farmland AUM (2012 – 41 per cent).

### Private Equities

Our portfolio includes both directly held private equity and private equity funds. Both are diversified across vintage years and industry sectors.

### Oil & Gas

This category is comprised of our conventional Canadian oil and gas properties which are managed by our subsidiary NAL Resources and various other oil and gas private equity interests. Production mix in 2013 was approximately 55 per cent crude oil, 36 per cent natural gas, and nine per cent natural gas liquids (2012 – 53 per cent, 37 per cent, and 10 per cent, respectively).

### Other Invested Assets

Other invested assets are comprised of leases, affordable housing, and other miscellaneous invested assets. As at December 31, 2013, other invested assets of \$3.3 billion represented one per cent (2012 – \$3.3 billion and one per cent) of invested assets.

<sup>15</sup> Based on HNRG internal studies using industry data.

## Manulife Asset Management

### Assets Under Management

Total assets managed by Manulife Asset Management grew by \$39.8 billion from December 31, 2012, to \$280.2 billion as at December 31, 2013. Assets managed for external clients grew by \$37.4 billion to \$242.8 billion during the same period.

### Manulife Asset Management AUM Composition

As at December 31,  
(C\$ millions)

|   | 2013              | 2012              |
|---|-------------------|-------------------|
| Affiliate / Retail <sup>(1),(2)</sup> :               |                   |                   |
| Fixed income  | \$ 61,045         | \$ 56,128         |
| Balanced  | 11,972            | 8,312             |
| Equity  | 64,937            | 47,618            |
| Asset allocation <sup>(3)</sup>                       | 71,865            | 64,087            |
| Alternatives  | 199               | 179               |
|   | <b>\$ 210,018</b> | <b>\$ 176,324</b> |
| Institutional:  |                   |                   |
| Fixed income  | \$ 12,974         | \$ 12,232         |
| Balanced  | 1,702             | 1,769             |
| Equity  | 6,429             | 4,241             |
| Asset allocation                                      | 19                | 18                |
| Alternatives  | 11,666            | 10,840            |
|   | <b>\$ 32,790</b>  | <b>\$ 29,100</b>  |
| <b>Manulife Asset Management External Clients AUM</b> | <b>\$ 242,808</b> | <b>\$ 205,424</b> |
| General Fund <sup>(2)</sup> :                         |                   |                   |
| Fixed income  | \$ 23,642         | \$ 24,517         |
| Equity  | 10,630            | 7,822             |
| Alternative long-duration assets                      | 3,145             | 2,636             |
|   | <b>\$ 37,417</b>  | <b>\$ 34,975</b>  |
| <b>Total Manulife Asset Management AUM</b>            | <b>\$ 280,225</b> | <b>\$ 240,399</b> |

<sup>(1)</sup> Includes 49 per cent share of Manulife TEDA Fund Management Company Ltd., based on the joint venture ownership structure.

<sup>(2)</sup> Restated for a reclassification of certain assets from General Fund AUM to External Clients AUM.

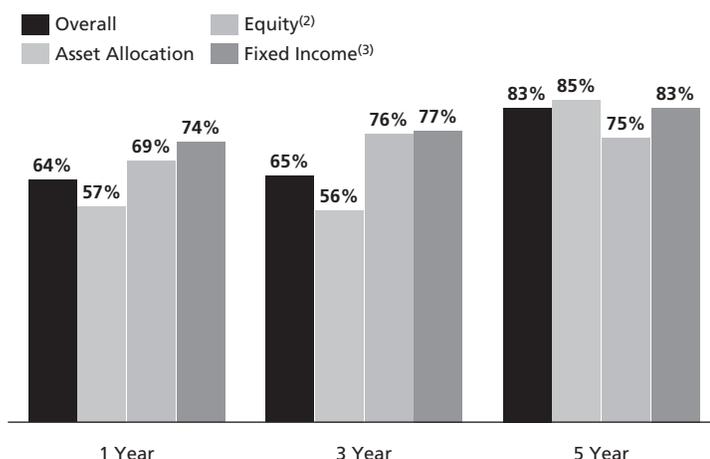
<sup>(3)</sup> Asset Allocation excludes \$48,098 million and \$35,592 million internally managed underlying funds in 2013 and 2012, respectively, already included in the other asset categories to avoid double-counting.

### Sales

In 2013, our public markets teams earned significant mandates across Asia, Europe, and North America. These wins came from a diverse group of existing and new clients and spanned pensions, sovereign wealth funds, and financial institutions, amongst others. Gross inflows in our Institutional business were \$4.0 billion (2012 – \$7.9 billion).

### Public Markets – Investment Performance

#### % of MAM Public Markets AUM Outperforming Benchmarks<sup>(1)</sup>



We target at least 55 per cent of assets under management to outperform their benchmarks or peer group. As at December 31, 2013, investment performance has exceeded our target across all classes on a 1, 3 and 5-year basis.

<sup>(1)</sup> Investment performance is based on actively managed Manulife Asset Management Public Markets account-based, asset-weighted performance versus their primary internal targets, which includes accounts managed by portfolio managers of Manulife Asset Management. Some retail accounts are evaluated net of fees versus their respective Morningstar peer group. All institutional accounts and all other retail accounts are evaluated gross of fees versus their respective index.

<sup>(2)</sup> Includes balanced funds

<sup>(3)</sup> Includes money market funds

At year end, MAM had 70 funds rated Four- or Five-stars by Morningstar<sup>16</sup>, an increase of nine funds since December 31, 2012, excluding money market funds. In addition to providing industry-leading performance<sup>17</sup> for our Wealth Management Affiliates, we also created 64 new mutual funds and segregated funds.

### **Strategic Direction**

As institutional and retail investors alike continue to pursue risk-adjusted returns across the globe, demand for multi-asset class solutions, real assets and global and emerging market equities and fixed income persists. Our strategic priorities are aligned to continue to capitalize on these trends.

**Manulife Asset Management's public markets business** continues to grow across each of our key geographies, backed by continuing strong investment performance. Our defining characteristics are alpha-focused<sup>18</sup> active management, a boutique environment, a global footprint and a client-centric culture. The core of our continuing success is our strong investment performance.

In 2013, we expanded our global investment capabilities with the addition of three new teams and the acquisition of MAAKL Mutual Bhd in Malaysia. We also added specialist talent across our global strategies, including Korean equity and Japan fixed income capabilities. Going forward, Manulife Asset Management public markets will continue to enhance its investment capabilities via acquisition and organic build to meet end-clients' evolving needs with best-in-class investment solutions.

**Manulife Asset Management Private Markets'** vision is to be recognized as a leading third party manager of private assets.

Private assets are a large and growing part of the asset management market. Investor trends have shown increased allocations to private assets to enhance yields in a low-rate environment, with allocations expected to further increase, as investors look to diversify their portfolios.

Our short term strategy is to pursue "core" offerings, consistent with Manulife's current investing approach, targeting institutional as well as ultra-high and high net worth investors. In addition to our existing timberland, farmland, and mezzanine debt offerings, Private Markets expects to expand its offerings in three prioritized growth asset classes: commercial real estate equity, commercial mortgages and private placement debt, based on their market potential and ability to leverage Manulife's existing capabilities and capacity. As the business grows, we will further expand our offerings.

<sup>16</sup> For each fund with at least a three year history, Morningstar calculates a Morningstar Rating based on a Morningstar Risk-Adjusted Return that accounts for variation in a fund's monthly performance (including effects of sales charges, loads and redemption fees), placing more emphasis on downward variations and rewarding consistent performance. The top 10% of funds in each category, the next 22.5%, 35%, 22.5% and bottom 10% receive 5, 4, 3, 2 or 1 star, respectively. The Overall Morningstar Rating for a fund is derived from a weighted average of the performance associated with its three, five and 10 year (if applicable) Morningstar Rating metrics. Past performance is no guarantee of future results. The overall rating includes the effects of sales charges, loads and redemption fees, while the load-waived does not. Load-waived rating for Class A shares should only be considered by investors who are not subject to a front-end sales charge.

<sup>17</sup> Performance above median for all asset classes in 1, 3, and 5 year time frames.

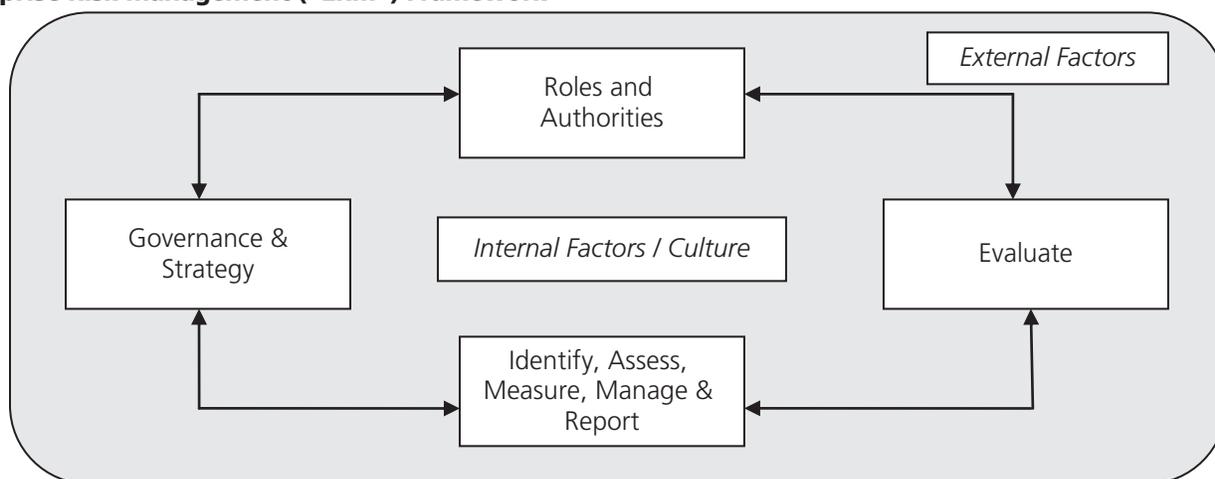
<sup>18</sup> Excess returns relative to internal benchmarks.

# Risk Management and Risk Factors

## Overview

Manulife Financial is a global financial institution offering insurance, wealth and asset management products and other financial services. These businesses subject the Company to a broad range of risks. Our goal is to strategically optimize risk taking and risk management to support long-term revenue, earnings and capital growth. We seek to achieve this by capitalizing on business opportunities and strategies with appropriate risk/return profiles; establishing sufficient management expertise to effectively execute strategies, and to identify, understand and manage underlying inherent risks; pursuing strategies and activities aligned with the Company's corporate and ethical standards and operational capabilities; pursuing opportunities and risks that enhance diversification; and, making risk taking decisions with analyses of inherent risks, risk controls and mitigations, and risk/return trade-off.

## Enterprise Risk Management ("ERM") Framework



The Company's ERM Framework provides a structured approach to implementing risk taking and risk management activities at an enterprise level supporting the Company's long-term revenue, earnings and capital growth strategy. It is communicated through risk policies and standards which ensure consistent design and execution of strategies across the organization. We have a common approach to managing all risks to which the Company is exposed, and a consistent evaluation of potential returns on contemplated business activities on a risk-adjusted basis. These policies and standards of practice cover:

- Assignment of accountability and delegation of authority for risk oversight and risk management.
- The types and levels of risk the Company seeks given its strategic plan and risk appetite.
- Risk identification, measurement, assessment and mitigation which enable effective management and monitoring of risk.
- Validation, back testing and independent oversight to confirm that the Company generated the risk profile it intended and the root cause analysis of any notable variation.

Manulife's ERM practices are influenced and impacted by internal and external factors (such as economic conditions, political environments, technology, risk culture etc.) which can significantly impact the levels and types of risks the Company might face in its pursuit to strategically optimize risk taking and risk management. Our ERM Framework incorporates relevant impacts and mitigating actions as appropriate.

A strong risk culture and a common approach to risk management are integral to Manulife's risk management practices. Manulife's Board of Directors is accountable for the oversight of risk management, and delegates this authority through a governance framework that is centered on the "three lines of defense" model that includes a network of risk oversight committees, global risk officers, global risk managers and global risk policies and practices:

The Company's first line of defense includes the Chief Executive Officer ("CEO") and Business Unit General Managers. Businesses are ultimately accountable for the risks they assume and for the day to day management of the risks and related controls. They are supported by global risk managers and risk management professionals across the enterprise that are responsible for specific risk taking activities and the design and execution of risk mitigation practices that are consistent with this Policy and individual risk management strategies.

The second line of defense is comprised of the Company's Chief Risk Officer ("CRO"), the Group Risk Management ("GRM") function, global oversight functions and divisional chief risk officers and functions. Together this group provides independent oversight of risk taking and risk mitigation activities across the enterprise. Enterprise-level risk oversight committees, including the Executive Risk Committee ("ERC"), also provide oversight of risk taking and risk mitigation activities.

The third line of defense is comprised of Audit Services, which provides independent assurance that controls are effective and appropriate relative to the risk inherent in the business, and that risk mitigation programs and risk oversight functions are effective in managing risks.

## Risk Culture

Manulife strives for a risk aware culture, where individuals and groups are encouraged, feel comfortable and are proactive in making transparent, balanced risk-return decisions that are in the long term interests of the Company. Key areas of focus pertaining to risk culture include: aligning individual and Company objectives; identifying and escalating risks before they become significant issues; promoting a collaborative approach that enables appropriate risk taking; ensuring transparency in identifying, communicating and tracking risks; and systematically acknowledging and surfacing material risks.

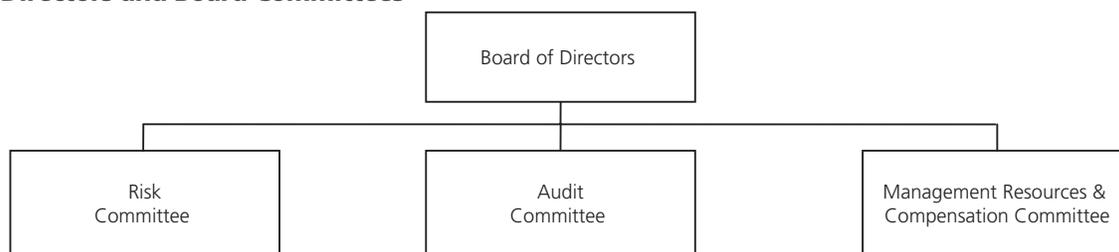
## Risk Governance

The Board of Directors oversees management's implementation of appropriate frameworks, processes and systems to identify and manage the principal risks of the Company's business and periodically reviews and approves our enterprise risk policy, our risk taking philosophy and overall risk appetite.

The CEO is directly accountable to the Board of Directors for all risk taking activities and risk management practices, and is supported by the Company's CRO as well as by the ERC. Together, they shape and promote our risk culture and guide risk taking throughout our global operations and strategically manage our overall risk profile. The ERC, along with other executive level risk oversight committees, establishes risk policies, guides risk taking activity, monitors significant risk exposures and sponsors strategic risk management priorities throughout the organization. The Board and executive level risk oversight committees, and key elements of their mandates, are presented below.

GRM, under the direction of the CRO, establishes and maintains our enterprise risk management framework and oversees the execution of individual risk management programs across the enterprise. GRM seeks to ensure a consistent enterprise-wide assessment of risk, risk based capital and risk adjusted returns across all operations.

## Board of Directors and Board Committees

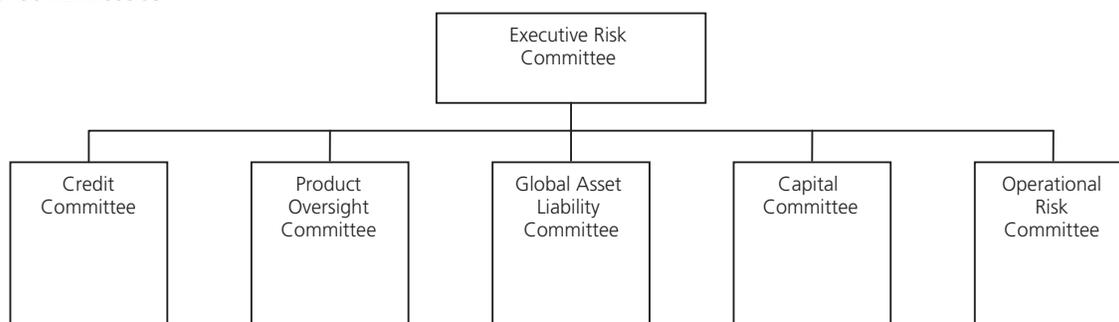


**Risk Committee** – This committee is responsible for assisting the Board in its oversight of the Company's management of its principal risks. The committee also assesses, reviews and approves policies, procedures and controls in place to manage risks and reviews the Company's compliance with risk policies.

**Audit Committee** – This committee is responsible for assisting the Board in its oversight role with respect to the quality and integrity of financial information, the effectiveness of the Company's internal controls over financial reporting and the effectiveness of the Company's compliance with legal and regulatory requirements. It also oversees activities and risks related to conflicts of interest, confidentiality of information, customer complaints and related party transactions.

**Management Resources and Compensation Committee** – This committee oversees the Company's global human resources strategy, policies, programs with a special focus on management succession, development and compensation, and risk management relating to these programs.

## Executive Committees



**Executive Risk Committee** – The ERC approves risk policies and oversees the execution of our enterprise risk management program. The committee monitors our overall risk profile, including key and emerging risks, and guides risk-taking activities. As part of these activities, the ERC monitors material risk exposures and sponsors strategic risk management priorities including overseeing risk reduction plans. The ERC also reviews and assesses the impact of business strategies, opportunities and initiatives on our overall risk position.

**Credit Committee** – The Credit Committee establishes credit risk policies, risk management standards of practice and oversees the credit risk management program. The Credit Committee monitors our overall credit risk profile, key and emerging risk exposures, risk management activities, and ensures compliance with credit risk policies. The committee also approves large individual credits and investments, and manages credit risk jointly with the Global Asset Liability Committee.

**Global Asset Liability Committee** (“GALCO”) – The GALCO establishes market and liquidity risk policies and oversees related market and liquidity risk and asset liability management programs and practices. The committee monitors our overall market risk profile, key and emerging risk exposures and risk management activities as well as compliance with related policies. GALCO also approves target investment strategies and, as noted above, manages credit risk jointly with the Credit Committee.

**Capital Committee** – The Capital Committee oversees our capital management policy framework and provides direction on strategic issues affecting our regulatory capital for all our operating companies. The committee considers and approves internal target regulatory capital ratios and capital structure for the Company.

**Product Oversight Committee** (“POC”) – The POC establishes product design and pricing policies and insurance risk policies, as well as risk management standards of practice with regards to risks covered by these policies. It oversees the insurance risk management program and the process for approval of new product initiatives and third party reinsurance arrangements for new business. The POC monitors product design and pricing, and insurance risk across the Company, as well as, oversees underwriting and claims risk committee activities, including retention management and underwriting and claims risk oversight.

**Operational Risk Committee** (“ORC”) – The ORC oversees operational risk exposures and associated governance and risk processes. It oversees the maintenance and enhancement of our overall Operational Risk Management Framework, including implementation of our Operational Risk Management Program and overseeing specific operational risk management programs and practices. The ORC reviews and approves operational risk policies and monitors compliance with such policies.

## **Risk Appetite**

Risk taking activities are managed within the Company’s overall risk appetite, which defines the amount and types of risks the Company is willing to assume, and is comprised of three components: risk philosophy, risk appetite statements, and risk limits and tolerances.

Manulife Financial is a global financial institution offering insurance, wealth and asset management products and other financial services. All of these activities involve some elements of risk taking. Our objective is to balance the Company’s level of risk with our business, growth and profitability goals, in order to achieve consistent and sustainable performance over the long-term that benefits our customers and shareholders. When making decisions about risk taking and risk management, Manulife places the highest priority on the following risk management objectives:

- To safeguard the commitments and expectations we have established with our shareholders, customers and creditors;
- To prudently and effectively deploy the capital invested in the Company by our shareholders with appropriate risk/return profiles;
- To protect and/or enhance the Company’s reputation and brand; and
- To maintain the Company’s targeted financial strength rating.

The Company’s risk appetite defines the tolerance levels for the total level, and various types of risk that the Company is willing to accept. It is a key part of our strategic planning and operational execution. The following statements provide guideposts for risk taking at Manulife:

- Manulife accepts a total level of risk that provides a very high level of confidence to meeting customer obligations while targeting an acceptable overall return to shareholders over time;
- The Company targets a credit rating amongst the strongest of its global peers;
- Manulife values customer-focused innovation and encourages prudent initiatives intended to increase competitive advantage;
- Capital market risks are acceptable when they are managed within specific risk limits and tolerances;
- The Company believes a balanced investment portfolio reduces overall risk and enhances returns; therefore it accepts credit and alternative long-duration asset related risks;
- The Company pursues insurance risks that add customer and shareholder value where we have competence to assess and monitor them, and for which we receive appropriate compensation;
- Manulife accepts that operational risks are an inherent part of our business but will protect its business and customers’ assets through cost-effective operational risk mitigation; and
- Manulife expects its officers and employees to act in accordance with our values, ethics and standards; and to preserve and enhance our brand and reputation.

Risk tolerances and limits are established for risks within our risk classification framework that are inherent in our strategies in order to define the types and amount of risk the Company will assume. Risk tolerance levels are set for risks deemed to be most significant to the Company and are established in relation to economic capital, earnings at risk and regulatory capital required. The purpose of risk limits is to cascade the total Company risk appetite to a level that can be effectively managed. Manulife establishes standalone risk limits for risk categories to avoid excessive concentration in any individual risk category and manage the overall risk profile of the organization.

## **Risk Identification, Measurement and Assessment**

We have a common approach and process to identify, measure and assess the risks we assume. We evaluate all potential new business initiatives, acquisitions, product offerings, reinsurance arrangements, and investment and financing transactions on a comparable risk adjusted basis. Divisions, business units and functional groups are responsible for identifying and assessing key and emerging risks on an ongoing basis. A standard inventory of risks is used in all aspects of risk identification, measurement and assessment, and monitoring and reporting.

Risk exposures are evaluated using a variety of risk measures, with certain measures used across all risk categories, while others apply only to some risks or a single risk type. Risk measurement includes: key risk indicators; stress tests, including sensitivity tests and scenario impact analyses; and stochastic scenario modeling. Qualitative risk assessments are performed for those risk types that cannot be reliably quantified.

We perform a variety of stress tests on earnings, regulatory capital ratios, economic capital, earnings at risk and liquidity, that consider significant, but plausible events. We also perform other integrated, complex scenario tests to assess key risks and the interaction of these risks.

Economic capital measures the amount of capital required to meet obligations with a high and pre-defined confidence level. Our earnings at risk metric measures the potential variance from quarterly expected earnings at a particular confidence level. Economic capital and earnings at risk are both determined using internal models and measure enterprise-wide risks and are allocated by risk type and business. Economic capital and earnings at risk provide measures of enterprise-wide risk that can be aggregated and compared across business activities and risk types.

## **Risk Monitoring and Reporting**

Under the direction of the CRO, GRM oversees a formal process for monitoring and reporting on all significant risk at the Group level. Risk exposures are also discussed at various risk oversight committees, along with any exceptions or proposed remedial actions, as required.

On a quarterly basis, the ERC, Board Risk Committee and Board of Directors review risk reports that present an overview of our overall risk profile and exposures across our principal risks. The reports incorporate both quantitative risk exposure measures and sensitivities, and qualitative risk assessments. The reports also highlight key risk management activities and facilitate monitoring compliance with key risk policy limits. The ERC reviews key financial risk exposures and sensitivities at least monthly.

Our Chief Actuary presents the results of the Dynamic Capital Adequacy Test to the Board of Directors annually. Our Chief Auditor reports the results of internal audits of risk controls and risk management programs to the Audit Committee semi-annually. Management reviews the implementation of key risk management strategies, and their effectiveness, with the Risk Committee annually.

## **Risk Control and Mitigation**

Risk control activities are in place throughout the Company to mitigate risks within established risk limits. We believe our controls, which include policies, procedures, systems and processes, are appropriate and commensurate with the key risks faced at all levels across the Company. Such controls are an integral part of day to day activity, business management and decision making.

GRM establishes and oversees formal review and approval processes, involving independent individuals, groups or risk oversight committees, for product offerings, insurance underwriting, reinsurance, investment activities and other material business activities, based on the nature, size and complexity of the risk taking activity involved. Authorities for assuming risk at the transaction level are delegated to specific individuals based on their skill, knowledge and experience.

Risk mitigation activities, such as product and investment portfolio management, hedging, reinsurance and insurance protection are used to assist in managing our aggregate risk to within our risk appetite. Internal controls within the business units and corporate functions mitigate our exposure to operational risks.

The following sections describe the key risks and associated risk management strategies for each of our broad risk categories: strategic, market, liquidity, credit, insurance and operational.

## **Strategic Risk**

***Strategic risk is the risk of loss resulting from the inability to adequately plan or implement an appropriate business strategy, or to adapt to change in the external business, political or regulatory environment.***

## **Key Risk Factor Overview**

We operate in highly competitive markets and compete for customers with both insurance and non-insurance financial services companies. Customer loyalty and retention, and access to distributors, are important to the Company's success and are influenced by many factors, including our product features, service levels, prices, and our financial strength ratings and reputation. Erosion of our corporate image by adverse publicity, as a result of our business practices or those of our employees, representatives and business partners, may cause damage to our franchise value.

External business, economic, political, tax, legal and regulatory environments and changes to accounting or actuarial reserving standards can significantly impact the types, pricing and attractiveness of the products and services we offer. The economic environment may remain volatile and our regulatory environment, particularly in Canada, will continue to evolve, potentially with

higher capital requirements which would materially impact our competitiveness. Further, the attractiveness of our product offerings relative to our competitors will be influenced by competitor actions, as well as our own, and the requirements of the regulatory regimes we and they operate under. For these and other reasons, there is no certainty that we will be successful in implementing our business strategies or that these strategies will achieve the objectives we target.

### **Risk Management Strategy**

The CEO and Executive Committee establish and oversee execution of business strategies and have accountability to identify and manage the risks embedded in these strategies. They are supported by a number of processes:

- Strategic business, risk and capital planning that is reviewed with the Board of Directors;
- Detailed strategic and business planning that is executed by divisional management and is reviewed by the CEO, the Chief Operating Officer, the Group Chief Financial Officer (“CFO”), the CRO, and other members of the Executive Committee;
- Quarterly operational performance and risk reviews of all key businesses with the CEO and annual reviews with the Board of Directors;
- Risk based capital attribution and allocation designed to encourage a consistent decision-making framework across the organization; and
- Review and approval of acquisitions and divestitures by the CEO and, where appropriate, the Board of Directors.

The CEO and Executive Committee are ultimately responsible for our reputation; however, our employees and representatives are responsible for conducting their business activities in a manner that upholds our reputation. This responsibility is reinforced by:

- An enterprise-wide reputation risk policy that specifies the oversight responsibilities of the Board of Directors and the responsibilities of executive management;
- Communication to and education of all directors, officers, employees and representatives, including our Code of Business Conduct and Ethics;
- Application of a set of guiding principles in conducting all our business activities, designed to protect and enhance our reputation; and
- Reputation risk assessments considered as part of business strategy development and execution.

We regularly review and adapt our business strategies and plans in consideration of changes in the external business, economic, political and regulatory environments in which we operate. Changes in actuarial reserving standards and changes in the cost of hedging may also cause us to review our business strategies and plans. Key elements of our business strategy include diversifying our business mix, accelerating growth of those products that have a favourable risk/return profile and better potential outcomes under a range of economic and policyholder behaviour scenarios, and reducing or withdrawing from products with unattractive risk profiles. Our strategy also incorporates a plan to continue to mitigate our in-force public equity and interest rate risks. Depending upon market conditions, these actions could result in costs which might depress income. We have designed our business plans and strategies to align with our risk appetite, capital and financial performance objectives.

The following is a further description of key strategic risk factors.

### **General Macro-Economic Risk Factors**

Under the Canadian insurance accounting and regulatory capital regimes, the impact of the current market conditions are largely reflected in our current period results. Weak or worsening economic conditions could result in material charges to income and reductions in our capital position, notwithstanding our improved risk profile and strong underlying regulatory capital position.

In 2012 we set objectives of \$4 billion in core earnings and core ROE of 13 per cent in 2016<sup>19</sup> based on our macro-economic and other assumptions.

Risk factors that may result in an inability to achieve our objectives include the following:

- Actions taken by management to bolster capital and further reduce the Company’s risk profile and strengthen capital could reduce future earnings.
- A period of flat equity markets would represent underperformance relative to our long-term valuation assumption and would negatively impact earnings. In addition, as outlined below, there can be no assurance that our dynamic hedging strategy will fully offset the risks arising from the variable annuities being hedged. The publicly traded equity performance risk measures outlined below show the potential impact on net income attributed to shareholders resulting from an immediate 10, 20 and 30 per cent 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. Expected long-term annual market growth assumptions for public equities pre-dividends for key markets are based on long-term historical observed experience. In the stochastic valuations of our segregated fund guarantee business, those rates inclusive of dividends are 9.6% per annum in Canada, 9.6% per annum in the U.S., 6.2% per annum in Japan, and vary between 7.8% and 9.85% per annum for European equity funds. The calibration of the economic scenario generators that are used to value segregated fund guarantee business complies with current actuarial Standards of Practice for the valuation of these products. Implicit margins are determined through stochastic valuation processes which results in lower net yields used to determine policy liabilities. Assumptions used for alternative assets backing liabilities are constrained by different Standards of Practice and are marginally lower than those used in stochastic valuations. Alternative asset return assumptions vary based on asset class but are largely consistent, after application of valuation margins and differences in taxation, with returns assumed for public equities.

<sup>19</sup> See “Caution regarding forward-looking statements” above.

- A prolonged low interest environment would result in charges related to lower fixed income ultimate reinvestment rate assumptions and an increase in new business strain.
  - The fixed income ultimate reinvestment rate is based on five and ten year rolling averages of government bond rates. The potential impact on net income attributed to shareholders assuming government bond rates remain at December 31, 2013 levels or change by 50 basis points is outlined under the “Critical Accounting and Actuarial Policies” section below.
  - In addition, the difference between the current investable returns and the returns used in pricing new business are generally capitalized when new business is written. Lower interest rates result in higher new business strain until products are re-priced or rates increase.
  - Fixed income reinvestment rates other than the ultimate reinvestment rate are based on current market rates. The net income sensitivity to changes in current rates is outlined in the section “Interest Rate and Spread Risk” below.
- Other potential consequences of weak economic conditions include:
  - Low interest rates could negatively impact sales.
  - Lower sales volumes could put increased pressure on our ability to maintain operating expense levels within the levels provided for in the policy liability valuation and could result in lower future profit.
  - Lower risk free rates tend to increase the cost of hedging, and as a result the offering of segregated fund guarantees could become uneconomic.
  - The reinvestment of cash flows into low yielding AFS bonds could result in lower future earnings on surplus.
  - A lower interest rate environment could be correlated with other macro-economic factors including unfavourable economic growth and lower returns on other asset classes.
  - Lower interest rates could contribute to potential impairments of goodwill.
  - A weak or declining economic environment could increase the value of guarantees associated with variable annuities, or embedded guarantees in other annuity or insurance products, and could result in future adverse policyholder behaviour experience.
  - Lower interest rates could lead to lower mean bond parameters used for the stochastic valuation of segregated fund guarantees, resulting in higher policy liabilities.

### Regulatory and Capital Risk Factors

The Company is subject to a wide variety of laws and regulations that vary by jurisdiction and are intended to protect policyholders and beneficiaries first and foremost, rather than investors. Insurance authorities and regulators in many countries are reviewing their capital requirements and implementing or considering changes aimed at strengthening risk management and the capitalization of financial institutions. Changes in regulatory capital guidelines for banks under the Basel Accord or the International Association of Insurance Supervisors (“IAIS”) initiatives to create Basic Capital Requirements, a special Higher Loss Absorbency capital surcharge on select activities, and International Capital Standards may also have implications for insurance companies. In addition, legal and regulatory capital could be impacted by changes to accounting standards being proposed by the IASB with respect to insurance contracts, financial instruments, and hedge accounting as well as by changes to the actuarial standards being proposed by the Canadian Actuarial Standards Board.

The potential changes to regulatory capital, actuarial and accounting standards could have a material adverse effect on the Company’s Consolidated Financial Statements and regulatory capital both on transition and going forward. The impact of these changes remains uncertain but could lead to higher levels of required capital going forward. These changes could also limit the ability of the insurance subsidiaries to pay dividends or make distributions and could have a significantly adverse effect on MFC’s capital mobility, including its ability to pay dividends to shareholders, buy back its shares and service its debt. We may be required to raise additional capital, which could be dilutive to existing shareholders, or to limit the new business we write, or to pursue actions that would support capital needs but adversely impact our subsequent earnings potential. In addition, the timing and outcome of these initiatives could have a significantly adverse impact on our competitive position relative to that of other Canadian and international financial institutions with which we compete for business and capital.

Some recent examples of regulatory and professional standard developments which could impact our earnings and/or capital position are provided below.

- In December 2013 the Canadian Actuarial Standards Board (“ASB”) issued its Exposure Draft updating the Standards of Practice related to economic reinvestment assumptions used in the valuation of policy liabilities. The new Standards are expected to be effective in the fourth quarter of 2014. We do not anticipate the impact on net income in the quarter of implementation will be significant. However, the actual impact will vary based on the level of prevailing interest rates at the time of implementation, changes to the Exposure Draft between now and the effective date of the new Standards, or changes to interpretation of the revised Standards. In addition, the new Standards will impact our net income sensitivities to changes in interest rates. The impact on our sensitivities could be positive or negative and the direction will be influenced by the approach we take to modeling interest rates under the new standards as well as any risk management actions taken. It should be noted that although sensitivities may change, the nature of the risks related to the business are unchanged.<sup>20</sup>
- The Canadian Institute of Actuaries is also expected to publish guidance on calibration criteria for fixed income funds with respect to the valuation of segregated fund guarantees, which we believe will be effective in 2014. Once effective, the new calibration criteria will apply to the determination of segregated fund guarantee actuarial liabilities and required capital and may result in a reduction in net income and MLI’s MCCR ratio.
- The International Accounting Standards Board (“IASB”) issued exposure drafts of new accounting standards for insurance contracts in June 2013. As drafted, the standard would create material unwarranted volatility on our financial results and capital position. The

<sup>20</sup> See “Caution regarding forward-looking statements” above.

final standards are not expected to be effective until at least 2018 and it is not known if changes would be made to regulatory capital to adjust for the unwarranted volatility.

- The Office of the Superintendent of Financial Institutions (“OSFI”) has been considering a number of changes, including establishing methodologies for evaluating standalone capital adequacy for Canadian operating life insurance companies, such as MLI, and updates to its regulatory guidance and disclosures for non-operating insurance companies acting as holding companies, such as MFC. OSFI has indicated that MCCSR and internal target capital ratio guidelines are expected to become applicable to MFC effective January 1, 2016. In addition, OSFI is evaluating a possible overhaul of the regulatory capital framework in Canada intended for implementation in 2018.
- The NAIC has been reviewing reserving and capital methodologies as well as the overall risk management framework. These reviews will affect U.S. life insurers, including John Hancock, and could lead to increased reserving and/or capital requirements for our business in the United States. In the fall of 2013, the IAIS committed to the completion of several capital initiatives in the next few years that will apply to select or all global insurance groups. These include Basic Capital Requirements, a special Higher Loss Absorbency capital surcharge on select activities, and International Capital Standards. It is not yet known how the proposals will affect capital requirements and the competitive position of the Company.
- The Company currently has reinsurance agreements, including agreements with third parties and affiliate reinsurance agreements. Regulators in the U.S. and elsewhere are in the process of reviewing life insurers’ use of affiliate reinsurance companies, and in some cases, the use of reinsurance arrangements more generally. We cannot predict what, if any, changes may result from this review. Changes to the regulatory treatment of affiliate and third party reinsurance arrangements could potentially have an adverse effect on the financial results, liquidity and capital position of some of our subsidiaries result in increased collateral requirements, and/or our use of affiliate reinsurance companies.

### **The Dodd-Frank Wall Street Reform and Consumer Protection Act (“Dodd-Frank”)**

Dodd-Frank Title VII in the United States establishes a new framework for regulation of over-the-counter (“OTC”) derivatives which affects activities of the Company which use derivatives for various purposes, including hedging equity market, interest rate and foreign currency exposures. Regulations by the U.S. Commodities Futures Trading Commission and the U.S. Securities and Exchange Commission under Dodd-Frank (since June 10, 2013) requires certain types of OTC derivative transactions to be executed through a centralized exchange or regulated facility and be cleared through a regulated clearinghouse. These new rules cause additional costs, including new capital and funding requirements, and additional regulation on the Company.

Derivative transactions executed through exchanges or regulated facilities attract incremental collateral requirements in the form of initial margin, and require variation margin to be cash settled on a daily basis which increases liquidity risk for the Company. The increase in margin requirements (relative to bilateral agreements), combined with a more restricted list of securities that qualify as eligible collateral, requires us to hold larger positions in cash and treasuries, which could reduce income. Conversely, transactions executed through exchanges largely eliminate OTC counterparty credit risk but increase our exposure to the risk of an exchange or clearinghouse defaulting, and increased capital or margin requirements imposed on our OTC derivative counterparties could reduce our exposure to the counterparties’ default.

In-force OTC derivative transactions are grandfathered and will migrate to being cleared through exchanges over time, or the Company may elect to accelerate the migration. As such, this does not become a significant risk for Manulife until a large portion of our derivatives have transitioned to clearing houses and market conditions adverse to liquidity (material increases in interest rates and/or equity markets) have been experienced.

Similar regulations in other jurisdictions we operate in are expected to become effective in as early as 2014. We cannot predict the effect of the legislation on our hedging costs, our hedging strategy or its implementation, or whether Dodd-Frank and similar regulations in other jurisdictions will lead to an increase or decrease in or change in composition of the risks we hedge.

### **International Financial Reporting Standards**

The IASB and the Financial Accounting Standards Board (“FASB”) issued exposure drafts of new accounting standards for insurance contracts in June 2013. The two proposals are similar in some of their main principles, but differ in many of the requirements around measurement of ongoing obligations to policyholders. These proposals will have a material impact on our financial results if implemented in their current form. The Company’s capital position and income for accounting purposes would be highly correlated to prevailing market conditions, resulting in massive unwarranted volatility that will make it difficult for investors, regulators, and other authorities to distinguish between the performance of the underlying business and meaningless short-term market noise. This could also result in life insurers exiting the long duration contracts business and pulling out of alternative long-duration investments ultimately reducing the stability and long-term view of the insurance business.

The comment periods on the exposure drafts ended on October 25, 2013 and the final standards are not expected to be effective until at least 2018. We, along with other companies in the industry from around the world, provided feedback on the significant issues we see with the IASB and FASB exposure draft proposals. In addition, Manulife, MetLife Inc., New York Life and Prudential Financial Inc. performed comprehensive field testing of both the IASB and FASB proposals within the exposure draft response period. The results of these field tests supported the concerns raised with the IASB and FASB.

Additionally, for IFRS, other jurisdictions may not adopt the standard as issued or on the same timeline as published by the IASB, and there is a possibility that Canada will be the first to adopt the standard. Adopting the standard in Canada before it is adopted elsewhere would increase our cost of capital compared to global competitors and the banking sector in Canada.

The insurance industry in Canada has support from OSFI and the federal government with respect to the potential impact of these proposals on Canadian insurance companies. The industry is urging policymakers to ensure that any future accounting and capital proposals appropriately consider the underlying business model of a life insurance company and, in particular, the implications for long-duration guaranteed products which are much more prevalent in North America than elsewhere.

### Entities within the MFC Group are interconnected which may make separation difficult

Linkages between MFC and its subsidiaries may make it difficult to dispose of or separate a subsidiary within the group by way of spin-off or similar transaction. See the Company's Annual Information Form – "Risk Factors – Additional risks – Entities within the MFC Group are interconnected which may make separation difficult." In addition to the possible negative consequences outlined in such disclosure, other negative consequences could include a requirement for significant capital injections, and increased net income and capital sensitivities of MFC and its remaining subsidiaries to market declines.

### Ratings Risk Factors

The Company has received security ratings from approved rating organizations on certain of its long-term debt, liabilities for preferred shares and capital instruments and preferred shares qualifying as equity. In addition, the Company's primary insurance operating subsidiaries have received financial strength/claims paying ability ratings. Our ratings could be adversely affected if, in the view of the rating organizations, there is deterioration in our financial flexibility, operating performance, or risk profile. Adverse ratings changes could have a negative impact on future financial results.

### Reputation Risk Factors

The Company's reputation is one of our most valuable assets. Our corporate image may be eroded by adverse publicity as a result of our business practices or those of our employees, representatives, and business partners, potentially causing damage to our franchise value. A loss of reputation is often a consequence of some other risk control failure whether associated with complex financial transactions or relatively routine operational activities. As such, reputation risk cannot be managed in isolation from other risks.

### Risk Factors and IFRS 7 Disclosure

The shaded text and tables in the following sections of this MD&A represent our disclosure on market and liquidity risk in accordance with IFRS 7, "Financial Instruments – Disclosures", and include a discussion on how we measure risk and our objectives, policies and methodologies for managing these risks. Therefore, the following shaded text and tables represent an integral part of our audited annual Consolidated Financial Statements for the years ended December 31, 2013 and December 31, 2012. The fact that certain text and tables are considered an integral part of the Consolidated Financial Statements does not imply that the disclosures are of any greater importance than the sections not part of the disclosure. Accordingly the "Risk Management and Risk Factors" disclosure should be read in its entirety.

### Market Risk

**Market risk is the risk of loss resulting from market price volatility, interest rate change, credit and swap changes, and from adverse foreign currency rate movements. Market price volatility primarily relates to changes in prices of publicly traded equities and alternative long-duration assets.**

### Market Risk Management Strategy Overview

Our overall strategy to manage our market risks incorporates several component strategies, each targeted to manage one or more of the market risks arising from our businesses. At an enterprise level, these strategies are designed to manage our aggregate exposures to market risks against economic capital, regulatory required capital and earnings at risk limits.

The following table outlines our key market risks and identifies the risk management strategies which contribute to managing these risks.

|  | Publicly Traded Equity Performance Risk | Interest Rate and Spread Risk | Alternative Long-Duration Asset Performance Risk | Foreign Exchange Risk |
|--|---|-------------------------------|--|-----------------------|
| Product Design and Pricing                 | X                                       | X                             | X  | X                     |
| Variable Annuity Guarantee Dynamic Hedging | X                                       | X                             |  | X                     |
| Macro Equity Risk Hedging                  | X                                       |                               |  | X                     |
| Asset Liability Management                 | X                                       | X                             | X  | X                     |
| Foreign Exchange Management                |   |                               |  | X                     |

To reduce public equity risk, we primarily use a variable annuity guarantee dynamic hedging strategy which is complemented by a general macro equity risk hedging strategy. As a result of our dynamic and macro hedging program, as at December 31, 2013, we estimate that approximately 64 to 82 per cent of our underlying earnings sensitivity to a 10 per cent decline in equity markets would be offset by hedges. The lower end of the range is based on the dynamically hedged assets that exist at December 31, 2013 and assumes re-balancing of equity hedges for dynamically hedged variable annuity liabilities at five per cent intervals and the upper end of the range assumes the performance of the dynamic hedging program would completely offset the loss from the dynamically

hedged variable annuity guarantee liabilities. Our strategies employed for variable annuity guarantee dynamic hedging and macro equity risk hedging expose the Company to additional risks. These risks are outlined in the “Publicly Traded Equity Performance Risk” section below.

In general, to reduce interest rate risk, we lengthen the duration of our fixed income investments in both our liability and surplus segments by investing in longer duration bonds, and by executing lengthening interest rate swaps. During 2013, the sensitivity of net income attributed to shareholders to declines in interest rates increased slightly, remaining well within our risk appetites. The increase was driven by the impact of market movements, as interest rates and equity markets increased significantly during the year in most jurisdictions. Risk management activity was limited to interest rate swaps executed in the Japanese market.

Changes in the market value of fixed income assets held in our surplus segment 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 available for sale fixed income unrealized gains or losses. While we have a history of being able to realize a portion of these gains or losses, it is not certain that we would crystallize any of the unrealized gains or losses available.

## **Key Risk Factors**

### **Publicly Traded Equity Performance Risk**

Publicly traded equity performance risk arises from a variety of sources, including guarantees associated with certain variable annuity and segregated fund products, asset based fees, and investments in publicly traded equities supporting both our general fund products and our surplus segment.

Our most significant source of equity risk arises from variable annuity and segregated funds with guarantees, where the guarantees are linked to the performance of the underlying funds. Guaranteed benefits are contingent and only payable upon death, maturity, permitted withdrawal or annuitization. If equity markets decline or even if they increase by an amount lower than that assumed in our actuarial valuation, additional liabilities may need to be established to cover the contingent liabilities, resulting in a reduction in shareholders’ net income and regulatory capital ratios. Further, if equity markets do not recover to the amount of the guarantees, by the dates the liabilities are due, the accrued liabilities will need to be paid out in cash. In addition, a sustained flat or a decline in public equity markets would likely reduce asset based fee revenues related to variable annuities and segregated funds with guarantees and related to other wealth and insurance products.

Where publicly traded equity investments are used to support policy liabilities, the policy valuation incorporates projected investment returns on these assets. If actual returns are lower than the expected returns, the Company’s policy liabilities will increase, reducing net income attributed to shareholders.

Further, for products where the investment strategy applied to future cash flows in the policy valuation includes investing a specified portion of future cash flows in publicly traded equities, a decline in the value of publicly traded equities relative to other assets could require us to change the investment mix assumed for future cash flows, which may increase policy liabilities and reduce net income attributed to shareholders. In addition, a reduction in the outlook for expected future returns for publicly traded equities, which could result from a fundamental change in future expected economic growth, would increase policy liabilities and reduce net income attributed to shareholders. Furthermore, to the extent publicly traded equities are held as AFS, other than temporary impairments that arise will reduce income.

Expected long-term annual market growth assumptions for public equities pre-dividends for key markets are based on long-term historical observed experience. In the stochastic valuations of our segregated fund guarantee business, those rates inclusive of dividends are 9.6% per annum in Canada, 9.6% per annum in the U.S., 6.2% per annum in Japan and vary between 7.8% and 9.85% per annum for European equity funds. The calibration of the economic scenario generators that are used to value segregated fund guarantee business complies with current actuarial Standards of Practice for the valuation of these products. Implicit margins are determined through stochastic valuation processes which results in lower net yields used to determine policy liabilities. Assumptions used for alternative long-duration assets backing liabilities are constrained by different Standards of Practice and result in marginally lower returns for public equities than those used in stochastic valuations. Alternative asset return assumptions vary based on asset class but are largely consistent, after application of valuation margins and differences in taxation, with returns assumed for public equities.

### **Interest Rate and Spread Risk**

Interest rate and spread risk arises from general fund guaranteed benefit products, general fund adjustable benefit products with minimum rate guarantees, general fund products with guaranteed surrender values, segregated fund products with minimum benefit guarantees and from surplus fixed income investments.

Interest rate and spread risk arises within the general fund primarily due to the uncertainty of future returns on investments to be made as assets mature and as recurring premiums are received and invested or reinvested to support longer dated liabilities. Interest rate risk also arises due to minimum rate guarantees and guaranteed surrender values on products where investment returns are generally passed through to policyholders.

A general decline in interest rates, without a change in corporate bond spreads and swap spreads, will reduce the assumed yield on future investments used in the valuation of policy liabilities, resulting in an increase in policy liabilities and a reduction in net income. A general increase in interest rates, without a change in corporate bond spreads and swap spreads, will result in a decrease in policy liabilities and an increase in net income. In addition, decreases in corporate bond spreads or increases in swap spreads will result in an increase in policy liabilities and a reduction in net income, while an increase in corporate bond spreads or a decrease in swap spreads will have the opposite impact. The impact of changes in interest rates and in spreads may be partially offset by changes to credited rates on adjustable products that pass through investment returns to policyholders.

For segregated fund and variable annuity products, a sustained increase in interest rate volatility or a decline in interest rates would also likely increase the costs of hedging the benefit guarantees provided.

### **Alternative Long-Duration Asset Performance Risk**

Alternative long-duration asset performance risk arises from general fund investments in commercial real estate, timber properties, agricultural properties, infrastructure, oil and gas properties, and private equities.

Where these assets are used to support policy liabilities, the policy valuation incorporates projected investment returns on these assets. Alternative long-duration asset assumptions vary by asset class and generally have a similar impact on policy liabilities as publicly traded equities would. If actual returns are lower than the expected returns, the Company's policy liabilities will increase, reducing net income attributed to shareholders. Further, for products where the investment strategy applied to future cash flows in the policy valuation includes investing a specified portion of future policy cash flows in alternative long-duration assets, a decline in the value of these assets relative to other assets could require us to change the investment mix assumed for future cash flows, increasing policy liabilities and reducing net income. In addition, a reduction in the outlook for expected future returns for alternative long-duration assets, which could result from a fundamental change in future expected economic growth, would increase policy liabilities and reduce net income attributed to shareholders.

### **Foreign Exchange Risk**

Our financial results are reported in Canadian dollars. A substantial portion of our business is transacted in currencies other than Canadian dollars, mainly U.S. dollars, Hong Kong dollars and Japanese yen. If the Canadian dollar strengthens relative to these currencies, reported earnings would decline and our reported shareholders' equity would decline. Further, to the extent that the resultant change in available capital is not offset by a change in required capital, our regulatory capital ratios would be reduced. A weakening of the Canadian dollar against the foreign currencies in which we do business would have the opposite effect, and would increase reported Canadian dollar earnings and shareholders' equity, and would potentially increase our regulatory capital ratios.

## **Market Risk Management Strategies**

### **Product Design and Pricing Strategy**

Our policies, standards and standards of practice with respect to product design and pricing are designed with the objective of aligning our product offerings with our risk taking philosophy and risk appetite, and in particular, that incremental risk generated from new sales aligns with our strategic risk objectives and risk limits. The specific design features of our product offerings, including level of benefit guarantees, policyholder options, fund offerings and availability restrictions as well as our associated investment strategies help to mitigate the level of underlying risk. We regularly review and modify all key features within our product offerings, including premiums and fee charges with a goal of meeting profit targets and staying within risk limits. Certain of our general fund adjustable benefit products have minimum rate guarantees. The rate guarantees for any particular policy are set at the time the policy is issued and governed by insurance regulation in each jurisdiction where the products are sold. The contractual provisions allow crediting rates to be re-set at pre-established intervals subject to the established minimum crediting rate guarantees. The Company may partially mitigate the interest rate exposure by setting new rates on new business and by adjusting rates on in-force business where permitted. In addition, the Company partially mitigates this interest rate risk through its asset liability management process, product design elements, and crediting rate strategies. New product initiatives, new business reinsurance arrangements and material insurance underwriting initiatives must be reviewed and approved by the CRO or key individuals within the global risk management group.

### **Hedging Strategies for Variable Annuity and Other Equity Risks**

The Company's exposure to movement in public equity market values primarily arises from variable annuity guarantees and to a smaller extent from asset-based fees and general fund public equity holdings.

Dynamic hedging is the primary hedging strategy for variable annuity market risks. As at December 31, 2013, approximately 64 per cent to 82 per cent of our in-force variable annuity guarantee values, net of amounts reinsured, were dynamically hedged. Dynamic hedging is employed for new variable annuity guarantees business when written, or as soon as practical thereafter.

Public equity risk arising from other sources (not dynamically hedged) is managed through our macro equity risk hedging strategy. Interest rate risk arising from variable annuity business not dynamically hedged is managed within our asset liability management strategy.

### **Dynamic Hedging**

The variable annuity dynamic hedging strategy is designed to hedge the sensitivity of variable annuity guarantee policy liabilities and available capital to fund performance (both public equity and bond funds) and interest rate movements. The objective of the dynamic hedging strategy is to offset, as closely as possible, the change in the economic value of guarantees with the profit and loss from our hedge asset portfolio. The economic value of guarantees moves in close tandem with, but not exactly, as our variable annuity guarantee policy liabilities, as it reflects best estimate liabilities and does not include any liability provisions for adverse deviations.

Our current hedging approach is to short exchange-traded equity index and government bond futures and execute currency futures and lengthening interest rate swaps to hedge sensitivity of policy liabilities to fund performance and interest rate movements arising from variable annuity guarantees. We dynamically rebalance these hedge instruments as market conditions change, in order to maintain the hedged position within established limits. Other derivative instruments (such as equity options) are also utilized and we may consider the use of additional hedge instruments opportunistically in the future.

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. The profit (loss) on the hedge instruments will not completely offset the underlying losses (gains) related to the guarantee liabilities hedged because:

- Policyholder behaviour and mortality experience are not hedged;
- Provisions for adverse deviation in the policy liabilities are not hedged;
- A portion of interest rate risk is not hedged;
- Credit spreads widen and actions are not taken to adjust accordingly;
- Fund performance on a small portion of the underlying funds is not hedged due to lack of availability of effective exchange-traded hedge instruments;
- Performance of the underlying funds hedged may differ from the performance of the corresponding hedge instruments;
- Correlations between interest rates and equity markets could lead to unfavourable material impacts;
- Unfavourable hedge rebalancing costs can be incurred during periods of high volatility from equity markets, bond markets and/or interest rates. The impact is magnified when these impacts occur concurrently; and
- Not all other risks are hedged.

The risks related to the variable annuity dynamic hedging strategy are described below within “Risks Related to Dynamic and Macro Hedging Strategies”.

### **Macro Equity Risk Hedging**

The objective of the macro equity risk hedging program is to maintain our overall earnings sensitivity to public equity market movements within our Board approved risk appetite limits. The macro hedging program thus hedges earnings sensitivity due to movements in public equity markets arising from all sources (outside of dynamically hedged exposures). Sources of equity market sensitivity addressed by the macro equity hedging include:

- Residual equity and currency exposure from variable annuity guarantees not dynamically hedged;
- General fund equity holdings backing non-participating liabilities;
- Variable life insurance;
- Unhedged provisions for adverse deviation related to variable annuity guarantees dynamically hedged; and
- Variable annuity fees not associated with guarantees and fees on segregated funds without guarantees, mutual funds and institutional assets managed.

We currently execute our macro equity risk hedging strategy by shorting equity futures and executing currency futures, and rolling them over at maturity. We may consider the use of alternative long maturity instruments opportunistically in the future.

### **Risks Related to Dynamic and Macro Hedging Strategies**

Our hedging strategies rely on the execution of derivative transactions in a timely manner. Therefore, hedging costs and the effectiveness of the strategy may be negatively impacted if markets for these instruments become illiquid. The Company is subject to the risk of increased funding and collateral demands which may become significant as equity markets increase.

The Company is also subject to counterparty risks arising from the derivative instruments and to the risk of increased funding and collateral demands which may become significant as equity markets and interest rates increase. The strategies are highly dependent on complex systems and mathematical models that are subject to error and rely on long-term forward-looking assumptions that may prove inaccurate, and which rely on sophisticated infrastructure and personnel which may fail or be unavailable at critical times. Due to the complexity of the strategies there may be additional, unidentified risks that may negatively impact our business and future financial results.

Under certain market conditions, which include a sustained increase in realized equity and interest rate volatilities, a decline in interest rates, or an increase in the correlation between equity returns and interest rate declines, the costs of hedging the benefit guarantees provided in variable annuities may increase or become uneconomic. In addition, there can be no assurance that our dynamic hedging strategy will fully offset the risks arising from the variable annuities being hedged.

Policy liabilities and MCCR required capital for variable annuity guarantees are determined using long-term forward-looking estimates of volatilities. These long-term forward-looking volatilities assumed for policy liabilities and required capital meet the Canadian Institute of Actuaries and OSFI calibration standards. To the extent that realized equity or interest rate volatilities in any quarter exceed the assumed long-term volatilities, or correlations between interest rate changes and equity returns are higher, there is a risk that rebalancing will be greater and more frequent, resulting in higher hedging costs.

The level of guarantee claims ultimately paid will be impacted by policyholder longevity and policyholder activity including the timing and amount of withdrawals, lapses and fund transfers. The sensitivity of liability values to equity market and interest rate movements that we hedge are based on long-term expectations for longevity and policyholder activity, since the impact of actual longevity and policyholder experience variances cannot be hedged using capital markets instruments.

### **Asset Liability Management Strategy**

Our asset liability management strategy is designed to help ensure that the market risks embedded in our assets and liabilities held in the Company’s general fund are effectively managed and that risk exposures arising from these assets and liabilities are maintained below targeted levels. The embedded market risks include risks related to the level and movement of interest rates and credit spreads, public equity market performance, alternative long-duration asset performance and foreign exchange rate movements.

General fund product liabilities are segmented into groups with similar characteristics that are supported by specific asset segments. Each segment is managed to a target investment strategy appropriate for the premium and benefit pattern, policyholder options and guarantees, and crediting rate strategies of the products they support. Similar strategies are established for assets in the Company's surplus account. The strategies are set using portfolio analysis techniques intended to optimize returns, subject to considerations related to regulatory and economic capital requirements, and risk tolerances. They are designed to achieve broad diversification across asset classes and individual investment risks while being suitably aligned with the liabilities they support. The strategies encompass asset mix, quality rating, term profile, liquidity, currency and industry concentration targets.

We employ matching mandates, target return mandates or a combination of both in managing the assets in each segment. Matching mandates invest in fixed income assets such as publicly traded bonds, private debt and mortgages and seek to match the term profile of the liabilities, subject to the assets available in investment markets. Target return mandates invest a portion in a diversified basket of alternative long-duration assets with the remainder invested in fixed income assets and seek to generate returns sufficient to support either guaranteed obligations or to maximize policyholder dividends or credited rates subject to risk and capital constraints for products that generally pass-through investment returns to policyholders. We manage overall allocations to alternative long-duration assets to reflect our risk tolerances.

We group our liabilities into four broad categories:

- Guaranteed products with premiums and benefits that are not adjusted with changes in investment returns and interest rates. We use a combination of matching and target return mandates with the matching mandates supporting obligations within the term period for which fixed income assets are generally available in investment markets.
- Adjustable products which have benefits that are generally adjusted as interest rates and investment returns change, but which have minimum credited rate guarantees. These tend to be supported by target return mandates although segments supporting shorter term liabilities may use matching mandates.
- Variable annuity guarantee liabilities with benefits and liability amounts that fluctuate significantly with performance of the underlying segregated funds. These tend to be supported by matching mandates.
- Non-insurance liabilities which are commingled with the assets held in our surplus account. These tend to be supported by a combination of mandates.

In our general fund, we limit concentration risk associated with alternative long-duration asset performance by investing in a diversified basket of assets including public and private equities, commercial real estate, infrastructure, timber, agricultural real estate, and oil and gas assets. We further diversify risk by managing publicly traded equities and alternative long-duration asset investments against established limits, including for industry type and corporate connection, commercial real estate type and geography, and timber and agricultural property geography and crop type.

Authorities to manage our investment portfolios are delegated to investment professionals who manage to benchmarks derived from the target investment strategies established for each segment, including interest rate risk tolerances. Interest rate risk exposure measures are monitored and communicated to portfolio managers with frequencies ranging from daily to annually, depending on the type of liability. Asset portfolio rebalancing, accomplished using cash investments or derivatives, may occur at frequencies ranging from daily to monthly, depending on our established risk tolerances and the potential for changes in the profile of the assets and liabilities.

Our asset liability management strategy incorporates a wide variety of risk measurement, risk mitigation and risk management, and hedging processes. The liabilities and risks to which the Company is exposed, however, cannot be completely matched or hedged due to both limitations on instruments available in investment markets and uncertainty of policyholder experience and consequent liability cash flows.

### **Foreign Exchange Risk Management Strategy**

Our foreign exchange risk management strategy is designed to hedge the sensitivity of our regulatory capital ratios to movements in foreign exchange rates. In particular, the objective of the strategy is to offset within acceptable tolerance levels, changes in required capital with changes in available capital that result from movements in foreign exchange rates. These changes occur when assets and liabilities related to business conducted in currencies other than Canadian dollars are translated to Canadian dollars at period ending exchange rates.

Our policy is to generally match the currency of our assets with the currency of the liabilities they support, and similarly, to generally match the currency of the assets in our shareholders' equity account to the currency of our required capital. Where assets and liabilities are not matched, forward contracts and currency swaps are used to stabilize our capital ratios and our capital adequacy relative to economic capital, when foreign exchange rates change.

Risk exposure limits are measured in terms of potential changes in capital ratios due to foreign exchange rate movements, determined to represent a specified likelihood of occurrence based on internal models. We utilize a Value-at-Risk ("VaR") methodology quarterly to estimate the potential impact of currency mismatches on our capital ratios.

While our risk management strategy is designed to stabilize capital adequacy ratios, the sensitivity of reported shareholders' equity and income to foreign exchange rate changes is not hedged.

## Sensitivities and Risk Exposure Measures

### Variable Annuity and Segregated Fund Guarantees

Guarantees on variable products and segregated funds may include one or more of death, maturity, income and withdrawal guarantees. Variable annuity and segregated fund guarantees are contingent 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 2015 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 "Publicly Traded Equity Performance Risk" above).

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<br>(C\$ millions)                          | December 31, 2013 |                  |                                   | December 31, 2012 |                  |                                   |
|--|-------------------|------------------|-----------------------------------|-------------------|------------------|-----------------------------------|
|  | Guarantee value   | Fund value       | Amount at risk <sup>(4),(5)</sup> | Guarantee value   | Fund value       | Amount at risk <sup>(4),(5)</sup> |
| Guaranteed minimum income benefit <sup>(1)</sup> | \$ 6,194          | \$ 5,161         | \$ 1,109                          | \$ 6,581          | \$ 4,958         | \$ 1,630                          |
| Guaranteed minimum withdrawal benefit            | 66,189            | 63,849           | 4,120                             | 65,481            | 58,659           | 7,183                             |
| Guaranteed minimum accumulation benefit          | 16,942            | 20,581           | 94                                | 20,380            | 21,468           | 1,383                             |
| Gross living benefits <sup>(2)</sup>             | \$ 89,325         | \$ 89,591        | \$ 5,323                          | \$ 92,442         | \$ 85,085        | \$ 10,196                         |
| Gross death benefits <sup>(3)</sup>              | 12,490            | 11,230           | 1,413                             | 13,316            | 10,622           | 2,206                             |
| Total gross of reinsurance                       | \$ 101,815        | \$ 100,821       | \$ 6,736                          | \$ 105,758        | \$ 95,707        | \$ 12,402                         |
| Living benefits reinsured                        | \$ 5,422          | \$ 4,544         | \$ 942                            | \$ 5,780          | \$ 4,358         | \$ 1,427                          |
| Death benefits reinsured                         | 3,601             | 3,465            | 564                               | 3,673             | 3,140            | 709                               |
| Total reinsured                                  | \$ 9,023          | \$ 8,009         | \$ 1,506                          | \$ 9,453          | \$ 7,498         | \$ 2,136                          |
| <b>Total, net of reinsurance</b>                 | <b>\$ 92,792</b>  | <b>\$ 92,812</b> | <b>\$ 5,230</b>                   | <b>\$ 96,305</b>  | <b>\$ 88,209</b> | <b>\$ 10,266</b>                  |

(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.

(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 December 31, 2013 was \$5,230 million (2012 – \$10,266 million) of which: US\$3,124 million (2012 – US\$5,452 million) was on our U.S. business, \$1,248 million (2012 – \$2,354 million) was on our Canadian business, US\$335 million (2012 – US\$2,094 million) was on our Japan business and US\$285 million (2012 – US\$407 million) was related to Asia (other than Japan) and our run-off reinsurance business.

The amount at risk on variable annuity contracts, net of reinsurance was \$5.2 billion at December 31, 2013 compared with \$10.3 billion at December 31, 2012. The decrease was driven by the increase in equity markets.

The policy liabilities established for variable annuity and segregated fund guarantees were \$1,197 million at December 31, 2013 (December 31, 2012 - \$7,948 million). For non-dynamically hedged business, policy liabilities declined from \$2,695 million at December 31, 2012 to \$589 million at December 31, 2013. For the dynamically hedged business, the policy liabilities declined from \$5,253 million at December 31, 2012 to \$608 million at December 31, 2013. The decrease in the total policy liabilities for variable annuity and segregated fund guarantees is mainly due to the significant increase in equity markets in 2013, and in the case of dynamically hedged business, is also due to the increase in swap rates in 2013.

### Investment categories for variable contracts with guarantees

Variable contracts with guarantees are invested, at the policyholder's discretion subject to contract limitations, in various fund types within the segregated fund accounts and other investments. The account balances by investment category are set out below.

| As at December 31,<br>Investment category | 2013              | 2012              |
|---|-------------------|-------------------|
| Equity funds                              | \$ 37,968         | \$ 32,752         |
| Balanced funds                            | 59,198            | 57,243            |
| Bond funds                                | 10,418            | 10,243            |
| Money market funds                        | 2,255             | 2,717             |
| Other fixed interest rate investments     | 1,601             | 1,378             |
| <b>Total</b>                              | <b>\$ 111,440</b> | <b>\$ 104,333</b> |

### **Caution Related to Sensitivities**

In the sections that follow, we provide sensitivities and risk exposure measures for certain risks. These include sensitivities due to specific changes in market prices and interest rate levels projected using internal models as at a specific date, and are measured relative to a starting level reflecting the Company's assets and liabilities at that date and the actuarial factors, investment activity and investment returns assumed in the determination of policy liabilities. The risk exposures measure the impact of changing one factor at a time and assume that all other factors remain unchanged. Actual results can differ significantly from these estimates for a variety of reasons including the interaction among these factors when more than one changes; changes in actuarial and investment return and future investment activity assumptions; actual experience differing from the assumptions, changes in business mix, effective tax rates and other market factors; and the general limitations of our internal models. For these reasons, the sensitivities should only be viewed as directional estimates of the underlying sensitivities for the respective factors based on the assumptions outlined below. Given the nature of these calculations, we cannot provide assurance that the actual impact on net income attributed to shareholders or on MLI's MCCR ratio will be as indicated.

### **Publicly Traded Equity Performance Risk**

As at December 31, 2013, we estimate that approximately 64 per cent to 82 per cent of our underlying earnings sensitivity to a 10 per cent decline in equity markets would be offset by hedges, compared with 72 per cent to 83 per cent at December 31, 2012. The upper end of the range assumes the performance of the dynamic hedging program would completely offset the loss from the dynamically hedged variable annuity guarantee liabilities and that the macro-hedge assets are rebalanced in line with the market changes. The lower end of the range assumes that there is not a complete offset due to our practices of not hedging the provisions for adverse deviation and rebalancing equity hedges in the dynamic program at five per cent intervals, and that the macro-hedge assets are rebalanced in line with market changes.

As outlined above, the 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.

The tables below show the potential impact on net income attributed to shareholders resulting from an immediate 10, 20 and 30 per cent 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, including embedded derivatives. 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 shareholders' net income. The potential impact is shown assuming:

- (a) First that the change in value of the hedge assets completely offsets the change in the dynamically hedged variable annuity guarantee liabilities including the provisions for adverse deviation; and
- (b) Second that the change in value of the dynamically hedged variable annuity guarantee liabilities is not completely offset, including the assumption that the provision for adverse deviation is not offset and that the hedge assets are based on the actual position at the period end. In addition, we assume that we increase our macro equity hedges in negative market shock scenarios and reduce macro equity hedges in positive market shock scenarios.

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.

Potential impact on net income attributed to shareholders arising from changes to public equity returns<sup>(1)</sup>

| As at December 31, 2013<br>(C\$ millions)   | -30%              | -20%              | -10%              | 10%             | 20%               | 30%               |
|---|-------------------|-------------------|-------------------|-----------------|-------------------|-------------------|
| <b>Underlying sensitivity to net income attributed to shareholders<sup>(2)</sup></b>  |                   |                   |                   |                 |                   |                   |
| Variable annuity guarantees   | \$ (4,120)        | \$ (2,310)        | \$ (960)          | \$ 610          | \$ 1,060          | \$ 1,380          |
| Asset based fees  | (310)             | (210)             | (110)             | 110             | 210               | 310               |
| General fund equity investments <sup>(3)</sup>  | (420)             | (280)             | (130)             | 140             | 280               | 430               |
| <b>Total underlying sensitivity</b>   | <b>\$ (4,850)</b> | <b>\$ (2,800)</b> | <b>\$ (1,200)</b> | <b>\$ 860</b>   | <b>\$ 1,550</b>   | <b>\$ 2,120</b>   |
| <b>Impact of hedge assets</b>   |                   |                   |                   |                 |                   |                   |
| Impact of macro-hedge assets <sup>(4)</sup>   | \$ 1,010          | \$ 510            | \$ 170            | \$ (170)        | \$ (250)          | \$ (330)          |
| Impact of dynamic hedge assets assuming the change in the value of the hedge assets completely offsets the change in the dynamically hedged variable annuity guarantee liabilities <sup>(4)</sup>   | 3,370             | 1,900             | 810               | (550)           | (960)             | (1,250)           |
| <b>Total impact of hedge assets assuming the change in value of the dynamic hedge assets completely offsets the change in the dynamically hedged variable annuity guarantee liabilities<sup>(4)</sup></b>   | <b>\$ 4,380</b>   | <b>\$ 2,410</b>   | <b>\$ 980</b>     | <b>\$ (720)</b> | <b>\$ (1,210)</b> | <b>\$ (1,580)</b> |
| <b>Net impact assuming the change in the value of the hedged assets completely offsets the change in the dynamically hedged variable annuity guarantee liabilities<sup>(5)</sup></b>  | <b>\$ (470)</b>   | <b>\$ (390)</b>   | <b>\$ (220)</b>   | <b>\$ 140</b>   | <b>\$ 340</b>     | <b>\$ 540</b>     |
| Net impact of assuming that the provisions for adverse deviation for dynamically hedged liabilities are not offset and that the hedging program rebalances at 5% market intervals <sup>(6)</sup>  | (870)             | (530)             | (210)             | 40              | 50                | 70                |
| <b>Net impact assuming the change in value of the dynamic hedge assets does not completely offset the change in the dynamically hedged variable annuity guarantee liabilities, as described above<sup>(6)</sup></b>   | <b>\$ (1,340)</b> | <b>\$ (920)</b>   | <b>\$ (430)</b>   | <b>\$ 180</b>   | <b>\$ 390</b>     | <b>\$ 610</b>     |
| <b>Percentage of underlying earnings sensitivity to movements in equity markets that is offset by hedges if dynamic hedge assets completely offset the change in the dynamically hedged variable annuity guarantee liability</b>                            | <b>90%</b>        | <b>86%</b>        | <b>82%</b>        | <b>84%</b>      | <b>78%</b>        | <b>75%</b>        |
| <b>Percentage of underlying earnings sensitivity to movements in equity markets that is offset by hedge assets if dynamic hedge assets do not completely offset the change in the dynamically hedged variable annuity guarantee liability<sup>(6)</sup></b> | <b>72%</b>        | <b>67%</b>        | <b>64%</b>        | <b>79%</b>      | <b>75%</b>        | <b>71%</b>        |

(1) See "Caution Related to Sensitivities" above.

(2) 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.

(3) 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 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.

(4) Includes the impact of rebalancing equity hedges in the macro hedging program.

(5) Variable annuity guarantee liability includes the best estimate liabilities and associated provisions for adverse deviation.

(6) Represents the impact of rebalancing equity hedges for dynamically hedged variable annuity guarantee liabilities at five per cent market intervals. Also represents the impact of changes in markets on provisions for adverse deviation that are not hedged, 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.

## Potential impact on net income attributed to shareholders arising from changes to public equity returns<sup>(1)</sup>

| As at December 31, 2012<br>(C\$ millions)   | -30%              | -20%              | -10%              | 10%               | 20%                     | 30%                     |
|---|-------------------|-------------------|-------------------|-------------------|-------------------------|-------------------------|
| <b>Underlying sensitivity to net income attributed to shareholders<sup>(2)</sup></b>  |                   |                   |                   |                   | restated <sup>(4)</sup> | restated <sup>(4)</sup> |
| Variable annuity guarantees   | \$ (5,640)        | \$ (3,510)        | \$ (1,580)        | \$ 1,260          | \$ 2,220                | \$ 2,930                |
| Asset based fees  | (270)             | (180)             | (90)              | 90                | 180                     | 270                     |
| General fund equity investments <sup>(3)</sup>  | (380)             | (260)             | (130)             | 120               | 230                     | 350                     |
| <b>Total underlying sensitivity</b>   | <b>\$ (6,290)</b> | <b>\$ (3,950)</b> | <b>\$ (1,800)</b> | <b>\$ 1,470</b>   | <b>\$ 2,630</b>         | <b>\$ 3,550</b>         |
| <b>Impact of hedge assets</b>   |                   |                   |                   |                   |                         |                         |
| Impact of macro hedged assets <sup>(4)</sup>  | \$ 2,010          | \$ 1,340          | \$ 670            | \$ (670)          | \$ (1,160)              | \$ (1,580)              |
| Impact of dynamic hedge assets assuming the change in the value of the hedge assets completely offsets the change in the dynamically hedged variable annuity guarantee liabilities <sup>(4)</sup>   | 3,070             | 1,890             | 820               | (600)             | (1,010)                 | (1,300)                 |
| <b>Total impact of hedge assets assuming the change in value of the dynamic hedge assets completely offsets the change in the dynamically hedged variable annuity guarantee liabilities<sup>(4)</sup></b>   | <b>\$ 5,080</b>   | <b>\$ 3,230</b>   | <b>\$ 1,490</b>   | <b>\$ (1,270)</b> | <b>\$ (2,170)</b>       | <b>\$ (2,880)</b>       |
| <b>Net impact assuming the change in the value of the hedged assets completely offsets the change in the dynamically hedged variable annuity guarantee liabilities<sup>(5)</sup></b>  | <b>\$ (1,210)</b> | <b>\$ (720)</b>   | <b>\$ (310)</b>   | <b>\$ 200</b>     | <b>\$ 460</b>           | <b>\$ 670</b>           |
| Impact of assuming that the provisions for adverse deviation for dynamically hedged liabilities are not offset and that the hedging program rebalances at 5% market intervals <sup>(6)</sup>  | (710)             | (470)             | (190)             | (10)              | (40)                    | (70)                    |
| <b>Net impact assuming the change in value of the dynamic hedge assets does not completely offset the change in the dynamically hedged variable annuity guarantee liabilities, as described above<sup>(6)</sup></b>   | <b>\$ (1,920)</b> | <b>\$ (1,190)</b> | <b>\$ (500)</b>   | <b>\$ 190</b>     | <b>\$ 420</b>           | <b>\$ 600</b>           |
| <b>Percentage of underlying earnings sensitivity to movements in equity markets that is offset by hedges if dynamic hedge assets completely offset the change in the dynamically hedged variable annuity guarantee liability</b>                            | <b>81%</b>        | <b>82%</b>        | <b>83%</b>        | <b>86%</b>        | <b>83%</b>              | <b>81%</b>              |
| <b>Percentage of underlying earnings sensitivity to movements in equity markets that is offset by hedge assets if dynamic hedge assets do not completely offset the change in the dynamically hedged variable annuity guarantee liability<sup>(6)</sup></b> | <b>69%</b>        | <b>70%</b>        | <b>72%</b>        | <b>87%</b>        | <b>84%</b>              | <b>83%</b>              |

<sup>(1)</sup> See "Caution Related to Sensitivities" above.

<sup>(2)</sup> 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.

<sup>(3)</sup> 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 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.

<sup>(4)</sup> The numbers above were restated to reflect the fact that in the first quarter of 2013, we refined our assumptions with respect to the amount of macro hedge offsets in the above calculation. We now assume that we reduce equity hedges in our macro hedging program under positive market shock scenarios.

<sup>(5)</sup> Variable annuity guarantee liability includes the best estimate liabilities and associated provisions for adverse deviation.

<sup>(6)</sup> Represents the impact of rebalancing equity hedges for dynamically hedged variable annuity guarantee liabilities at five per cent market intervals. Also represents the impact of changes in markets on provisions for adverse deviation that are not hedged, 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 MCCR ratio. The following table shows the potential impact to MLI's MCCR 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 impact on MLI's MCCR ratio arising from public equity returns different than the expected return for policy liability valuation<sup>(1),(2)</sup>

| Percentage points        | Impact on MLI MCCR ratio |            |            |           |           |           |
|--------------------------|--------------------------|------------|------------|-----------|-----------|-----------|
|                          | -30%                     | -20%       | -10%       | +10%      | +20%      | +30%      |
| <b>December 31, 2013</b> | <b>(14)</b>              | <b>(8)</b> | <b>(4)</b> | <b>13</b> | <b>25</b> | <b>25</b> |
| December 31, 2012        | (17)                     | (11)       | (5)        | 1         | 3         | 9         |

<sup>(1)</sup> 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.

<sup>(2)</sup> 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 five per cent intervals.

The favourable impact on the capital ratio to positive equity shocks at December 31, 2013 reflects the fact that the required capital on segregated fund guarantees is at the level at which any additional gains can be immediately reflected in the ratio and do not need to be brought in on a smoothed basis.

The following table shows the notional value of shorted equity futures contracts utilized for our variable annuity guarantee dynamic hedging and our macro equity risk hedging strategies.

### Notional value of shorted equity futures contracts

As at December 31,

| (C\$ millions)   | 2013            | 2012             |
|--|-----------------|------------------|
| For variable annuity guarantee dynamic hedging strategy <sup>(1)</sup> | \$ 7,500        | \$ 9,500         |
| For macro equity risk hedging strategy                                 | 2,000           | 7,800            |
| <b>Total</b>   | <b>\$ 9,500</b> | <b>\$ 17,300</b> |

<sup>(1)</sup> Reflects net short and long positions for exposures to similar exchanges.

The equity futures notional required for the macro hedging program decreased by \$5.8 billion during 2013. The decrease related to normal rebalancing to maintain our desired equity market risk position and to incorporate transfers to the dynamic hedging program.

### Interest Rate and Spread Risk

The following table shows the potential impact on net income attributed to shareholders of a change of one per cent, 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, relative to the rates assumed in the valuation of policy liabilities, including embedded derivatives. We also assume no change to the URR.

#### Potential impact on annual net income attributed to shareholders of an immediate one per cent parallel change in interest rates relative to rates assumed in the valuation of policy liabilities<sup>(1),(2),(3),(4)</sup>

| As at December 31,<br>(C\$ millions)       | 2013            |             | 2012            |               |
|--|-----------------|-------------|-----------------|---------------|
|  | -100bp          | +100bp      | -100bp          | +100bp        |
| General fund products <sup>(3)</sup>       | \$ (300)        | \$ –        | \$ (200)        | \$ –          |
| Variable annuity guarantees <sup>(4)</sup> | (100)           | –           | (200)           | 200           |
| <b>Total</b>                               | <b>\$ (400)</b> | <b>\$ –</b> | <b>\$ (400)</b> | <b>\$ 200</b> |

<sup>(1)</sup> 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.

<sup>(2)</sup> Sensitivities are based on projected asset and liability cash flows at the beginning of the fourth quarter adjusted for the estimated impact of new business, investment markets and asset trading during the quarter. Any true-up to these estimates, as a result of the final asset and liability cash flows to be used in the next quarter’s projection, are reflected in the next quarter’s sensitivities.

<sup>(3)</sup> 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 interest rates.

<sup>(4)</sup> For general fund adjustable benefit products subject to minimum rate guarantee, the sensitivities are based on the assumption that credited rates are floored at the minimum.

At December 31, 2013, we estimated the sensitivity of our net income attributed to shareholders to a 100 basis point parallel decline in interest rates to be a charge of \$400 million, and to a 100 basis point increase in interest rates to be close to nil.

The 100 basis point parallel change includes a change of one per cent 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 and corporate spreads, relative to the rates assumed in the valuation of policy liabilities, including embedded derivatives. As the sensitivity to a 100 basis point change in interest rates includes any associated change in the applicable prescribed reinvestment scenarios, the impact of changes to interest rates for less than, or more than, the amounts indicated are unlikely to be linear. Furthermore the reinvestment scenario changes tend to amplify the negative effects of a decrease in interest rates, and dampen the positive effects of interest rate increases. For variable annuity guarantee liabilities that are dynamically hedged, it is assumed that interest rate hedges are rebalanced at 20 basis point intervals.

The potential impact on annual net income attributed to shareholders provided in the table above does not allow for any future potential changes to the URR assumptions or other potential impacts of lower interest rate levels, for example, increased strain on the sale of new business, lower interest earned on our surplus assets, or updates to actuarial assumptions related to variable annuity bond fund calibration. It also does not reflect any impact arising from the sale of 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. As at December 31, 2013, the AFS fixed income assets held in the surplus segment were in a net after-tax unrealized loss position of \$103 million (gross after-tax unrealized gains were \$301 million and gross after-tax unrealized losses were \$404 million).

The following table shows the potential impact on net income attributed to shareholders including the change in the market value of 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 MCCR ratio of an immediate one per cent parallel change in interest rates relative to rates assumed in the valuation of policy liabilities<sup>(1),(2),(3),(4),(5)</sup>**

| As at December 31,  | 2013     |        | 2012     |        |
|---|----------|--------|----------|--------|
|   | -100bp   | +100bp | -100bp   | +100bp |
| <b>Net income attributed to shareholders</b> (C\$ millions):  |          |        |          |        |
| Excluding change in market value of AFS fixed income assets held in the surplus segment                       | \$ (400) | \$ -   | \$ (400) | \$ 200 |
| From fair value changes in AFS fixed income assets held in surplus, if realized                               | 600      | (600)  | 800      | (700)  |
| <b>MLI's MCCR ratio</b> (Percentage points):  |          |        |          |        |
| Before impact of change in market value of AFS fixed income assets held in the surplus segment <sup>(6)</sup> | (13)     | 18     | (16)     | 10     |
| From fair value changes in AFS fixed income assets held in surplus, if realized                               | 4        | (5)    | 5        | (5)    |

(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 at the beginning of the quarter adjusted for the estimated impact of new business, investment markets and asset trading during the quarter. Any true-up to these estimates, as a result of the final asset and liability cash flows to be used in the next quarter's projection, are reflected in the next quarter's sensitivities. Impact of realizing 100% of market value of AFS fixed income is as of the end of the quarter.

(5) 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 interest rates.

(6) The impact on MLI's MCCR ratio includes both the impact of lower earnings on available capital as well as the increase in required capital that results from a decline in interest rates. The potential increase in required capital accounted for 9 of the 13 points impact of a 100 bp decline in interest rates on MLI's MCCR ratio in the fourth quarter of 2013.

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

**Potential impact on net income attributed to shareholders arising from changes to corporate spreads<sup>(1),(2),(3),(4)</sup>**

| As at December 31,<br>(C\$ millions) | 2013     |        | 2012       |        |
|--------------------------------------|----------|--------|------------|--------|
|                                      | -50bp    | +50bp  | -50bp      | +50bp  |
| <b>Corporate spreads</b>             | \$ (400) | \$ 400 | \$ (1,000) | \$ 500 |

(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 arising from changes in off-balance sheet bond fund value arising from 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 spreads.

(3) Sensitivities are based on projected asset and liability cash flows at the beginning of the fourth quarter adjusted for the estimated impact of new business, investment markets and asset trading during the quarter. Any true-up to these estimates, as a result of the final asset and liability cash flows to be used in the next quarter's projection, are reflected in the next quarter's sensitivities.

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

As the sensitivity to a 50 basis point decline in corporate spreads includes the impact of a change in prescribed 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. The potential earnings impact of a 50 basis point decline in corporate spreads related to the impact of the scenario change was not substantial at December 31, 2013 and \$400 million at December 31, 2012, with the difference being the key reason for the decrease in sensitivity during 2013.

**Potential impact on net income attributed to shareholders arising from changes to swap spreads<sup>(1),(2),(3)</sup>**

| As at December 31,<br>(C\$ millions) | 2013   |          | 2012   |          |
|--------------------------------------|--------|----------|--------|----------|
|                                      | -20bp  | +20bp    | -20bp  | +20bp    |
| <b>Swap spreads<sup>(2)</sup></b>    | \$ 400 | \$ (400) | \$ 600 | \$ (600) |

(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 arising from changes in off-balance sheet bond fund value arising from 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 swap spreads.

(3) Sensitivities are based on projected asset and liability cash flows at the beginning of the fourth quarter adjusted for the estimated impact of new business, investment markets and asset trading during the quarter. Any true-up to these estimates, as a result of the final asset and liability cash flows to be used in the next quarter's projection, are reflected in the next quarter's sensitivities.

The sensitivity to a 20 bps decline in swap spreads decreased over the year due to changes in the amount of interest rate swaps being held.

## Alternative Long-Duration Asset Performance Risk

The following table shows the potential impact on net income attributed to shareholders resulting from changes in market values of alternative long-duration assets different than the expected levels assumed in the valuation of policy liabilities.

### Potential impact on net income attributed to shareholders arising from changes in alternative long-duration asset returns<sup>(1),(2),(3),(4)</sup>

| As at December 31,<br>(C\$ millions)                        | 2013              |                 | 2012              |                 |
|---|-------------------|-----------------|-------------------|-----------------|
|   | -10%              | +10%            | -10%              | +10%            |
| Real estate, agriculture and timber assets                  | \$ (1,000)        | \$ 1,000        | \$ (900)          | \$ 900          |
| Private equities and other alternative long-duration assets | (900)             | 800             | (800)             | 700             |
| <b>Alternative long-duration assets</b>                     | <b>\$ (1,900)</b> | <b>\$ 1,800</b> | <b>\$ (1,700)</b> | <b>\$ 1,600</b> |

<sup>(1)</sup> See "Caution Related to Sensitivities" above.

<sup>(2)</sup> This impact is calculated as at a point-in-time impact and does not include: (i) any potential impact on alternative long-duration asset weightings; (ii) any gains or losses on alternative long-duration assets held in the Corporate and Other segment; or (iii) any gains or losses on alternative long-duration assets held in Manulife Bank.

<sup>(3)</sup> 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 alternative long-duration asset returns.

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

The increased sensitivity from December 31, 2012 to December 31, 2013 is primarily related to the increase in market value of the alternative long-duration assets over the year, due to investment activities and positive investment returns.

## Foreign Exchange Risk

The Company generally matches the currency of its assets with the currency of the insurance and investment contract liabilities they support, with the objective of mitigating risk of loss arising from currency exchange rate changes. As at December 31, 2013, the Company did not have a material unmatched currency exposure.

The following table shows the impact on core earnings of a 10 per cent change in the Canadian dollar relative to our key operating currencies.

### Potential impact on core earnings<sup>(1),(2)</sup>

| As at December 31,<br>(C\$ millions)   | 2013                  |                   | 2012                  |                   |
|--|-----------------------|-------------------|-----------------------|-------------------|
|  | +10%<br>strengthening | -10%<br>weakening | +10%<br>strengthening | -10%<br>weakening |
| 10% change in the Canadian Dollar relative to the U.S. Dollar and the Hong Kong Dollar | \$ (190)              | \$ 190            | \$ (150)              | \$ 150            |
| 10% change in the Canadian Dollar relative to the Japanese Yen                         | (10)                  | 10                | (10)                  | 10                |

<sup>(1)</sup> This item is non-GAAP measure. See "Performance and Non-GAAP Measures" below.

<sup>(2)</sup> See "Caution Related to Sensitivities" above.

## Liquidity Risk

**Liquidity risk is the risk of not having access to sufficient funds or liquid assets to meet both expected and unexpected cash and collateral demands.**

### Key Risk Factors

Manulife Financial is exposed to liquidity risk in each of our operating companies and in our holding company. In the operating companies, expected cash and collateral demands arise day-to-day to fund anticipated policyholder benefits, withdrawals of customer deposit balances, reinsurance settlements, derivative instrument settlements/collateral pledging, expenses, investment and hedging activities. Under stressed conditions, unexpected cash and collateral demands could arise primarily from a change in the level of policyholders either terminating policies with large cash surrender values or not renewing them when they mature, withdrawals of customer deposit balances, borrowers renewing or extending their loans when they mature, derivative settlements or collateral demands, and reinsurance settlements or collateral demands.

With the implementation of the Dodd-Frank bill in the United States, clearing of certain derivatives is now mandatory. The execution of derivative transactions through clearing houses or regulated facilities requires incremental liquidity requirements in the form of upfront collateral. Additionally, changes in derivative values are required to be settled in cash on a daily basis instead of pledging collateral. However, this will not become significant for Manulife Financial until a large portion of our derivatives have transitioned to exchanges and market conditions adverse to liquidity (material increases in interest rates and/or equity markets) have been experienced. Other jurisdictions in which Manulife entities operate in are expected to enact similar regulations within the next two years.

The ability of our holding company to fund its cash requirements depends upon it receiving dividends, distributions and other payments from our operating subsidiaries. These subsidiaries are generally required to maintain solvency and capital standards imposed by their local regulators and, as a result, may have restrictions on payments which they may make to MFC.

In the normal course of business, third party banks issue letters of credit on our behalf. In lieu of posting collateral, our businesses utilize letters of credit for which third parties are the beneficiaries, as well as for affiliate reinsurance transactions between subsidiaries of MFC. Letters of credit and letters of credit facilities must be renewed periodically. At time of renewal, the Company is exposed to repricing risk and under adverse conditions increases in costs will be realized. In the most extreme scenarios, letters of credit capacity could become constrained due to non-renewals which would restrict our flexibility to manage capital at the operating company level. This could negatively impact our ability to meet local capital requirements or our sales of products in jurisdictions in which our operating companies have been affected. Although the Company did not experience any material change in aggregate capacity during the recent global financial crisis, changes in prices and conditions were adverse during the market turbulence. There were no assets pledged against these outstanding letters of credit as at December 31, 2013.

## Risk Management Strategy

Global liquidity management policies and procedures are designed to provide adequate liquidity to cover cash and collateral obligations as they come due, and to sustain and grow operations in both normal and stressed conditions. They take into account any legal, regulatory, tax, operational or economic impediments to inter-entity funding.

We seek to reduce liquidity risk by diversifying our business across different products, markets, geographical regions and policyholders. We design insurance products to encourage policyholders to maintain their policies in-force, to help generate a diversified and stable flow of recurring premium income. We design the policyholder termination features of our wealth management products and related investment strategies with the goal of mitigating the financial exposure and liquidity risk related to unexpected policyholder terminations. We establish and implement investment strategies intended to match the term profile of the assets to the liabilities they support, taking into account the potential for unexpected policyholder terminations and resulting liquidity needs. Liquid assets represent a large portion of our total assets. We aim to reduce liquidity risk in our deposit funded businesses by diversifying our funding sources and appropriately managing the term structure of our funding. We forecast and monitor daily operating liquidity and cash movements in various individual entities and operations as well as centrally, aiming to ensure liquidity is available and cash is employed optimally.

We also maintain centralized cash pools and access to other sources of liquidity such as repurchase funding agreements. Our centralized cash pool consists of cash or near-cash, high quality short-term investments that are continually monitored for their credit quality and market liquidity.

Through the normal course of business, pledging of assets is required to comply with jurisdictional regulatory and other requirements including collateral pledged to mitigate derivative counterparty credit risk, assets pledged to exchanges as initial margin and assets held as collateral for repurchase funding agreements. Total unencumbered assets were \$269.4 billion as at December 31, 2013 (2012 – \$274.4 billion).

We manage the asset mix of our balance sheet taking into account the need to hold adequate unencumbered and appropriate liquid assets to satisfy the potential additional requirements arising under stressed scenarios and to allow our liquidity ratios to remain strong.

The following table outlines the maturity of the Company's significant financial liabilities.

## Maturity of financial liabilities<sup>(1),(2)</sup>

| As at December 31, 2013<br>(C\$ millions) | Less than<br>1 year | 1 to 3 years | 3 to 5 years | Over<br>5 years | Total    |
|---|---------------------|--------------|--------------|-----------------|----------|
| Long-term debt                            | \$ 1,000            | \$ 2,235     | \$ 413       | \$ 1,127        | \$ 4,775 |
| Capital instruments                       | –                   | –            | –            | 4,041           | 4,041    |
| Derivatives                               | 484                 | 357          | 328          | 7,760           | 8,929    |
| Bank deposits                             | 15,311              | 2,848        | 1,710        | –               | 19,869   |
| Lease obligations                         | 137                 | 174          | 64           | 420             | 795      |

<sup>(1)</sup> The amounts shown above are net of the related unamortized deferred issue costs.

<sup>(2)</sup> Class A preferred shares, Series 1 are redeemable by the Company by payment of cash or issuance of MFC common shares and are convertible at the option of the holder into MFC common shares on or after December 15, 2015. These shares have not been included in the above table.

## Risk Exposure Measures

Consolidated group operating and strategic liquidity levels are managed against established minimums. We set minimum operating liquidity above the level of the highest one month's operating cash outflows projected over the next 12 months. We measure strategic liquidity under both immediate (within one month) and ongoing (within one year) stress scenarios. Our policy is to maintain the ratio of adjusted liquid assets to adjusted policy liabilities at or above a pre-established limit. Adjusted liquid assets include unencumbered cash and short-term investments, and marketable bonds and stocks that are discounted to reflect convertibility to cash, net of maturing debt obligations. Policy liabilities are adjusted to reflect their potential for withdrawal.

In addition to managing the consolidated liquidity levels, each entity maintains sufficient liquidity to meet its standalone demands.

Our strategic liquidity ratios are provided in the following table.

| As at December 31,<br>(C\$ millions, unless otherwise stated) | 2013               |                  | 2012 <sup>(1)</sup> |                  |
|---|--------------------|------------------|---------------------|------------------|
|   | Immediate Scenario | Ongoing Scenario | Immediate Scenario  | Ongoing Scenario |
| Adjusted liquid assets  | \$ 118,358         | \$ 117,350       | \$ 123,012          | \$ 122,955       |
| Adjusted policy liabilities                                   | 26,550             | 34,250           | 25,778              | 33,540           |
| Liquidity ratio   | 446%               | 343%             | 477%                | 364%             |

<sup>(1)</sup> The 2012 results were restated to reflect the retrospective application of new IFRS accounting standards effective January 1, 2013. For a detailed description of the change see note 2 to the Consolidated Financial Statements.

Additionally, the market value of our derivative portfolio is periodically stress tested based on market shocks to assess the potential collateral and cash settlement requirements under stressed conditions. Increased use of derivatives for hedging purposes has necessitated greater emphasis on measurement and management of contingent liquidity risk. Comprehensive liquidity stress testing measures, on an integrated basis, the impact of market shocks on derivative collateral and margin requirements, reserve requirements, reinsurance settlements, policyholder behaviour and the market value of eligible liquid assets. Stressed liquidity ratios are measured against established limits.

Manulife Bank has a standalone liquidity risk management policy framework. The framework includes stress testing, cash flow modeling, a funding plan and a contingency plan. The bank has an established securitization infrastructure which enables the bank to access a range of funding and liquidity sources.

### Credit Risk

**Credit risk is the risk of loss due to the inability or unwillingness of a borrower or counterparty to fulfill its payment obligations.**

### Key Risk Factors

Worsening or continued poor economic conditions could result in borrower or counterparty defaults or downgrades, and could lead to increased provisions or impairments related to our general fund invested assets and off-balance sheet derivative financial instruments, and an increase in provisions for future credit impairments to be included in our policy liabilities. Any of our reinsurance providers being unable or unwilling to fulfill their contractual obligations related to the liabilities we cede to them could lead to an increase in policy liabilities.

### Risk Management Strategy

The Company has established objectives for overall quality and diversification of our general fund investment portfolio and criteria for the selection of counterparties, including derivative counterparties, reinsurers and insurance providers. Our policies establish exposure limits by borrower, corporate connection, quality rating, industry, and geographic region, and govern the usage of credit derivatives. Corporate connection limits vary according to risk rating. Our general fund fixed income investments are primarily investment grade bonds and commercial mortgages. While we have minimal exposure to credit default swaps, we have a program for selling Credit Default Swaps ("CDS") that employs a highly selective, diversified and conservative approach. All CDS decisions will follow the same underwriting standards as our cash bond portfolio and we believe the addition of this asset class will allow us to better diversify our overall credit portfolio.

Our credit granting units follow a defined evaluation process that provides an objective assessment of credit proposals. We assign each investment a risk rating based on a detailed examination of the borrower that includes a review of business strategy, market competitiveness, industry trends, financial strength, access to funds, and other risks facing the organization. We assess and update risk ratings regularly, based on a standardized 22-point scale consistent with those of external rating agencies. For additional input to the process, we also assess credit risks using a variety of industry standard market-based tools and metrics. We map our risk ratings to pre-established probabilities of default and loss given defaults, based on historical industry and Company experience, and to resulting default costs.

We establish delegated credit approval authorities and make credit decisions on a case-by-case basis at a management level appropriate to the size and risk level of the transaction, based on the delegated authorities that vary according to risk rating. We refer all major credit decisions to the Transaction and Portfolio Review Committee and the largest credit decisions to the CEO for approval and, in certain cases, to the Board of Directors.

We limit the types of authorized derivatives and applications and require pre-approval of all derivative application strategies and regular monitoring of the effectiveness of derivative strategies. Derivative counterparty exposure limits are established based on a minimum acceptable counterparty credit rating (generally A- from internationally recognized rating agencies). We measure derivative counterparty exposure as net potential credit exposure, which takes into consideration mark-to-market values of all transactions with each counterparty, net of any collateral held, and an allowance to reflect future potential exposure. Reinsurance counterparty exposure is measured reflecting the level of ceded liabilities. We require all reinsurance counterparties and insurance providers to meet minimum risk rating criteria.

Regular reviews of the credits within the various portfolios are undertaken with the goal of identifying changes to credit quality, and where appropriate, taking corrective action. Prompt identification of problem credits is a key objective. Credit Risk Management provides independent credit risk oversight by reviewing assigned risk ratings, and monitoring problem and potential problem credits.

We establish an allowance for losses on a loan when it becomes impaired as a result of deterioration in credit quality, to the extent there is no longer assurance of timely realization of the carrying value of the loan and related investment income. We reduce the carrying value of an impaired loan to its estimated net realizable value when we establish the allowance. We establish an allowance for losses on reinsurance contracts when a reinsurance counterparty becomes unable or unwilling to fulfill its contractual obligations. We base the allowance for loss on current recoverables and ceded policy liabilities. There is no assurance that the allowance for losses will be adequate to cover future potential losses or that additional allowances or asset write-downs will not be required.

Policy liabilities include general provisions for credit losses from future asset impairments. We set these conservatively, taking into account average historical levels and future expectations, with a provision for adverse deviations. Fluctuations in credit default rates and deterioration in credit ratings of borrowers may result in losses if actual rates exceed expected rates.

Throughout the recent challenging credit environment, our credit policies and procedures and investment strategies have remained fundamentally unchanged. Credit exposure in our investment portfolio is managed to reduce risk and mitigate losses, and derivative counterparty exposure is managed proactively. Defaults and downgrade charges were generally below the historical average in 2013, however, we still expect volatility on a quarterly basis and losses could potentially rise above long-term expected levels.

### Risk Exposure Measures

As at December 31, 2013 and December 31, 2012, for every 50 per cent that credit defaults over the next year exceed the rates provided for in policy liabilities, net income attributed to shareholders would be reduced by \$49 million and \$56 million, respectively. Downgrades could also be higher than assumed in policy liabilities resulting in policy liability increases and a reduction in net income.

The table below shows net impaired assets and allowances for loan losses.

### Net Impaired Assets and Loan Losses

| As at December 31,<br>(C\$ millions, unless otherwise stated)           | 2013          | 2012   |
|---|---------------|--------|
| Net impaired fixed income assets  | <b>\$ 307</b> | \$ 337 |
| Net impaired fixed income assets as a per cent of total invested assets | <b>0.13%</b>  | 0.15%  |
| Allowance for loan losses   | <b>\$ 106</b> | \$ 89  |

### Insurance Risk

***Insurance risk is the risk of loss due to actual experience emerging differently than assumed when a product was designed and priced with respect to mortality and morbidity claims, policyholder behaviour and expenses.***

### Key Risk Factors

We make a variety of assumptions related to the future level of claims, policyholder behaviour, expenses and sales levels when we design and price products, and when we establish policy liabilities. Assumptions for future claims are generally based on both Company and industry experience, and assumptions for future policyholder behaviour are generally based on Company experience. Assumptions for future policyholder behaviour include assumptions related to the retention rates for insurance and wealth products. Losses may result should actual experience be materially different than that assumed in the design, pricing and sale of products. Such losses could have a significant adverse effect on our results of operations and financial condition. In addition, we periodically review the assumptions we make in determining our policy liabilities and the review may result in an increase in policy liabilities and a decrease in net income attributed to shareholders. Such assumptions require significant professional judgment, and actual experience may be materially different than the assumptions we make.

Life and health insurance claims may be impacted by the unusual onset of disease or illness, natural disasters, large-scale man-made disasters and acts of terrorism. The cost of health insurance benefits may also be impacted by unforeseen trends in the incidence, termination and severity rates of claims. The ultimate level of lifetime benefits paid to policyholders may be impacted by unexpected changes in life expectancy. Policyholder behaviour including premium payment patterns, policy renewals, lapse rates and withdrawal and surrender activity are influenced by many factors including market and general economic conditions, and the availability and relative attractiveness of other products in the marketplace. For example, a weak or declining economic environment could increase the value of guarantees associated with variable annuities or other embedded guarantees and contribute to adverse policyholder behaviour experience. As well, adverse claims experience could result from systematic anti-selection, which could arise from the development of investor owned and secondary markets for life insurance policies, anti-selective lapse behaviour underwriting process failures, or other factors.

We purchase reinsurance protection on certain risks underwritten by our various business segments. External market conditions determine the availability, terms and cost of the reinsurance protection for new business and, in certain circumstances, the cost of reinsurance for business already reinsured. Accordingly, we may be forced to incur additional costs for reinsurance or may not be able to obtain sufficient reinsurance on acceptable terms, which could adversely affect our ability to write future business or result in the assumption of more risk with respect to those policies we issue.

## Risk Management Strategy

We have established a broad framework for managing insurance risk under our Product Design and Pricing Policy, Underwriting and Claims Management Policy and Reinsurance Risk Management Policy, as well as supporting global product design and pricing standards and guidelines, and reinsurance guidelines, aimed to help ensure our product offerings align with our risk taking philosophy and risk limits, and achieve acceptable profit margins. These cover:

- product design features
- use of reinsurance
- pricing models and software
- internal risk-based capital allocations
- target profit objectives
- pricing methods and assumption setting
- stochastic and stress scenario testing
- required documentation
- review and approval processes
- experience monitoring programs

In each business unit, we designate individual pricing officers who are accountable for all pricing activities and chief underwriters who are accountable for the underwriting activities. Both the pricing officer and the general manager of each business unit approve the design and pricing of each product, including key claims, policyholder behaviour, investment return and expense assumptions, in accordance with corporate policies and standards. Divisional and Group risk management provides additional oversight and review of all product and pricing initiatives, as well as reinsurance treaties related to new business. In addition, Group Finance Actuarial approves all policy liability valuation methods, assumptions and in-force reinsurance treaties. We perform annual risk and compliance self-assessments of the product development, pricing, underwriting and claims activities of all businesses. We also facilitate knowledge transfer between staff working with similar businesses in different geographies in order to leverage best practices.

We utilize a global underwriting manual intended to ensure insurance underwriting practices for direct written life business are consistent across the organization while reflecting local conditions. Each business unit establishes underwriting policies and procedures, including criteria for approval of risks and claims adjudication policies and procedures.

We apply retention limits per insured life that are intended to reduce our exposure to individual large claims which are monitored in each business unit. These retention limits vary by market and jurisdiction. We reinsure exposure in excess of these limits with other companies. Our current global retention limit is US\$30 million for a single life (US\$35 million for survivorship life policies) and is shared across businesses. We apply lower limits in some markets and jurisdictions. We aim to further reduce exposure to claims concentrations by applying geographical aggregate retention limits for certain covers. Enterprise-wide, we aim to reduce the likelihood of high aggregate claims by operating internationally and insuring a wide range of unrelated risk events.

The Company's aggregate exposure to each of policyholder behaviour risk and claims risk are managed against enterprise-wide economic capital and earnings at risk limits. The policyholder behaviour risk limits cover the combined risk arising from policyholder policy lapses and surrenders, withdrawals and other policyholder driven activity. The claims risk limits cover the combined risk arising from mortality, longevity and morbidity.

Internal experience studies, as well as trends in our experience and that of the industry, are monitored to update current and projected claims and policyholder behaviour assumptions, resulting in updates to policy liabilities as appropriate.

We continue to seek state regulatory approvals for price increases on existing long-term care business in the United States. We cannot be certain whether or when each approval will be granted. Our policy liabilities reflect our estimates of the impact of these price increases, but should we be less successful than anticipated in obtaining them, then policy liabilities would increase accordingly.

## Operational Risk

***Operational risk is the risk of loss resulting from inadequate or failed internal processes, risk management policies and procedures, systems failures, human performance failures or from external events.***

### Key Risk Factors

Operational risk is naturally present in all of our business activities and encompasses a broad range of risks, including regulatory compliance failures, legal disputes, technology failures, business interruption, information security and privacy breaches, human resource management failures, processing errors, modelling errors, business integration, theft and fraud, and damage to physical assets. Exposures can take the form of financial losses, regulatory sanctions, loss of competitive positioning, or damage to our reputation. Operational risk is also embedded in all the practices we use to manage other risks; therefore, if not managed effectively, operational risk can impact our ability to manage other key risks such as credit risk, market risk, liquidity risk and insurance risk. While operational risk can never be fully eliminated, it can be managed to reduce exposure to financial loss, reputational harm or regulatory sanctions.

## Risk Management Strategy

Our corporate governance practices, corporate values, and integrated enterprise-wide approach to managing risk set the foundation for mitigating operational risks. This base is further strengthened by internal controls and systems, compensation programs, and seeking to hire and retain trained and competent people throughout the organization. We align compensation programs with business strategy, long-term shareholder value and good governance practices, and we benchmark these compensation practices against peer companies.

We have an enterprise operational risk management framework that sets out the processes we use to identify, assess, manage, mitigate and report on significant operational risk exposures. Execution of our operational risk management strategy focuses on change management and working to achieve a cultural shift toward greater awareness and understanding of operational risk. We have an Operational Risk Committee ("ORC"), a sub-committee of the ERC, which is the main decision-making committee for all

operational risk matters with oversight responsibility for operational risk strategy, management and governance. We have enterprise-wide risk management programs for specific operational risks that could materially impact our ability to do business or impact our reputation.

Through our corporate insurance program, we transfer a portion of our operational risk exposure by purchasing global and local insurance coverage that provides some protection against unexpected material losses resulting from events such as criminal activity, property loss or damage, and liability exposures. We also purchase certain insurance to satisfy legal requirements and/or contractual obligations. We determine the nature and amount of insurance coverage we purchase centrally, considering our enterprise-wide exposures and risk tolerances.

The following is a further description of key operational risk factors with associated management strategies.

### **Legal and Regulatory Risk**

In addition to the regulatory and capital requirements described under Strategic Risk, the Company is subject to extensive regulatory oversight by insurance and financial services regulators in the jurisdictions in which we conduct business. While many of these laws and regulations are intended to protect policyholders, beneficiaries, depositors and investors in our products and services, others also set standards and requirements for the governance of our operations. Failure to comply with applicable laws or regulations could result in financial penalties or sanctions, and damage our reputation. We are also regularly involved in litigation, both as a plaintiff or defendant, which could result in an unfavourable resolution.

Global Compliance oversees our regulatory compliance program and function, supported by designated Chief Compliance Officers in every Division. The program is designed to promote compliance with regulatory obligations worldwide and to assist in making the Company aware of the laws and regulations that affect us, and the risks associated with failing to comply. Divisional compliance groups monitor emerging legal and regulatory issues and changes, and prepare us to address new requirements. Global Compliance also independently assesses and monitors the effectiveness of a broad range of regulatory compliance processes and business practices against potential legal, regulatory, fraud and reputation risks, and helps to ensure significant issues are escalated and proactively mitigated. Among these processes and business practices are: privacy (i.e. handling of personal and other confidential information), sales and marketing practices, sales compensation practices, asset management practices, fiduciary responsibilities, employment practices, underwriting and claims processing, product design, and regulatory filings. In addition, we have policies, processes and controls in place to help protect the Company, our customers and other related third parties from acts of fraud and from risks associated with money laundering and terrorist financing. Audit Services, Global Compliance and divisional compliance personnel periodically assess the effectiveness of the control environment. For further discussion of government regulation and legal proceedings, refer to "Government Regulation" and "Legal Proceedings" in our most recent Annual Information Form.

### **Technology, Information Security and Business Continuity Risks**

Technology is used in virtually all aspects of our business and operations. Our technology infrastructure, information services and applications are governed and managed according to standards for operational integrity, resiliency, data integrity, confidentiality and information security policies, standards and controls. Disruption due to system failure, security breach (including cyber attacks), privacy breaches, human errors, natural disasters, man-made disasters, criminal activity, fraud or global crisis may occur and have adverse consequences for our business.

We have an enterprise-wide business continuity and disaster recovery program which is overseen by the Chief Information Security Officer. This includes policies, plans and procedures to minimize the impact of natural or man-made disasters, and is designed to ensure that key business functions can continue normal operations in the event of a major disruption. Each business unit is accountable for preparing and maintaining detailed business continuity plans and processes. The global program incorporates periodic scenario analysis designed to validate the assessment of both critical and non-critical units, as well as the establishment and testing of appropriate business continuity plans for all critical functions. The business continuity team establishes and regularly tests crisis management plans and global crisis communications protocols. We maintain off-site backup facilities and failover capability designed to minimize downtime and accelerate system recovery.

Information security breaches could occur and may result in inappropriate disclosure or use of personal and confidential information. To mitigate this risk, we have an enterprise-wide information security program which is overseen by the Chief Information Security Officer. This program establishes the information security framework for the Company, including governance, policies and standards, and appropriate controls to protect information and computer systems. We also have annual security awareness training sessions for all employees.

Privacy breaches could occur and may result in the unauthorized disclosure or use of private and confidential information. Many jurisdictions in which we operate are implementing more stringent privacy legislation. To manage this risk, we have a global privacy program which is overseen by the Chief Privacy Officer. This program includes policies and standards, ongoing monitoring of emerging privacy legislation, and a network of privacy officers. Processes have been established to provide guidance on handling personal information and for reporting privacy incidents and issues to appropriate management for response and resolution.

### **Human Resource Risks**

We compete with other insurance companies and financial institutions for qualified executives, employees and agents. Competition for the best people is intense and an inability to recruit qualified individuals may negatively impact our ability to execute on business strategies or to conduct our operations. We have a number of human resource policies, practices and programs in place to manage these risks, including recruiting programs at every level of the organization, training and development programs, and competitive compensation programs that are designed to attract, motivate and retain high-performing employees.

### **Model Risk**

Our reliance on highly complex models for pricing, valuation and risk measurement, and for input to decision making, is increasing. Consequently, the risk of inappropriate use or interpretation of our models or their output, or the use of deficient models, data or assumptions is growing. Our model risk oversight program includes processes intended to ensure that our critical business models are conceptually sound, used as intended, and to assess the appropriateness of the calculations and outputs.

### **Third Party Risk**

The Company relies on third parties to provide many different types of services. Should these third parties fail to deliver services in compliance with contractual or other service arrangements, our business may be adversely impacted. Our governance framework to address third party risk includes appropriate policies (such as our Outsourcing Policy), standards and procedures, and monitoring of ongoing results and contractual compliance of third party arrangements.

### **Project Risk**

To ensure that key projects are successfully implemented and monitored by management, we have a Global Project Management Centre of Expertise, which is responsible for establishing policies and standards for project management. Our policies, standards and practices are regularly benchmarked against leading practices.

### **Environmental Risk**

Our Environmental Policy reflects the Company's commitment to conducting all business activities in a manner that recognizes the need to preserve the quality of the natural environment. Environmental Procedures have been designed to manage environmental risk and to achieve compliance with all applicable environmental laws and regulations for business units, affiliates and subsidiaries. Environmental risk may originate from investment properties that are subject to natural or man-made environmental risk. The environmental risk may result from on-site or off-site (adjacent) due to migration of regulated pollutants or contaminants with financial or reputational environmental risk and liability consequences by virtue of strict liability. Real estate assets may be owned, leased and/or managed, as well as mortgaged by Manulife Financial who might enter into the chain of liability due to foreclosure ownership when in default. Environmental risk could also arise from natural disasters (e.g., weather, fire, earthquake, floods, pests) or human activities (use of chemicals, pesticides) conducted within the site or when impacted from adjacent sites. To mitigate environmental risk, protocols and due diligence standards within the business units identify environmental issues in advance of acquisition. Historical and background investigation and subsequent soil and ground water subsurface testing may be conducted as required to assess manageable environmental risk. Regular property inspections and limitations on permitted activities further manage environmental liability or financial risk. Other potentially significant financial risks for individual assets, such as fire and earthquake, have generally been insured where practicable.

### **Additional Risk Factors That May Affect Future Results**

Medical advances and legislation related to genetic testing could adversely impact our underwriting abilities. Current or future global legislation in jurisdictions where Manulife operates may restrict its right to underwrite based on access to genetic test results. Without the obligation of disclosure, the asymmetry of information shared between applicant and insurer could increase anti-selection in both new business and in-force policyholder behaviour. The impact of restricting insurers' access to this information and the associated problems of anti-selection becomes more acute where genetic technology leads to advancements in diagnosis of life threatening conditions that are not matched by improvements in treatment. We cannot predict the potential financial impact that this would have on the Company or the industry as a whole. In addition, there may be further unforeseen implications as genetic testing continues to evolve and becomes more established in mainstream medical practice.

The Canadian Accounting Standards Board makes changes to the financial accounting and reporting standards that govern the preparation of our financial statements. These changes may be difficult to anticipate and may materially impact how we record and present our financial condition and results of operations. As discussed under "Critical Accounting and Actuarial Policies", the preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts and disclosures made in the financial statements and accompanying notes. These estimates and assumptions may require revision and actual results may differ materially from these estimates. As well, as noted under "Caution regarding forward-looking statements", forward-looking statements involve risks and uncertainties and actual results may differ materially from those expressed or implied in such statements. Key risk factors and their management have been described above, summarized by major risk category.

Other factors that may affect future results include changes in government trade policy; monetary policy; fiscal policy; political conditions and developments in or affecting the countries in which we operate; technological changes; public infrastructure disruptions; climate change; changes in consumer spending and saving habits; the possible impact on local, national or global economies from public health emergencies, such as an influenza pandemic; and international conflicts and other developments including those relating to terrorist activities. Although we take steps to anticipate and minimize risks in general, unforeseen future events may have a negative impact on our business, financial condition and results of operations.

We caution that the preceding discussion of risks that may affect future results is not exhaustive. When relying on our forward-looking statements to make decisions with respect to our Company, investors and others should carefully consider the foregoing risks, as well as other uncertainties and potential events, and other external and Company specific risks that may adversely affect the future business, financial condition or results of operations of our Company.

# Capital Management Framework

Manulife Financial seeks to manage its capital with the objectives of:

- Operating with sufficient capital to be able to honour all policyholder and other obligations with a high degree of confidence;
- Securing the stability and flexibility to pursue the Company's business objectives, ensuring best access to capital markets and maintaining target credit ratings as a result of retaining the ongoing confidence of regulators, policyholders, rating agencies, investors and other creditors; and,
- Optimizing return on capital to meet shareholders' expectations subject to constraints and considerations of adequate levels of capital established to meet the first two objectives.

Capital is managed and monitored in accordance with the Capital Management Policy, which is reviewed and approved by the Board of Directors annually. The policy is integrated with the Company's risk and financial frameworks. It establishes guidelines regarding the quantity and quality of capital, internal capital mobility, and proactive management of ongoing and future capital requirements. The Board or its designated committees regularly review the Company's capital position and capital plans. Operational oversight of capital management across the enterprise is provided by the Capital Committee, consisting of senior finance and risk management executives and chaired by the Chief Actuary. In addition, the CFO meets regularly with senior finance and strategy executives to decide on desirable capital actions.

Our capital management framework takes into account the requirements of the Company as a whole as well as the needs of each of our subsidiaries. Our capital adequacy assessment considers expectations of key external stakeholders such as regulators and rating agencies, results of sensitivity testing as well as a comparison to our peers. We set our internal capital targets above regulatory requirements, monitor against these internal targets and initiate actions appropriate to achieving our business objectives.

We also periodically assess the strength of our capital position under various stress scenarios. The annual Dynamic Capital Adequacy Testing ("DCAT") typically quantifies the financial impact of economic events arising from shocks in public equity and other markets, interest rates and credit, amongst others. Our 2013 DCAT results demonstrate that we have sufficient assets to discharge policy liabilities in the various adverse scenarios tested. A variety of other stress tests conducted by the Company support this conclusion.

We integrate capital management into our product planning and performance management. Capital is generally allocated to business lines based on the higher of the internal risk-based capital and the regulatory capital levels applicable to each jurisdiction.

In order to mitigate the impact of currency movements on the consolidated capital ratios, the currency mix of assets supporting capital is managed in relation to the Company's global capital requirements. As a result, both available and required capital rise (fall) when the Canadian dollar weakens (strengthens).

The composition of capital between equity and other capital instruments impacts the Company's financial strength ratings and therefore is an important consideration in determining the appropriate amount of leverage. The Company monitors and rebalances its capital mix through capital issuances and redemptions.

## MFC Consolidated Capital

The following measure of capital serves as the foundation of our capital management activities at the MFC level.

| As at December 31,<br>(C\$ millions)                                       | 2013             | restated <sup>(2)</sup><br>2012 | 2011             |
|--|------------------|---------------------------------|------------------|
| Non-controlling interests  | \$ 376           | \$ 301                          | \$ 415           |
| Participating policyholders' equity  | 134              | 146                             | 249              |
| Preferred shares   | 2,693            | 2,497                           | 1,813            |
| Common shareholders' equity  | 25,830           | 22,215                          | 22,402           |
| Total equity <sup>(1)</sup>  | \$ 29,033        | \$ 25,159                       | \$ 24,879        |
| Less accumulated other comprehensive loss on cash flow hedges              | (84)             | (185)                           | (91)             |
| Total equity less accumulated other comprehensive loss on cash flow hedges | \$ 29,117        | \$ 25,344                       | \$ 24,970        |
| Liabilities for preferred shares and capital instruments                   | 4,385            | 3,903                           | 4,012            |
| <b>Total capital</b>   | <b>\$ 33,502</b> | <b>\$ 29,247</b>                | <b>\$ 28,982</b> |

<sup>(1)</sup> Total equity includes unrealized gains and losses on AFS debt securities and AFS equities, net of taxes. The unrealized gain or loss on AFS debt securities are excluded from the OSFI definition of regulatory capital. As at December 31, 2013, the unrealized loss on AFS debt securities, net of taxes, was \$58 million (2012 – \$312 million unrealized gain).

<sup>(2)</sup> The 2012 results were restated to reflect the retrospective application of new IFRS accounting standards effective January 1, 2013. For a detailed description of the change see note 2 to the 2013 Consolidated Financial Statements. The 2011 results were not required to be restated.

Total capital was \$33.5 billion as at December 31, 2013 compared to \$29.2 billion as at December 31, 2012, an increase of \$4.3 billion. The increase included net earnings of \$3.1 billion, the \$1 billion impact from favourable currency movements on translation of foreign operations and net capital issued of \$0.7 billion, partially offset by cash dividends of \$0.8 billion over the period.

The "Total capital" above does not include \$5.1 billion (2012 – \$5.5 billion, 2011 – \$5.5 billion) of senior indebtedness issued by MFC because this form of financing does not meet OSFI's definition of regulatory capital at the MFC level. The Company has down-streamed the proceeds from this financing into operating entities in the form that qualifies as regulatory capital at the subsidiary level. Rating agencies expect companies to limit this and other sources of financial leverage to levels appropriate for their ratings.

## Capital and Funding Activities

During 2013 we raised \$650 million of capital and \$350 million matured through the following transactions:

- We issued a total of \$450 million of MLI subordinated debentures during the year: \$200 million (2.819%) on February 25, 2013 and \$250 million (2.926%) on November 29, 2013.
- We issued \$200 million (3.80%) of MFC preferred shares on June 21, 2013.
- On March 28, 2013, \$350 million (4.67%) of MFC medium term notes matured.

## Common Shareholder Dividends and Dividend Payout Ratio

The declaration and payment of shareholder dividends and the amount thereof are at the discretion of the Board and depend upon the results of operations, financial conditions, cash requirements and future prospects of the Company, taking into account regulatory restrictions on the payment of shareholder dividends as well as other factors deemed relevant by the Board.

The Company offers a Dividend Reinvestment Program (“DRIP”) whereby shareholders may elect to automatically reinvest dividends in the form of MFC common shares instead of receiving cash. The offering of the program and its terms of execution are subject to the Board’s discretion. Participation in the DRIP is strong, with enrolment of approximately one-third of shares outstanding. In 2013 we issued 19 million common shares (2012 – 26 million) for a total consideration of \$325 million (2012 – \$318 million) under this program.

## Regulatory Capital Position<sup>21</sup>

MFC monitors and manages its consolidated capital in compliance with the OSFI Guideline A2 – Capital Regime for Regulated Insurance Holding Companies and Non-Operating Life Companies. Under this regime our consolidated available capital is measured against a required amount of risk capital determined in accordance with the guideline. The capital position of the consolidated MFC operation remains in excess of our internal targets.

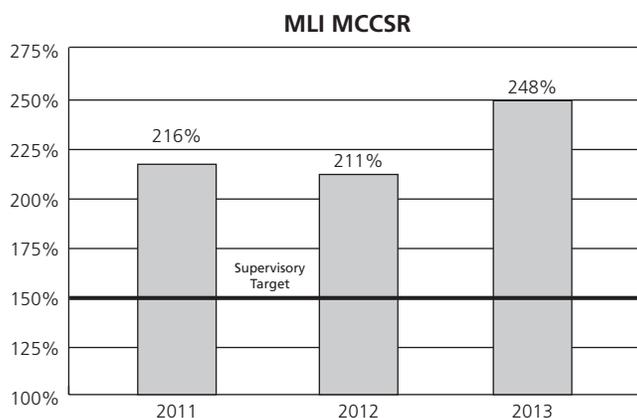
MFC’s operating activities are mostly conducted within MLI or its subsidiaries. MLI is regulated by OSFI and is subject to consolidated risk based capital requirements using the OSFI MCCSR framework. Some affiliate reinsurance business is undertaken outside the MLI consolidated framework.

Our MCCSR ratio for MLI ended the year at 248 per cent, up 37 points from the 211 per cent reported at the end of 2012. This increase reflects the contribution from earnings, a reduction in capital requirements for variable annuity and segregated fund guarantees due to the strong equity markets, the sale of our Taiwan insurance business and net capital issuance as well as from the 2013 MCCSR Guideline change that reduced capital required for lapse risk.

We consider MLI’s MCCSR ratio strong in view of our materially reduced risk sensitivities and the lack of explicit capital credit for the hedging of our variable annuity liabilities. We achieved our equity market and interest rate risk targets two years ahead of schedule.

The 2014 MCCSR Guideline did not contain changes of material implications for MLI’s regulatory capital ratio.

MLI’s non-consolidated operations and subsidiaries all maintained capital levels in excess of local requirements as at December 31, 2013. Manulife Canada Ltd., an OSFI regulated Canadian operating insurance company, was wound up as at December 31, 2013 .



Actual MLI ratios as at December 31.  
OSFI regulatory minimum is 120%, with 150% supervisory target.

<sup>21</sup> The “Risk Management and Risk Factors” section above outlines a number of regulatory capital risks.

## Credit Ratings

Manulife Financial's insurance operating companies have strong ratings from the credit rating agencies for financial strength and claims paying ability. Maintaining strong ratings on debt and capital instruments issued by MFC and its subsidiaries allows us to access the capital markets at competitive pricing levels. Should these credit ratings decrease materially, our cost of financing may increase and our access to funding and capital through the capital markets could be reduced.

During 2013, Moody's, Fitch, DBRS and A.M. Best maintained their assigned ratings of MFC and its primary insurance operation companies. S&P raised the counterparty credit rating of MFC to A from A- and maintained the assigned ratings of its primary insurance operating companies. As at December 31, 2013, S&P, Moody's, DBRS and A.M. Best had a stable outlook on these ratings and Fitch had a negative outlook. In January 2014, Fitch affirmed the financial strength rating of MFC's primary insurance operating companies and credit ratings and revised the outlook to stable from negative.

The following table summarizes the financial strength and claims paying ability ratings of MLI and certain of its subsidiaries as at February 21, 2014.

### Financial Strength/Claims Paying Ability Ratings

|  | S&P        | Moody's          | DBRS             | Fitch            | A.M. Best        |
|--|------------|------------------|------------------|------------------|------------------|
| The Manufacturers Life Insurance Company     | <b>AA-</b> | <b>A1</b>        | <b>IC-1</b>      | <b>AA-</b>       | <b>A+</b>        |
| John Hancock Life Insurance Company (U.S.A.) | <b>AA-</b> | <b>A1</b>        | <b>Not Rated</b> | <b>AA-</b>       | <b>A+</b>        |
| Manulife (International) Limited             | <b>AA-</b> | <b>Not Rated</b> | <b>Not Rated</b> | <b>Not Rated</b> | <b>Not Rated</b> |
| Manulife Life Insurance Company (Japan)      | <b>AA-</b> | <b>Not Rated</b> | <b>Not Rated</b> | <b>Not Rated</b> | <b>Not Rated</b> |

# Critical Accounting and Actuarial Policies

The preparation of financial statements in accordance with IFRS requires management to make estimates and assumptions that affect the reported amounts and disclosures made in the Consolidated Financial Statements and accompanying notes. These estimates and assumptions are based on historical experience, management's assessment of current events and conditions and activities that the Company may undertake in the future as well as possible future economic events. Actual results could differ from these estimates. The estimates and assumptions described in this section depend upon subjective or complex judgments about matters that may be uncertain and changes in these estimates and assumptions could materially impact the Consolidated Financial Statements.

Our significant accounting policies are described in note 1 to the Consolidated Financial Statements. Significant estimation processes relate to the determination of insurance and investment contract liabilities, fair value of certain financial instruments, derivatives and hedge accounting, provisioning for asset impairment, determination of pension and other post-employment benefit obligations and expenses, income taxes and uncertain tax positions and valuation of goodwill and intangible assets as described below. In addition, in the determination of the fair values of invested assets, where observable market data is not available, management applies judgment in the selection of valuation models.

## Policy Liabilities

Policy liabilities for IFRS are valued under standards established by the Actuarial Standards Board. These standards are designed to ensure we establish an appropriate liability on the Consolidated Statements of Financial Position to cover future obligations to all our policyholders. Under IFRS, the assumptions underlying the valuation of policy liabilities are required to be reviewed and updated on an ongoing basis to reflect recent and emerging trends in experience and changes in risk profile of the business. In conjunction with prudent business practices to manage both product and asset related risks, the selection and monitoring of appropriate valuation assumptions is designed to minimize our exposure to measurement uncertainty related to policy liabilities.

## Determination of Policy Liabilities

Policy liabilities have two major components: a best estimate amount and a provision for adverse deviation. The best estimate amount represents 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. The best estimate amount is reduced by the future expected policy revenues and future expected investment income on assets supporting the policies, before any consideration for reinsurance ceded. To determine the best estimate amount, assumptions must be made for a number of key factors, including future mortality and morbidity rates, investment returns, rates of policy termination, operating expenses, certain taxes (other than income taxes) and foreign currency. Reinsurance is used to transfer part or all of a policy liability to another insurance company at terms negotiated with that insurance company. A separate asset for reinsurance ceded is calculated based on the terms of the reinsurance treaties that are in force, with deductions taken for the credit standing of the reinsurance counterparties where appropriate.

To recognize the uncertainty involved in determining the best estimate actuarial liability assumptions, a provision for adverse deviation ("PfAD") is established. The PfAD is determined by including a margin of conservatism for each assumption to allow for possible mis-estimation of, or deterioration in, future experience in order to provide greater comfort that the policy liabilities will be sufficient to pay future benefits. The Canadian Institute of Actuaries establishes suggested ranges for the level of margins for adverse deviation based on the risk profile of the business. Our margins are set taking into account the risk profile of our business. The effect of these margins is to increase policy liabilities over the best estimate assumptions. The margins for adverse deviation decrease the income that is recognized at the time a new policy is sold and increase the income recognized in later periods as the margins release as the remaining policy risks reduce.

## Best Estimate Assumptions

*We follow established processes to determine the assumptions used in the valuation of our policy liabilities. The nature of each risk factor and the process for setting the assumptions used in the valuation are discussed below.*

## Mortality

Mortality relates to the occurrence of death. Mortality assumptions are based on our internal as well as industry past and emerging experience and are differentiated by sex, underwriting class, policy type and geographic market. We make assumptions about future mortality improvements using historic experience derived from population data. Reinsurance is used to offset some of our direct mortality exposure on in-force life insurance policies with the impact of the reinsurance directly reflected in our policy valuation. Actual mortality experience is monitored against these assumptions separately for each business. Where mortality rates are lower than assumed for life insurance, the result is favourable, and where mortality rates are higher than assumed for payout annuities, mortality results are favourable. Overall 2013 experience was favourable when compared with our assumptions. Changes to future expected mortality assumptions in the policy liabilities in 2013 resulted in an increase in policy liabilities.

## Morbidity

Morbidity relates to the occurrence of accidents and sickness for the insured risks. Morbidity assumptions are based on our internal as well as industry past and emerging experience and are established for each type of morbidity risk and geographic market. For our Long-Term Care business we make assumptions about future morbidity improvements. Actual morbidity experience is monitored

against these assumptions separately for each business. Our morbidity risk exposure relates to future expected claims costs for long-term care insurance, as well as for group benefits and certain individual health insurance products we offer. Overall 2013 experience was unfavourable when compared with our assumptions. A comprehensive morbidity experience review for our U.S. Long-Term care business was completed in 2013, including assumptions related to in-force price increases. Changes to future expected morbidity assumptions in the policy liabilities in 2013 resulted in an increase in policy liabilities.

### **Property and Casualty**

Our Property and Casualty Reinsurance business insures against losses from natural and human disasters and accidental events. Policy liabilities are held for incurred claims not yet reported, for claims reported but not yet paid and for expected future claims related to premiums paid to date. In 2011, we had significant adverse experience on business assumed on our retrocession business related to the earthquakes in Japan and New Zealand. Both our 2012 and 2013 claims loss experience was favourable with respect to the provisions that were established.

### **Policy Termination and Premium Persistency**

Policy termination includes lapses and surrenders, where lapses represent the termination of policies due to non-payment of premiums and surrenders represent the voluntary termination of policies by policyholders. Premium persistency represents the level of ongoing deposits on contracts where there is policyholder discretion as to the amount and timing of deposits. Policy termination and premium persistency assumptions are primarily based on our recent experience adjusted for expected future conditions. Assumptions reflect differences by type of contract within each geographic market and actual experience is monitored against these assumptions separately for each business. Overall 2013 experience was unfavourable when compared to our assumptions. Revisions were made to future premium persistency assumptions for Universal and Variable Universal Life products in the U.S., and to policy termination assumptions for certain Canadian whole life and term products and certain whole life insurance products in Japan. These revisions resulted in an increase in policy liabilities.

### **Expenses and Taxes**

Operating expense assumptions reflect the projected costs of maintaining and servicing in-force policies, including associated overhead expenses. The expenses are derived from internal cost studies and are projected into the future with an allowance for inflation. For some developing businesses, there is an expectation that unit costs will decline as these businesses mature. Actual expenses are monitored against assumptions separately for each business. Overall maintenance expenses for 2013 were unfavourable when compared with our assumptions. Taxes reflect assumptions for future premium taxes and other non-income related taxes. For income taxes, policy liabilities are adjusted only for temporary tax timing and permanent tax rate differences on the cash flows available to satisfy policy obligations.

### **Investment Returns**

We segment assets to support liabilities by business segment and geographic market and establish investment strategies for each liability segment. The projected cash flows from these assets are combined with projected cash flows from future asset purchases/sales to determine expected rates of return for future years. The investment strategies for future asset purchases and sales are based on our target investment policies for each segment and the re-investment returns are derived from current and projected market rates for fixed interest investments and our projected outlook for non-fixed interest assets. Credit losses are projected based on our own and industry experience, as well as specific reviews of the current investment portfolio. Investment return assumptions for each asset class also incorporate expected investment management expenses that are derived from internal cost studies. In 2013, actual investment returns were favourable when compared to our assumptions. In 2012, actual investment returns were unfavourable when compared to our assumptions. Overall investment results, excluding returns on variable annuities, were favourable. While the increase in swap spreads and the decrease in corporate spreads was adverse in the year, this was more than offset by gains from asset trading, origination activity, positive market returns, and the increase in risk free rates.

### **Segregated Funds**

We offer segregated funds to policyholders that offer certain guarantees, including guaranteed returns of principal on maturity or death, as well as guarantees of minimum withdrawal amounts or income benefits. The on-balance sheet liability for these benefits is the expected cost of these guarantees including appropriate valuation margins for the various contingencies including mortality and lapse. The most dominant assumption is the return on the underlying funds in which the policyholders invest. This risk is mitigated through a dynamic hedging strategy. In 2013, experience on assets underlying segregated fund business which has guarantees due to changes in market value of funds under management was favourable for both the business that is hedged and the business that is not hedged. The latter excludes the experience on the macro equity hedges. Note that an unchanged market or an increase of less than our expected returns will still result in an earnings loss, since actual returns would not meet the expected returns in the valuation models.

### **Foreign Currency**

Foreign currency risk results from a mismatch of the currency of the policy liabilities and the currency of the assets designated to support these obligations. We generally match the currency of our assets with the currency of the liabilities they support, with the objective of mitigating the risk of loss arising from movements in currency exchange rates. Where a currency mismatch exists, the assumed rate of return on the assets supporting the liabilities is reduced to reflect the potential for adverse movements in exchange rates.

## Experience Adjusted Products

Where policies have features that allow the impact of changes in experience to be passed on to policyholders through policy dividends, experience rating refunds, credited rates or other adjustable features, the projected policyholder benefits are adjusted to reflect the projected experience. Minimum contractual guarantees and other market considerations are taken into account in determining the policy adjustments.

## Provision for Adverse Deviation

The aggregate provision for adverse deviation is the sum of the provisions for adverse deviation for each risk factor. Margins for adverse deviation are established by product type and geographic market for each assumption or factor used in the determination of the best estimate actuarial liability. The margins are established based on the risk characteristics of the business being valued.

In addition to the explicit margin for adverse deviation, the valuation basis for segregated fund liabilities explicitly limits the future revenue recognition in the valuation basis to the amount necessary to offset acquisition expenses, after allowing for the cost of any guarantee features. The fees that are in excess of this limitation are reported as an additional margin and are shown in segregated fund non-capitalized margins.

The provision for adverse deviation and the future revenue deferred in the valuation due to the limitations on recognition of future revenue in the valuation of segregated fund liabilities are shown in the table below.

| As at December 31,<br>(C\$ millions)                                | 2013              | 2012              |
|---|-------------------|-------------------|
| <b>Best estimate actuarial liability<sup>(1)</sup></b>              | <b>\$ 133,463</b> | <b>\$ 134,625</b> |
| <b>Provision for adverse deviation</b>                              |                   |                   |
| Insurance risks (mortality/morbidity)                               | \$ 10,779         | \$ 10,181         |
| Policyholder behaviour (lapse/surrender/premium persistency)        | 3,107             | 3,216             |
| Expenses  | 1,872             | 1,940             |
| Investment risks (non-credit)                                       | 17,861            | 18,343            |
| Investment risks (credit)   | 1,323             | 1,294             |
| Segregated fund guarantees  | 1,586             | 4,442             |
| Other   | 11                | 10                |
| <b>Total provision for adverse deviation ("PfAD")<sup>(1)</sup></b> | <b>\$ 36,539</b>  | <b>\$ 39,426</b>  |
| <b>Segregated funds – additional margins</b>                        | <b>8,160</b>      | <b>8,571</b>      |
| <b>Total of PfAD and additional segregated fund margins</b>         | <b>\$ 44,699</b>  | <b>\$ 47,997</b>  |

<sup>(1)</sup> Reported actuarial liabilities as at December 31, 2013 of \$170,002 million (2012 – \$174,051 million) are composed of \$133,463 million (2012 – \$134,625 million) of best estimate actuarial liability and \$36,539 million (2012 – \$39,426 million) of PfAD.

The change in the PfAD from period to period is impacted by changes in liability and asset composition, by movements in currency and movements in interest rates and by material changes in valuation assumptions. The overall increase in the insurance risks PfAD was driven by our review of valuation assumptions and methods. The decline related to segregated fund guarantee PfAD was due to improved equity markets over the year.

## Sensitivity of Earnings to Changes in 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 income. The sensitivity of after-tax income to changes in non-economic and 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 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 non-economic assumptions<sup>(1)</sup>

For the years ended December 31,  
(C\$ millions)

|  | 2013     | 2012     |
|--|----------|----------|
| <b>Policy Related Assumptions</b>                                |          |          |
| 2% adverse change in future mortality rates <sup>(2),(4)</sup>   |          |          |
| Products where an increase in rates increases policy liabilities | \$ (300) | \$ (200) |
| Products where a decrease in rates increases policy liabilities  | (300)    | (300)    |
| 5% increase in future morbidity rates <sup>(3),(4),(5)</sup>     | (2,000)  | (1,400)  |
| 10% adverse change in future termination rates <sup>(4)</sup>    | (1,300)  | (1,400)  |
| 5% increase in future expense levels                             | (300)    | (400)    |

<sup>(1)</sup> 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 non-economic assumptions.

<sup>(2)</sup> An increase in mortality rates will generally increase policy liabilities for life insurance contracts whereas a decrease in mortality rates will generally increase policy liabilities for policies with longevity risk such as payout annuities.

<sup>(3)</sup> No amounts related to morbidity risk are included for policies where the policy liability provides only for claims costs expected over a short period, generally less than one year, such as Group Life and Health.

<sup>(4)</sup> The impacts of the sensitivities on LTC for morbidity, mortality and lapse are assumed to be moderated by partial offsets from the Company's ability to contractually raise premium rates in such events, subject to state regulatory approval.

<sup>(5)</sup> The morbidity sensitivity for 2013 reflects the changes to assumptions made as part to the 2013 annual review of actuarial assumptions and methods. This includes a change to the margin for adverse deviation on assumed future premium rate increases. In addition, we refined our models to better reflect the extent to which we can raise premium rates should experience deteriorate as indicated above. These changes resulted in an increase in the sensitivity.

Under Canadian IFRS, we must test a number of prescribed interest rate scenarios. The scenario that produces the largest policy liabilities is used and is called the booking scenario. The resulting interest scenario for most of our business is a gradual grading of market interest rates from current market levels to assumed ultimate reinvestment rates over 20 years.

The table below shows the potential impact on annual net income attributed to shareholders where the fixed income ultimate reinvestment rate ("URR") is determined assuming that risk free rates remain at their starting December 31, 2013 or December 31, 2012 levels. It also shows the potential impact if the URR were determined using risk free rates that are assumed to immediately rise or immediately fall by 50 basis points and then stay at these new levels.

## Potential impact on accumulated next five years and the following five years net income attributed to shareholders arising from potential changes to the fixed income ultimate reinvestment rates ("URR")<sup>(1),(2)</sup>

As at December 31,  
(C\$ millions)

| For the periods   | 2013        |             | 2012        |             |
|---|-------------|-------------|-------------|-------------|
|   | 2014 – 2018 | 2019 – 2023 | 2013 – 2017 | 2018 – 2022 |
| Risk free rates remain at December 31, 2013 and December 31, 2012 levels, respectively.   | \$ (600)    | \$ (100)    | \$ (1,600)  | \$ (300)    |
| Risk free rates rise 50 bp immediately from their December 31, 2013 or December 31, 2012, levels, respectively, and then remain at those new levels thereafter. | (100)       | 100         | (900)       | –           |
| Risk free rates fall 50 bp immediately from their December 31, 2013 or December 31, 2012 levels, respectively, and then remain at those new levels thereafter.  | (1,000)     | (100)       | (2,200)     | (500)       |

<sup>(1)</sup> Current URRs in Canada are 0.7% per annum and 2.7% per annum for short and long-term bonds, respectively, and in the U.S. are 0.7% per annum and 3.4% per annum for short and long-term bonds, respectively. Since the URRs are based upon a five and ten year rolling average of government bond rates, continuation of current rates or a further decline could have a material impact on net income.

<sup>(2)</sup> These impacts assume that the URR changes implied by these shocks do not change which reinvestment scenario produces the largest reserve.

The sensitivity of net income attributed to shareholders to further updates to the ultimate reinvestment rates at December 31, 2013 has decreased from December 31, 2012 due to the increase in risk free interest rates during that time.

## Potential impact on net income attributed to shareholders arising from changes to asset related assumptions supporting actuarial liabilities, excluding the fixed income URR discussed above

| As at December 31,<br>(C\$ millions)  | Increase (decrease) in after-tax income |          |          |          |
|---|---|----------|----------|----------|
|   | 2013                                    |          | 2012     |          |
|   | Increase                                | Decrease | Increase | Decrease |
| <b>Asset related assumptions updated periodically in valuation basis changes</b>                              |   |          |          |          |
| 100 basis point change in future annual returns for publicly traded equities <sup>(1),(2)</sup>               | \$ 400                                  | \$ (400) | \$ 800   | \$ (900) |
| 100 basis point change in future annual returns for alternative long-duration assets <sup>(3)</sup>           | 3,800                                   | (3,700)  | 3,900    | (4,000)  |
| 100 basis point change in equity volatility assumption for stochastic segregated fund modeling <sup>(4)</sup> | (200)                                   | 200      | (300)    | 300      |

<sup>(1)</sup> The sensitivity to public equity returns above includes the impact on both segregated fund guarantee reserves and on other policy liabilities. For a 100 basis point increase in expected growth rates, the impact from segregated fund guarantee reserves is a \$200 million increase (December 31, 2012 – \$500 million increase). For a 100 basis point decrease in expected growth rates, the impact from segregated fund guarantee reserves is a \$200 million decrease (December 31, 2012 – \$600 million decrease). Expected long-term annual market growth assumptions for public equities pre-dividends for key markets are based on long-term historical observed experience and compliance with actuarial standards. The growth rates for returns in the major markets used in the stochastic valuation models for valuing segregated fund guarantees are 7.6% per annum in Canada, 7.6% per annum in the U.S. and 5.2% per annum in Japan. Growth assumptions for European equity funds are market-specific and vary between 5.8% and 7.85%.

<sup>(2)</sup> For future annual returns on public equity, the reduction of \$500 million in sensitivity to a decrease from December 31, 2012 to December 31, 2013 is primarily due to strong returns from public equities during the year which lower the sensitivity for our segregated fund guarantee liabilities, and the shift of some of our variable annuity guaranteed value from our macro-hedging program to our dynamic hedging program.

<sup>(3)</sup> Alternative long-duration assets include commercial real estate, timber and agricultural real estate, oil and gas, and private equities. The reduction of \$300 million in sensitivity to a decrease from December 31, 2012 to December 31, 2013 is primarily related to the impact of the increase in risk free rates in some jurisdictions during the period, increasing the rate at which funds can be reinvested.

<sup>(4)</sup> Volatility assumptions for public equities are based on long-term historic observed experience and compliance with actuarial standards. The resulting volatility assumptions are 17.15% per annum in Canada and 17.15% per annum in the U.S. for large cap public equities, and 19% per annum in Japan. For European equity funds, the volatility varies between 16.15% and 18.4%.

### Review of Actuarial Methods and Assumptions

The 2013 full year review of the actuarial methods and assumptions underlying policy liabilities produced an increase in the policy liabilities of \$948 million net of reinsurance ceded, and includes \$220 million attributed to participating policyholders. Net of the impacts on participating policyholder surplus and non-controlling interests, this resulted in a decrease in net income attributed to shareholders of \$489 million post-tax.

In conjunction with prudent best practices to manage both product and asset related risks, the selection and monitoring of assumptions appropriate to the business is designed to minimize our exposure to measurement uncertainty related to policy liabilities. While the assumptions selected represent the Company's current best estimates and assessment of risk, the ongoing monitoring of experience and the economic environment is likely to result in future changes to the valuation assumptions, which could be material.

The following table represents the impact to the 2013 changes in actuarial assumptions and models on policy liabilities and net income attributed to shareholders:

| For the year ended December 31, 2013<br>(C\$ millions) | To net income         |                            |
|--|-----------------------|----------------------------|
|  | To policy liabilities | attributed to shareholders |
|  | Increase (decrease)   | Increase (decrease)        |
| <b>Assumption</b>                                      |                       |                            |
| <b>Lapses and policyholder behavior</b>                |                       |                            |
| U.S. Insurance premium persistency update              | \$ 320                | \$(208)                    |
| Insurance lapse updates                                | 472                   | (233)                      |
| Variable annuity lapse update                          | 101                   | (80)                       |
| <b>U.S. Long-Term Care triennial review</b>            | 18                    | (12)                       |
| <b>Segregated fund parameters update</b>               | (220)                 | 203                        |
| <b>Other updates</b>                                   | 257                   | (159)                      |
| <b>Net impact</b>                                      | <b>\$ 948</b>         | <b>\$(489)</b>             |

### Lapses and policyholder behaviour

Premium persistency assumptions were adjusted in the U.S. for universal life and variable universal life products to reflect recent and expected future experience which led to a \$208 million charge to net income.

Lapse rates across several insurance business units were updated to reflect recent and expected future policyholder lapse experience. This included a review of the lapse experience for the Canadian individual insurance whole life and term products and certain whole life insurance products in Japan. Net of the impact on participating surplus this resulted in a \$233 million charge to net income.

Lapse rate assumptions were updated for a number of Variable Annuity contracts to reflect updated experience results, including reducing base lapse rates in Japan as contracts get closer to maturity. This resulted in an \$80 million charge to net income.

### U.S. Long-Term Care triennial review

U.S. Insurance completed a comprehensive long-term care experience study. This included a review of mortality and morbidity experience, lapse experience, and of the policy liability for in-force rate increases filed for as a result of the 2010 review. The net impact of the review was a \$12 million charge to net income. This included several offsetting items as outlined below.

Expected claims costs increased primarily due to lower mortality, higher incidence rates, and claims periods longer than expected in policy liabilities. This increase in expected cost was offset by a number of items, including: (i) the expected future premium increases resulting from this year's review, (ii) actual experience on previously filed rate increases as the actual approval rate is higher than what was reflected in policy liabilities, (iii) method and modeling refinements largely related to the modeling of future tax cash flows, and (iv) updated lapse assumptions.

The expected future premium increases assumed in the policy liabilities resulted in a benefit of \$1.0 billion to net income; this includes a total of \$0.5 billion from future premium increases that are related to revised morbidity, mortality and lapse assumptions, while the remainder is a carryover from outstanding amounts from 2010 filings. Premium increases averaging approximately 25 per cent will be sought on about one half of the in-force business, excluding the carryover of 2010 amounts requested. U.S. Insurance have factored into its assumptions the estimated timing and amount of state approved premium increases. The actual experience obtaining price increases could be materially different than was assumed, resulting in further policy liability increases or releases which could be material.

### Segregated fund parameters update

Certain parameters used in the stochastic valuation of the segregated fund valuation were updated and resulted in a \$203 million benefit to net income. The primary updates were to the foreign exchange and bond fund parameters both of which were favourable. The bond parameter reviews included updates to interest rate and volatility assumptions. The impact of interest rate movements between the last review effective March 31, 2012 and March 31, 2013 led to a charge, which was more than offset by the impact of the increase in interest rates in the second quarter of 2013.

### Other updates

The Company made a number of model refinements related to the projection of both asset and liability cash flows which led to a \$109 million charge to net income. This includes several offsetting items: a charge due to a refinement in the modeling of reinsurance contracts for Canadian individual insurance; and a charge due to aligning the modeling of swaps across all segments partially offset by a benefit due to a refinement in the modeling of guaranteed minimum withdrawal benefit products in U.S. Annuities; and a benefit due to further clarity on the treatment of Canadian investment income tax.

Mortality and morbidity charges of \$77 million to net income were the result of the review of assumptions for multiple product lines.

The net impact of all other updates was a \$27 million benefit to net income, which included updates to investment return and future expense assumptions.

### Change in Insurance Contract Liabilities

The change in insurance contract liabilities can be attributed to several sources: new business, acquisitions, in-force movement and currency impact. Changes in insurance contract liabilities are substantially offset in the financial statements by premiums, investment income, policy benefits and other policy related cash flows. The changes in insurance contract liabilities by business segment are shown below:

#### 2013 Insurance Contract Liability Movement Analysis

| (C\$ millions)                     | Asia Division    | Canadian Division | U.S. Division    | Corporate and Other | Total             |
|------------------------------------|------------------|-------------------|------------------|---------------------|-------------------|
| Balance, January 1, 2013           | \$ 27,971        | \$ 50,609         | \$ 101,300       | \$ (166)            | \$ 179,714        |
| New business                       | \$ 150           | \$ (73)           | \$ 1,104         | \$ –                | \$ 1,181          |
| In-force movement                  | 1,167            | (1,788)           | (10,329)         | (64)                | (11,014)          |
| Impact of sale of Taiwan Business  | (1,535)          | –                 | –                | –                   | (1,535)           |
| Changes in methods and assumptions | (36)             | 352               | 488              | 147                 | 951               |
| Currency impact                    | (270)            | 3                 | 6,779            | (10)                | 6,502             |
| Total net changes                  | \$ (524)         | \$ (1,506)        | \$ (1,958)       | \$ 73               | \$ (3,915)        |
| <b>Balance, December 31, 2013</b>  | <b>\$ 27,447</b> | <b>\$ 49,103</b>  | <b>\$ 99,342</b> | <b>\$ (93)</b>      | <b>\$ 175,799</b> |

For new business, the segments with large positive general account premium revenue at contract inception show increases in policy liabilities. For segments where new business deposits are primarily into segregated funds, the increase in policy liabilities related to new business is small since the increase measures only general account liabilities. New business policy liability impact is negative when estimated future premiums, together with future investment income, are expected to be more than sufficient to pay estimated future benefits, policyholder dividends and refunds, taxes (excluding income taxes) and expenses on new policies issued.

The net in-force movement over the year was a decrease of \$11,014 million. A material part of the in-force movement decrease was due to a decrease in policyholder liabilities for segregated fund products due to the increase in equity markets, and the increase in interest rates and the resulting impact on the fair value of assets which back those policy liabilities.

The increase of \$951 million from changes in methods and assumptions resulted in a decrease in pre-tax earnings.

Of the \$9,833 million net decrease in insurance contract liabilities related to new business and in-force movement, \$9,784 million was a decrease in actuarial liabilities. The remaining was a decrease of \$49 million in other insurance contract liabilities.

The increase in policy liabilities from currency reflects the depreciation of the Canadian dollar relative to the U.S. dollar, partially offset by the appreciation of the Canadian dollar relative to the Japanese yen. To the extent assets are currency matched to liabilities, the decrease in insurance contract liabilities due to currency is offset by a corresponding decrease from currency in the value of assets supporting those liabilities.

## 2012 Insurance Contract Liability Movement Analysis

| (C\$ millions)  | Asia Division | Canadian Division | U.S. Division | Corporate and Other | Total      |
|---|---------------|-------------------|---------------|---------------------|------------|
| Balance, January 1, 2012  | \$ 26,733     | \$ 47,144         | \$ 105,431    | \$ 330              | \$ 179,638 |
| Adjustment due to reclassification of policy liabilities to segregated fund liability | \$ (1,193)    | \$ –              | \$ –          | \$ –                | \$ (1,193) |
| New business  | 751           | 67                | 1,732         | –                   | 2,550      |
| In-force movement   | 3,035         | 2,244             | (4,902)       | (510)               | (133)      |
| Changes in methods & assumptions  | 147           | 1,155             | 1,367         | 17                  | 2,686      |
| Currency impact   | (1,502)       | (1)               | (2,328)       | (3)                 | (3,834)    |
| Total net changes   | \$ 1,238      | \$ 3,465          | \$ (4,131)    | \$ (496)            | \$ 76      |
| Balance, December 31, 2012  | \$ 27,971     | \$ 50,609         | \$ 101,300    | \$ (166)            | \$ 179,714 |

For new business, the segments with large positive general account premium revenue at contract inception show increases in policy liabilities. For segments where new business deposits are primarily into segregated funds, the increase in policy liabilities related to new business is small since the increase measures only general account liabilities. New business policy liability impact is negative when estimated future premiums, together with future investment income, are expected to be more than sufficient to pay estimated future benefits, policyholder dividends and refunds, taxes (excluding income taxes) and expenses on new policies issued.

The net in-force movement over the year was a decrease of \$133 million. A material part of the in-force movement increase was related to the decline in interest rates and the resulting impact on the fair value of assets which back those policy liabilities. The \$4.9 billion in-force reserve decrease in the U.S. Division during 2012 included a \$6.9 billion decrease from reinsurance ceded arrangements entered into during the year. The decrease in the Corporate and Other segment was related to the settlement of claims in the Accident and Health Reinsurance operation that is closed to new business, and the Property and Casualty Reinsurance business.

The increase of \$2,686 million from changes in methods and assumptions resulted in a decrease in pre-tax earnings.

Of the \$2,417 million net increase in insurance contract liabilities related to new business and in-force movement, \$2,647 million was an increase in actuarial liabilities. The remaining was a decrease of \$230 million in other insurance contract liabilities.

The decrease in policy liabilities from currency reflects the appreciation of the Canadian dollar relative to the U.S. dollar as well as Japanese yen. To the extent assets are currency matched to liabilities, the decrease in insurance contract liabilities due to currency is offset by a corresponding decrease from currency in the value of assets supporting those liabilities.

## Consolidation

The Company is required to consolidate the financial position and results of entities it controls. Control exists when the Company: 1) has the power to govern the financial and operating policies of the entity, 2) is exposed to a significant portion of the entity's variable returns, and 3) is able to use its power to influence variable returns from the entity. The Company uses the same principles to assess control over any entity it is involved with. In evaluating control, potential factors assessed include the effects of: 1) substantive potential voting rights that are currently exercisable or convertible, 2) contractual management relationships with the entity, 3) rights and obligations resulting from policyholders to manage investments on their behalf, and 4) the effect of any legal or contractual restraints on the Company from using its power to affect its variable returns from the entity.

An assessment of control is based on arrangements in place and the assessed risk exposures at inception. Initial evaluations are reconsidered at a later date if:

- the Company acquires additional interests in the entity or its interests in an entity are diluted,
- the contractual arrangements of the entity are amended such that the Company's involvement with the entity changes, or
- the Company's ability to use its power to affect its variable returns from the entity changes.

Subsidiaries are consolidated from the date on which control is obtained by the Company and cease to be consolidated from the date that control ceases.

## Fair Value of Invested Assets

A large portion of the Company's invested assets are recorded at fair value. Refer to note 1 and note 11 to the 2013 Consolidated Financial Statements for a description of the methods used in determining fair values. When quoted prices in active markets are not available for a particular investment, significant judgment is required to determine an estimated fair value based on market standard valuation methodologies including discounted cash flow methodologies, matrix pricing, consensus pricing services, or other similar techniques. The inputs to these market standard valuation methodologies include, but are not limited to: current interest rates or yields for similar instruments, credit rating of the issuer or counterparty, industry sector of the issuer, coupon rate, call provisions,

sinking fund requirements, tenor (or expected tenor) of the instrument, management's assumptions regarding liquidity, volatilities and estimated future cash flows. Accordingly, the estimated fair values are based on available market information and management's judgments about the key market factors impacting these financial instruments. Financial markets are susceptible to severe events evidenced by rapid depreciation in asset values accompanied by a reduction in asset liquidity. The Company's ability to sell assets, or the price ultimately realized for these assets, depends upon the demand and liquidity in the market and increases the use of judgment in determining the estimated fair value of certain assets.

### **Evaluation of Invested Asset Impairment**

AFS fixed income and equity securities are carried at fair market value, with changes in fair value recorded in Other Comprehensive Income ("OCI") with the exception of unrealized gains and losses on foreign currency translation of AFS fixed income securities which are included in income. Securities are reviewed on a regular basis and any fair value decrement is transferred out of Accumulated Other Comprehensive Income ("AOCI") and recorded in income when it is deemed probable that the Company will not be able to collect all amounts due according to the contractual terms of a fixed income security or when fair value of an equity security has declined significantly below cost or for a prolonged period of time.

Provisions for impairments of mortgage loans and private placement loans are recorded with losses reported in earnings when there is no longer reasonable assurance as to the timely collection of the full amount of the principal and interest.

Significant judgment is required in assessing whether an impairment has occurred and in assessing fair values and recoverable values. Key matters considered include economic factors, company and industry specific developments, and specific issues with respect to single issuers and borrowers.

Changes in circumstances may cause future assessments of asset impairment to be materially different from current assessments, which could require additional provisions for impairment. Additional information on the process and methodology for determining the allowance for credit losses is included in the discussion of credit risk in note 10 to the 2013 Consolidated Financial Statements.

### **Derivative Financial Instruments**

The Company uses derivative financial instruments ("derivatives") including swaps, forwards and futures agreements, and options to manage current and anticipated exposures to changes in interest rates, foreign exchange rates, commodity prices and equity market prices, and to replicate permissible investments. Refer to note 5 to the 2013 Consolidated Financial Statements for a description of the methods used to determine the fair value of derivatives.

The accounting for derivatives is complex and interpretations of the primary accounting guidance continue to evolve in practice. Judgment is applied in determining the availability and application of hedge accounting designations and the appropriate accounting treatment under such accounting guidance. Differences in judgment as to the availability and application of hedge accounting designations and the appropriate accounting treatment may result in a differing impact on the Consolidated Financial Statements of the Company from that previously reported. Assessments of hedge effectiveness and measurements of ineffectiveness of hedging relationships are also subject to interpretations and estimations. If it was determined that hedge accounting designations were not appropriately applied, reported net income could be materially affected.

### **Employee Future Benefits**

The Company maintains a number of plans providing pension (defined benefit and defined contribution) and other post-employment benefits to eligible employees and agents after employment. The largest of these – the defined benefit pension and retiree welfare plans in the U.S. and Canada – are the material plans that are discussed herein and are the subject of the disclosures in note 17 to the 2013 Consolidated Financial Statements.

Due to the long-term nature of defined benefit pension and retiree welfare plans, the calculation of the defined benefit obligations and net benefit cost depends on various assumptions such as discount rates, salary increase rates, cash balance interest crediting rates, health care cost trend rates and rates of mortality. These assumptions are determined by management and are reviewed annually. Differences between actual and expected experience give rise to actuarial gains and losses that affect the amount of the defined benefit obligations and OCI. During 2013, the actual experience resulted in an actuarial gain of \$274 million (2012 – \$53 million) for the defined benefit pension plans and an actuarial gain of \$69 million (2012 – \$79 million) for the retiree welfare plans. The aggregate gain of \$343 million (2012 – \$132 million) was fully recognized in OCI in 2013. The key weighted average assumptions, as well as the sensitivity of the defined benefit obligations to these assumptions, are presented in note 17 to the 2013 Consolidated Financial Statements.

Contributions to the broad based defined benefit pension plans are made in accordance with the regulations in the countries in which the plans are offered. During 2013, the Company contributed \$21 million (2012 – \$37 million) to these plans. As at December 31, 2013, the difference between the fair value of assets and the defined benefit obligations for these plans was a surplus of \$137 million (2012 – deficit of \$95 million). For 2014, the contributions to the plans are expected to be approximately \$20 million.

The Company's supplemental pension plans for executives are not funded; benefits under these plans are paid as they become due. During 2013, the Company paid benefits of \$61 million (2012 – \$62 million) under these plans. As at December 31, 2013, the defined benefit obligations amounted to \$713 million (2012 – \$727 million).

The Company's retiree welfare plans are partially funded, although there are no regulations or laws governing or requiring the funding of these plans. As at December 31, 2013, the difference between the fair value of plan assets and the defined benefit plan obligations was a deficit of \$133 million (2012 – \$221 million).

For further details on the defined benefit obligations and net benefit cost for these plans, refer to note 17 to the 2013 Consolidated Financial Statements.

### **Income Taxes**

The Company is subject to income tax laws in various jurisdictions. Tax laws are complex and potentially subject to different interpretations by the taxpayer and the relevant tax authority. The provision for income taxes represents management's interpretation of the relevant tax laws and its estimate of current and future income tax implications of the transactions and events during the period. A deferred income tax asset or liability is recognized whenever an amount is recorded for accounting purposes but not for tax purposes or vice versa. Deferred tax assets and liabilities are recorded based on expected future tax rates and management's assumptions regarding the expected timing of the reversal of such temporary differences. The realization of deferred tax assets depends upon the existence of sufficient taxable income within the carryback or carry forward periods under the tax law in the applicable tax jurisdiction. Valuation allowances are established when management determines, based on available information, that it is more likely than not that deferred income tax assets will not be realized. Factors in management's determination consider the performance of the business including the ability to generate capital gains. Significant judgment is required in determining whether valuation allowances should be established, as well as the amount of such allowances. When making such determinations, consideration is given to, among other things, the following:

- a) future taxable income exclusive of reversing temporary differences and carry forwards;
- b) future reversals of existing taxable temporary differences;
- c) taxable income in prior carryback years; and
- d) tax planning strategies.

The Company may be required to change its provision for income taxes if the ultimate deductibility of certain items is successfully challenged by taxing authorities or if estimates used in determining valuation allowances on deferred tax assets significantly change, or when receipt of new information indicates the need for adjustment in valuation allowances. Additionally, future events, such as changes in tax laws, tax regulations, or interpretations of such laws or regulations, could have an impact on the provision for income tax, deferred tax balances and the effective tax rate. Any such changes could significantly affect the amounts reported in the Consolidated Financial Statements in the year these changes occur.

The Company is an investor in a number of leasing transactions and had established provisions for disallowance of the tax treatment and for interest on past due taxes. On August 5, 2013, the U.S. Tax Court issued an opinion effectively ruling in the government's favour in the litigation between John Hancock and the Internal Revenue Service involving the tax treatment of leveraged leases. The Company was fully reserved for this result, and the case had no material impact on the Company's 2013 financial results.

### **Goodwill and Intangible Assets**

Under IFRS, goodwill is tested at the cash generating unit level ("CGU") or group of CGUs level. A CGU comprises the smallest group of assets that are capable of generating largely independent cash flows and is either a business segment or a level below. The tests performed in 2013 demonstrated that there was no impairment of goodwill or intangible assets with indefinite lives. Change in the discount rates and cash flow projections used in the determination of embedded values or reductions in market-based earnings multiples may result in impairment charges in the future, which could be material.

Impairment charges could occur in the future as a result of changes in economic conditions. The goodwill testing for 2014 will be updated based on the conditions that exist in 2014 and may result in impairment charges, which could be material.

### **Future Accounting and Reporting Changes**

There are a number of new accounting and reporting changes issued under IFRS including those still under development by the International Accounting Standards Board ("IASB") that will impact the Company beginning in 2014 and subsequently. Summaries of each of the most recently issued key accounting standards are presented below:

#### **(a) IFRS 9 "Financial Instruments"**

IFRS 9 "Financial Instruments" was issued in November 2009 and amended in October 2010 and November 2013, and is intended to replace IAS 39 "Financial Instruments: Recognition and Measurement". The project has been divided into three phases: classification and measurement, impairment of financial assets, and hedge accounting. IFRS 9's current classification and measurement methodology provides that financial assets are measured at either amortized cost or fair value on the basis of the entity's business model for managing the financial assets and the contractual cash flow characteristics of the financial assets. The classification and measurement for financial liabilities remains generally unchanged; however, revisions have been made in the accounting for changes in fair value of a financial liability attributable to changes in the credit risk of that liability. Gains or losses caused by changes in an entity's own credit risk on such liabilities are no longer recognized in profit or loss but instead are reflected in OCI.

Revisions to hedge accounting were issued in November 2013 as part of the overall IFRS 9 project. The amendment introduces a new hedge accounting model, together with corresponding disclosures about risk management activity for those applying hedge accounting. The new model represents a substantial overhaul of hedge accounting that will enable entities to better reflect their risk management activities in their financial statements.

In November 2013, the IASB removed the mandatory effective date of January 1, 2015. The IASB has stated that a new effective date will be determined when all three phases of the IFRS 9 project are closer to completion. The Company is still assessing the impact of these changes.

**(b) Amendments to IAS 32 “Financial Instruments: Presentation”**

The amendments to IAS 32 “Offsetting Financial Assets and Financial Liabilities” were issued in December 2011 and are effective for years beginning on or after January 1, 2014. The amendments clarify the basis for offsetting financial instruments presented in the statement of financial position. Adoption of these amendments is not expected to have a significant impact on the Company’s Consolidated Financial Statements.

**(c) Amendments to IFRS 10, IFRS 12 and IAS 27 “Investment Entities”**

The amendments to IFRS 10, IFRS 12 and IAS 27 “Investment Entities” were issued in October 2012 and are effective for years beginning on or after January 1, 2014. The amendments establish the definition of an investment entity using principles commonly found in the mutual fund industry. The amendments require investment entities to use fair value accounting for all of their investments, including those which they control or have significant influence over. The amendments constitute a scope change for IFRS 10 and, therefore, Investment Entities, as defined, will be exempt from applying consolidation accounting for their investments. Adoption of these amendments is not expected to have a significant impact on the Company’s Consolidated Financial Statements.

**(d) IFRS Interpretation Committee (“IFRIC”) Interpretation 21 “Levies”**

IFRIC Interpretation 21 “Levies” was issued in May 2013 and is effective for years beginning on or after January 1, 2014. IFRIC 21 provides guidance on recognizing liabilities for payments to government in accordance with IAS 37 “Provisions, Contingent Liabilities and Contingent Assets”. It does not provide guidance on accounting for income taxes, fines and penalties or for acquisition of assets or services from governments. IFRIC 21 establishes that a liability for a levy is recognized when the activity that triggers payment occurs. Adoption of this amendment is not expected to have a significant impact on the Company’s Consolidated Financial Statements.

**(e) Amendments to IAS 39 “Financial Instruments: Recognition and Measurement”**

The amendments to IAS 39 “Novation of Derivatives and Continuation of Hedge Accounting” were issued in June 2013 and are effective for years beginning on or after January 1, 2014. The amendments address the accounting for derivatives designated as a hedging instrument when there has been a change in counterparty. Under the amendments, for situations in which a law or regulation requires the novation, the Company can continue the current hedge designation despite the change. A novation occurs when the parties of the derivative agree to change counterparties for the purposes of using a central counterparty for clearing. Adoption of these amendments is not expected to have a significant impact on the Company’s Consolidated Financial Statements.

**(f) Annual Improvements 2010-2012 and 2011-2013 Cycles**

Annual Improvements 2010-2012 and 2011-2013 Cycles were issued in December 2013, resulting in minor amendments to 10 standards and are effective for the Company starting on January 1, 2015. Adoption of these amendments is not expected to have a significant impact on the Company’s Consolidated Financial Statements.

**(g) Amendments to IAS 19 “Employee Benefits”**

The amendments to IAS 19 “Employee Benefits” were issued in November 2013 and are effective for the Company starting on January 1, 2015. The amendments clarify the accounting for contributions by employees or third parties to defined benefit plans. Adoption of these amendments is not expected to have a significant impact on the Company’s Consolidated Financial Statements.

**Differences between IFRS and Hong Kong Financial Reporting Standards**

The consolidated financial statements of Manulife Financial are presented in accordance with IFRS. IFRS differs in certain respects from Hong Kong Financial Reporting Standards (“HKFRS”).

The primary difference between IFRS and HKFRS is the determination of policy liabilities. In certain interest rate environments, policy liabilities determined in accordance with HKFRS may be higher than those computed in accordance with current IFRS.

**IFRS and Hong Kong Regulatory Requirements**

Insurers in Hong Kong are required by the Office of the Commissioner of Insurance to meet minimum solvency requirements. As at December 31, 2013, the Company has sufficient assets to meet the minimum solvency requirements under both Hong Kong regulatory requirements and IFRS.

## U.S. GAAP Disclosures

*With the adoption of IFRS in 2011, the Company is no longer required to reconcile its annual financial results to U.S. GAAP within the consolidated financial statements. Instead, we have elected to disclose certain consolidated U.S. GAAP information in our MD&A. As a result, net income attributed to shareholders in accordance with U.S. GAAP is considered a non-GAAP financial measure.*

*For the full year 2013, net loss attributed to shareholders in accordance with U.S. GAAP<sup>22</sup> was \$648 million, \$3,778 million lower than the \$3,130 million in net income attributed to shareholders under IFRS. A reconciliation of the major differences between net income attributed to shareholders in accordance with IFRS and the net income attributable to shareholders in accordance with U.S. GAAP follows, with major differences expanded upon below:*

### U.S. GAAP Results

For the years ended December 31,  
(C\$ millions)

|   | 2013              | 2012 <sup>(1)</sup> | 2011 <sup>(2)</sup> |
|---|-------------------|---------------------|---------------------|
| <b>Net income attributed to shareholders in accordance with IFRS</b>  | <b>\$ 3,130</b>   | \$ 1,810            | \$ 129              |
| <b>Key earnings differences:</b>  |                   |                     |                     |
| Variable annuity guarantee liabilities  | \$ (2,355)        | \$ (1,225)          | \$ 2,927            |
| Impact of mark-to-market accounting and investing activities on investment income and policy liabilities <sup>(3)</sup> | (1,276)           | 1,179               | 317                 |
| New business differences including acquisition costs  | (858)             | (650)               | (322)               |
| Changes in actuarial methods and assumptions, excluding URR   | 506               | 492                 | 349                 |
| Goodwill impairment charge  | -                 | 200                 | 153                 |
| Other differences   | 205               | 751                 | 121                 |
| <b>Total earnings difference</b>  | <b>\$ (3,778)</b> | \$ 747              | \$ 3,545            |
| <b>Net (loss) income attributed to shareholders in accordance with U.S. GAAP</b>  | <b>\$ (648)</b>   | \$ 2,557            | \$ 3,674            |

<sup>(1)</sup> The 2012 and 2011 IFRS equity was restated to reflect the retrospective application of new accounting standards effective January 1, 2013. For a detailed description of the change see note 2 to the 2013 Consolidated Financial Statements. The 2011 results were not required to be restated.

<sup>(2)</sup> Restated as a result of adopting Accounting Standards Update No. 2010-26, "Accounting for Costs Associated with Acquiring or Renewing Insurance Contracts" ("ASU 2010-26") effective January 1, 2012 but requiring application to 2011. The impact to full year 2011 was a net decrease in earnings of \$48 million, all of which is included in "New business differences including acquisition costs".

<sup>(3)</sup> Includes impacts related to the update of the fixed income ultimate reinvestment rate assumptions used in the valuation of policy liabilities under IFRS which have no direct impact on U.S. GAAP results.

*Accounting for variable annuity guarantee liabilities* – IFRS follows a predominantly "mark-to-market" accounting approach to measure variable annuity guarantee liabilities while U.S. GAAP only uses "mark-to-market" accounting for certain benefit guarantees. The U.S. GAAP accounting results in an accounting mismatch between the hedging assets supporting the dynamically hedged guarantees and the guarantees not accounted for on a mark-to-market basis. Another difference is that U.S. GAAP reflects the Company's own credit standing in the measurement of the liability. In 2013, we reported a net loss of \$670 million (2012 – net gain of \$29 million; 2011 – net gain of \$682 million) in our total variable annuity businesses under U.S. GAAP compared to a net gain of \$1,685 million under IFRS (2012 – net gain of \$1,254 million; 2011 – net loss of \$2,245 million).

*Investment income and policy liabilities* – Under IFRS, accumulated unrealized gains and losses arising from fixed income investments and interest rate derivatives supporting policy liabilities are largely offset in the valuation of the policy liabilities. The 2013 IFRS impacts of fixed income reinvestment assumptions, general fund equity investments, fixed income and alternative long-duration asset investing totaled a net gain of \$323 million (2012 – net loss of \$176 million; 2011 – net gain of \$504 million) compared to U.S. GAAP net realized losses and other investment losses of \$953 million (2012 – net gain of \$1,003 million; 2011 – net gain of \$821 million).

*Differences in the treatment of acquisition costs and other new business items* – Acquisition costs that are related to and vary with the production of new business are explicitly deferred and amortized under U.S. GAAP but are recognized as an implicit reduction in insurance liabilities along with other new business gains and losses under IFRS. In 2013, IFRS results benefited from lower new business strain compared to U.S. GAAP.

*Changes in actuarial methods and assumptions* – The charges recognized under IFRS from the annual review of actuarial methods and assumptions of \$489 million (2012 – \$1,081 million; 2011 – \$751 million) excluding URR charges, compared to gains of \$17 million (2012 – charges of \$589 million; 2011 – charges of \$402 million) on a U.S. GAAP basis.

*Goodwill impairment* – In 2013 we recorded no IFRS or U.S. GAAP goodwill impairment charges. In 2012 we recorded a \$200 million IFRS goodwill impairment charge related to our Canadian Individual Insurance business. There was no impact on a U.S. GAAP basis. In 2011, under IFRS we recorded a \$665 million IFRS goodwill impairment charge representing the remaining goodwill attributable to our U.S. Life insurance business compared to \$512 million goodwill impairment charge under U.S. GAAP attributable to our U.S. Wealth management businesses. The difference in amounts and business units affected is primarily attributable to the more granular impairment testing methodology prescribed under IFRS.

Total equity in accordance with U.S. GAAP<sup>23</sup> as at December 31, 2013 was approximately \$8 billion higher than under IFRS. Of this difference, approximately \$6 billion was attributable to the higher cumulative net income on a U.S. GAAP basis. The remaining

<sup>22</sup> This item is a non-GAAP measure. See "Performance and Non-GAAP Measures" below.

<sup>23</sup> Total equity in accordance with U.S. GAAP is a non-GAAP measure. See "Performance and Non-GAAP Measures" below.

difference was primarily attributable to the treatment of unrealized gains on fixed income investments and derivatives in a cash flow hedging relationship which are reported in equity under U.S. GAAP, but where the investments and derivatives are supporting policy liabilities, these accumulated unrealized gains are largely offset in the valuation of the policy liabilities under IFRS. The fixed income investments and derivatives have significant unrealized gains as a result of the current low levels of interest rates. The majority of the difference in equity between the two accounting bases as at December 31, 2013 arises from our U.S. businesses.

A reconciliation of the major differences in total equity is as follows:

| <b>As at December 31,<br/>(C\$ millions)</b>   | <b>2013</b>      | 2012 <sup>(1)</sup> | 2011 <sup>(2)</sup> |
|--|------------------|---------------------|---------------------|
| <b>Total equity in accordance with IFRS</b>  | <b>\$ 29,033</b> | \$ 25,159           | \$ 24,879           |
| Differences in shareholders' retained earnings and participating policyholders' equity | <b>5,947</b>     | 9,715               | 8,869               |
| Difference in accumulated other comprehensive income attributed to:                    |                  |                     |                     |
| (i) Pension and other post-employment plans  | <b>(80)</b>      | (47)                | (802)               |
| (ii) AFS securities and other  | <b>2,231</b>     | 5,670               | 5,275               |
| (iii) Cash flow hedges   | <b>1,224</b>     | 2,575               | 2,570               |
| (iv) Translation of net foreign operations <sup>(3)</sup>                              | <b>(1,055)</b>   | (1,457)             | (1,309)             |
| Differences in share capital, contributed surplus and non-controlling interests        | <b>136</b>       | 240                 | 148                 |
| <b>Total equity in accordance with U.S. GAAP</b>                                       | <b>\$ 37,436</b> | \$ 41,855           | \$ 39,630           |

<sup>(1)</sup> The 2012 IFRS equity was restated to reflect the retrospective application of new accounting standards effective January 1, 2013. For a detailed description of the change see note 2 to the 2013 Consolidated Financial Statements. The 2011 results were not required to be restated.

<sup>(2)</sup> The 2011 U.S. GAAP equity was restated to reflect the retrospective adoption of ASU No. 2010-26 effective January 1, 2012.

<sup>(3)</sup> Reflects the net difference in the currency translation account after the reset to zero through retained earnings upon adoption of IFRS at January 1, 2010.

# Controls and Procedures

## Disclosure Controls and Procedures

Our disclosure controls and procedures are designed to provide reasonable assurance that information required to be disclosed by us is recorded, processed, summarized, and reported accurately and completely and within the time periods specified under Canadian and U.S. securities laws. Our process includes controls and procedures that are designed to ensure that information is accumulated and communicated to management, including the CEO and CFO, to allow timely decisions regarding required disclosure.

As of December 31, 2013, management evaluated the effectiveness of its disclosure controls and procedures as defined under the rules adopted by the U.S. Securities and Exchange Commission and the Canadian securities regulatory authorities. This evaluation was performed under the supervision of the Audit Committee, the CEO and CFO. Based on that evaluation, the CEO and CFO concluded that our disclosure controls and procedures were effective as at December 31, 2013.

MFC's Audit Committee has reviewed this MD&A and the 2013 Consolidated Financial Statements and MFC's Board of Directors approved these reports prior to their release.

## Management's Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting. The Company's internal control system was designed to provide reasonable assurance to management and the Board of Directors regarding the preparation and fair presentation of published financial statements in accordance with generally accepted accounting principles. All internal control systems, no matter how well designed, have inherent limitations due to manual controls. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

Management maintains a comprehensive system of controls intended to ensure that transactions are executed in accordance with management's authorization, assets are safeguarded, and financial records are reliable. Management also takes steps to ensure that information and communication flows are effective and to monitor performance, including performance of internal control procedures.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2013 based on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO") 1992 framework in Internal Control – Integrated Framework. Based on this assessment, management believes that, as of December 31, 2013, the Company's internal control over financial reporting is effective.

The effectiveness of the Company's internal control over financial reporting as of December 31, 2013 has been audited by Ernst & Young LLP, the Company's independent registered public accounting firm that also audited the Consolidated Financial Statements of the Company for the year ended December 31, 2013. Their report expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting as of December 31, 2013.

## Changes in Internal Control over Financial Reporting

No changes were made in our internal control over financial reporting during the year ended December 31, 2013 that have significantly affected, or are reasonably likely to significantly affect, our internal control over financial reporting.

# Performance and Non-GAAP Measures

We use a number of non-GAAP financial measures to measure overall performance and to assess each of our businesses. A financial measure is considered a non-GAAP measure for Canadian securities law purposes if it is presented other than in accordance with generally accepted accounting principles used for the Company's audited financial statements. Non-GAAP measures include: Core Earnings; Net Income Attributed to Shareholders in Accordance with U.S. GAAP; Total Equity in Accordance with U.S. GAAP; Core ROE; Diluted Core Earnings Per Common Share; Constant Currency Basis; Premiums and Deposits; Funds under Management; Capital; New Business Embedded Value; Sales and Total Annualized Insurance and Wealth Premium Equivalent Basis Sales. Non-GAAP financial measures are not defined terms under GAAP and, therefore, with the exception of Net Income Attributed to Shareholders in Accordance with U.S. GAAP and Total Equity in Accordance with U.S. GAAP (which are comparable to the equivalent measures of issuers whose financial statements are prepared in accordance with U.S. GAAP), are unlikely to be comparable to similar terms used by other issuers. Therefore, they should not be considered in isolation or as a substitute for any other financial information prepared in accordance with GAAP.

**Core earnings (losses)** is a non-GAAP measure which we use to better understand the long-term earnings capacity and valuation of the business. Core earnings excludes the direct impact of equity markets and interest rates as well as a number of other items, outlined below, that are considered material and exceptional in nature. While this metric is relevant to how we manage our business and offers a consistent methodology, it is not insulated from macro-economic factors which can have a significant impact.

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

**Items that are included in core earnings are:**

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.
4. Policyholder experience gains or losses.
5. Acquisition and operating expenses compared to expense assumptions used in the measurement of policy liabilities.
6. Up to \$200 million of favourable investment-related experience reported in a single year, which are referred to as "core investment gains".
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 substantially enacted income tax rate changes.

**Items excluded from core earnings are:**

1. The direct impact of equity markets and interest rates, consisting of:
  - 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 policy liabilities.
  - Gains (charges) on higher (lower) fixed income reinvestment rates assumed in the valuation of policy liabilities, including the impact on the fixed income ultimate reinvestment rate ("URR").
  - Gains (charges) on sale of AFS bonds and open derivatives not in hedging relationships in the Corporate and Other segment.
2. 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 policy 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.
3. Net favourable investment-related experience in excess of \$200 million per annum or net unfavourable investment-related experience on a year-to-date basis. Investment-related experience relates to fixed income trading, alternative long-duration asset returns, credit experience and asset mix changes. 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. The maximum of \$200 million per annum to be reported in core earnings compares with an average of over \$80 million per quarter of favourable investment-related experience reported since first quarter 2007.
4. 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.
5. Changes in actuarial methods and assumptions, excluding URR.
6. The impact on the measurement of policy liabilities of changes in product features or new reinsurance transactions, if material.
7. Goodwill impairment charges.
8. Gains or losses on disposition of a business.
9. Material one-time only adjustments, including highly unusual/extraordinary and material legal settlements or other items that are material and exceptional in nature.
10. Tax on the above items.
11. Impact of enacted or substantially enacted income tax rate changes.

**Net income attributed to shareholders in accordance with U.S. GAAP** is a non-GAAP profitability measure. It shows what the net income would have been if the Company had applied U.S. GAAP as its primary financial reporting basis. We consider this to be a relevant profitability measure given our large U.S. domiciled investor base and for comparability to our U.S. peers who report under U.S. GAAP.

**Total equity in accordance with U.S. GAAP** is a non-GAAP measure. It shows what the total equity would have been if the Company had applied U.S. GAAP as its primary financial reporting basis. We consider this to be a relevant measure given our large U.S. domiciled investor base and for comparability to our U.S. peers who report under U.S. GAAP.

**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 currency basis**, which exclude the impact of currency fluctuations and which are non-GAAP measures. Quarterly amounts stated on a constant currency basis in this report are calculated, as appropriate, using the income statement and balance sheet exchange rates effective for the fourth quarter of 2013.

**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, (ii) segregated fund deposits, excluding seed money, ("deposits from policyholders"), (iii) adding back the premiums ceded related to FDA coinsurance, (iv) investment contract deposits, (v) mutual fund deposits, (vi) deposits into institutional advisory accounts, (vii) premium equivalents for "administration services only" group benefit contracts ("ASO premium equivalents"), (viii) premiums in the Canadian Group Benefits reinsurance ceded agreement, and (ix) other deposits in other managed funds.

| <b>Premiums and deposits</b>                          | Quarterly Results |                  | Full Year Results |                  |
|---|-------------------|------------------|-------------------|------------------|
|   | 4Q 2013           | 4Q 2012          | 2013              | 2012             |
| <b>For the periods ended December 31,</b>             |                   |                  |                   |                  |
| C\$ millions  |                   |                  |                   |                  |
| Net premium income                                    | \$ 4,548          | \$ 4,821         | \$ 17,510         | \$ 10,194        |
| Deposits from policyholders                           | 5,756             | 5,728            | 23,059            | 23,533           |
| <b>Premiums and deposits per financial statements</b> | <b>\$ 10,304</b>  | <b>\$ 10,549</b> | <b>\$ 40,569</b>  | <b>\$ 33,727</b> |
| Add back premiums ceded relating to FDA coinsurance   | –                 | 2                | –                 | 7,229            |
| Investment contract deposits                          | 15                | 59               | 59                | 212              |
| Mutual fund deposits                                  | 8,400             | 6,117            | 35,890            | 18,843           |
| Institutional advisory account deposits               | 957               | 5,376            | 3,974             | 7,744            |
| ASO premium equivalents                               | 746               | 706              | 2,935             | 2,819            |
| Group benefits ceded premiums                         | 1,000             | 1,180            | 4,404             | 4,430            |
| Other fund deposits                                   | 114               | 139              | 419               | 497              |
| <b>Total premiums and deposits</b>                    | <b>\$ 21,536</b>  | <b>\$ 24,128</b> | <b>\$ 88,250</b>  | <b>\$ 75,501</b> |
| Currency impact                                       | –                 | (229)            | 1,025             | 798              |
| <b>Constant currency premiums and deposits</b>        | <b>\$ 21,536</b>  | <b>\$ 23,899</b> | <b>\$ 89,275</b>  | <b>\$ 76,299</b> |

**Funds under management** is a non-GAAP measure of the size of the Company. It represents the total of the invested asset base that the Company and its customers invest in.

#### Funds under management

| <b>As at December 31,</b>                                    | (restated) <sup>(1)</sup> |                   |
|--|---------------------------|-------------------|
|  | 2013                      | 2012              |
| (C\$ millions)   |                           |                   |
| Total invested assets  | \$ 232,709                | \$ 227,932        |
| Segregated funds net assets                                  | 239,871                   | 209,197           |
| <b>Funds under management per financial statements</b>       | <b>\$ 472,580</b>         | <b>\$ 437,129</b> |
| Mutual funds   | 91,118                    | 59,979            |
| Institutional advisory accounts (excluding segregated funds) | 30,284                    | 26,692            |
| Other funds  | 4,951                     | 7,358             |
| <b>Total fund under management</b>                           | <b>\$ 598,933</b>         | <b>\$ 531,158</b> |
| Currency impact  | –                         | 20,876            |
| <b>Constant currency funds under management</b>              | <b>\$ 598,933</b>         | <b>\$ 552,034</b> |

<sup>(1)</sup> The 2012 results were restated to reflect the retrospective application of new IFRS accounting standards effective January 1, 2013. For a detailed description of the change see note 2 to our 2013 Consolidated Financial Statements.

**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 AOCI on cash flow hedges; and (ii) liabilities for preferred shares and capital instruments.

#### Capital

| <b>As at December 31,</b><br>(C\$ millions)                  | <b>2013</b>      | restated <sup>(1)</sup><br>2012 |
|--|------------------|---------------------------------|
| <b>Total equity</b>  | <b>\$ 29,033</b> | \$ 25,159                       |
| Add AOCI loss on cash flow hedges                            | <b>84</b>        | 185                             |
| Add liabilities for preferred shares and capital instruments | <b>4,385</b>     | 3,903                           |
| <b>Total capital</b>   | <b>\$ 33,502</b> | \$ 29,247                       |

<sup>(1)</sup> The 2012 results were restated to reflect the retrospective application of new IFRS accounting standards effective January 1, 2013. For a detailed description of the change see note 2 to our 2013 Consolidated Financial Statements.

**Embedded value** is a measure of shareholders' economic value in the current Consolidated Statements of Financial Position of the Company, excluding any value associated with future new business. Manulife Financial's embedded value is defined as adjusted IFRS common shareholders' equity, with adjustments to reflect the fair value of surplus assets and to exclude goodwill and post-tax intangibles, plus the value of future earnings expected from current in-force business. The latter item is calculated net of the cost of capital, using future mortality, morbidity, policyholder behaviour, expense and investment assumptions that are consistent with the assumptions used in the valuation of our policy liabilities.

**New business embedded value** ("NBEV") is the change in shareholders' economic value as a result of sales in the reporting period. NBEV is calculated as the present value of expected future earnings, after the cost of capital, on actual new business sold in the period using future mortality, morbidity, policyholder behaviour, expense and investment assumptions that are consistent with the assumptions used in the valuation of our policy liabilities.

**Sales** are measured according to product type:

- For total individual insurance, sales include 100 per cent of new annualized premiums and 10 per cent 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. Sales are reported gross before the impact of reinsurance. Single premium is the lump sum premium from the sale of a single premium product, e.g., travel insurance.
- 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.
- For individual wealth management contracts, all new deposits are reported as sales. This includes individual annuities, both fixed and variable; mutual funds; college savings 529 plans; and authorized bank loans and mortgages. As we have discontinued sales of new VA contracts in the U.S., beginning in the first quarter of 2013, subsequent deposits into existing U.S. VA contracts will not be considered sales.
- For group pensions/retirement savings, sales of new regular premiums and deposits reflect an estimate of expected deposits in the first year of the plan with the Company. Single premium sales reflect the assets transferred from the previous plan provider. Sales include the impact of the addition of a new division or of a new product to an existing client. Total sales include both new regular and single premiums and deposits.

**Total Annualized Insurance and Wealth Premium Equivalent ("APE") Basis Sales** are sales that comprise 100 per cent of regular premium/deposit sales and 10 per cent of single premium/deposit sales for both insurance and wealth management products.

# Additional Disclosures

## Contractual Obligations

In the normal course of business, the Company enters into contracts that give rise to obligations fixed by agreement as to the timing and dollar amount of payment.

As at December 31, 2013, the Company's contractual obligations and commitments are as follows:

| Payments due by period<br>(C\$ millions)               |                   |                     |                  |                  |                   |
|--|-------------------|---------------------|------------------|------------------|-------------------|
|  | Total             | Less than<br>1 year | 1 – 3 years      | 3 – 5 years      | After 5<br>years  |
| Long-term debt <sup>(1)</sup>                          | \$ 5,525          | \$ 1,212            | \$ 2,513         | \$ 593           | \$ 1,207          |
| Liabilities for capital instruments <sup>(1),(2)</sup> | 12,002            | 188                 | 376              | 370              | 11,068            |
| Purchase obligations                                   | 720               | 77                  | 512              | –                | 131               |
| Operating leases                                       | 795               | 137                 | 174              | 64               | 420               |
| Insurance contract liabilities <sup>(3)</sup>          | 518,230           | 7,800               | 8,295            | 10,324           | 491,811           |
| Investment contract liabilities <sup>(1)</sup>         | 3,973             | 246                 | 695              | 343              | 2,689             |
| Bank deposits  | 21,869            | 15,311              | 4,185            | 2,373            | –                 |
| Other  | 2,951             | 222                 | 1,730            | 940              | 59                |
| <b>Total contractual obligations</b>                   | <b>\$ 566,065</b> | <b>\$ 25,193</b>    | <b>\$ 18,480</b> | <b>\$ 15,007</b> | <b>\$ 507,385</b> |

<sup>(1)</sup> The contractual payments include principal, interest and distributions. The contractual payments reflect the amounts payable from January 1, 2014 up to and including the final contractual maturity date. In the case of floating rate obligations, the floating rate index is based on the interest rates as at December 31, 2013 and is assumed to remain constant to the final contractual maturity date. The Company may have the contractual right to redeem or repay obligations prior to maturity and if such right is exercised, total contractual obligations paid and the timing of payment could vary significantly from the amounts and timing included in the table.

<sup>(2)</sup> Liabilities for preferred shares – Class A, Series 1 are not included in the contractual obligation table. These preferred shares are redeemable by the Company by payment of cash or issuance of MFC common shares and are convertible at the option of the holder into MFC common shares on or after December 15, 2015.

<sup>(3)</sup> Insurance contract liabilities cash flows include estimates related to the timing and payment of death and disability claims, policy surrenders, policy maturities, annuity payments, minimum guarantees on segregated fund products, policyholder dividends, commissions and premium taxes offset by contractual future premiums on in-force contracts. These estimated cash flows are based on the best estimate assumptions used in the determination of insurance contract liabilities. These amounts are undiscounted and reflect recoveries from reinsurance agreements. Due to the use of assumptions, actual cash flows may differ from these estimates (see "Policy Liabilities" above). Cash flows include embedded derivatives measured separately at fair value.

In the normal course of business, the Company enters into investment commitments, which are not reflected in the consolidated financial statements. As at December 31, 2013, there were \$5,070 million of investment commitments (2012 – \$2,965 million), of which \$1,950 million matures within one year (2012 – \$1,420 million), \$2,186 million matures within one to three years (2012 – \$879 million), \$475 million matures within three to five years (2012 – \$316 million) and \$459 million matures after five years (2012 – \$350 million).

## Legal and Regulatory Proceedings

The Company is regularly involved in legal actions, both as a defendant and as a plaintiff. The legal actions naming the Company as a defendant ordinarily involve its activities as a provider of insurance protection and wealth management products, as well as an investment adviser, employer and taxpayer. In addition, government and regulatory bodies in Canada, the United States, Asia and other jurisdictions where the Company conducts business regularly make inquiries and, from time to time, require the production of information or conduct examinations concerning the Company's compliance with, among other things, insurance laws, securities laws, and laws governing the activities of broker-dealers.

Two class actions against the Company have been certified and are pending in Quebec (on behalf of Quebec residents only) and Ontario (on behalf of investors in Canada, other than Quebec). The actions in Ontario and Quebec are based on allegations that the Company failed to meet its disclosure obligations related to its exposure to market price risk in its segregated funds and variable annuity guaranteed products. The decisions to grant leave and certification have been of a procedural nature only and there has been no determination on the merits of either claim to date. The Company believes that its disclosure satisfied applicable disclosure requirements and intends to vigorously defend itself against any claims based on these allegations.

Plaintiffs in class action and other lawsuits against the Company may seek very large or indeterminate amounts, including punitive and treble damages, and the damages claimed and the amount of any probable and estimable liability, if any, may remain unknown for substantial periods of time. A substantial legal liability or a significant regulatory action could have a significant adverse effect on the Company's business, results of operations, financial condition and capital position and adversely affect its reputation. Even if the Company ultimately prevails in the litigation, regulatory action or investigation, it could suffer reputational harm, which could have an adverse effect on its business, results of operations, financial condition and capital position, including its ability to attract new customers, retain current customers and recruit and retain employees.

## Key Planning Assumptions and Uncertainties

Manulife's 2016 management objectives<sup>24</sup> do not constitute guidance and are based on certain key planning assumptions, including: current accounting and regulatory capital standards; no acquisitions; equity market and interest rate assumptions consistent with our long-term assumptions, and favourable investment-related experience included in core earnings.

<sup>24</sup> See "Caution regarding forward-looking statements" above.

## 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<br>(C\$ millions, except per share amounts)<br>(unaudited)                                | 2013              |                   |                   |                   | 2012 (restated) <sup>(1)</sup> |                   |                   |                   |
|--|-------------------|-------------------|-------------------|-------------------|--------------------------------|-------------------|-------------------|-------------------|
|  | Dec 31            | Sep 30            | Jun 30            | Mar 31            | Dec 31                         | Sep 30            | Jun 30            | Mar 31            |
| <b>Revenue</b>   |                   |                   |                   |                   |                                |                   |                   |                   |
| Premium income   |                   |                   |                   |                   |                                |                   |                   |                   |
| Life and health insurance  | \$ 3,956          | \$ 3,879          | \$ 3,681          | \$ 3,837          | \$ 4,335                       | \$ 3,399          | \$ 3,704          | \$ 3,459          |
| Annuities and pensions   | 592               | 490               | 495               | 580               | 488                            | 501               | 626               | 911               |
| Net premium income prior to FDA<br>coinsurance   | \$ 4,548          | \$ 4,369          | \$ 4,176          | \$ 4,417          | \$ 4,823                       | \$ 3,900          | \$ 4,330          | \$ 4,370          |
| Premiums ceded relating to FDA<br>coinsurance <sup>(2)</sup>   | –                 | –                 | –                 | –                 | (2)                            | (1,799)           | (5,428)           | –                 |
| Investment income  | 2,637             | 2,483             | 2,345             | 2,405             | 2,520                          | 2,432             | 2,515             | 2,335             |
| Realized and unrealized gains (losses) on<br>assets supporting insurance and<br>investment contract liabilities <sup>(3)</sup> | (2,788)           | (2,513)           | (9,355)           | (2,961)           | (2,075)                        | 1,104             | 7,681             | (4,885)           |
| Other revenue  | 2,645             | 1,966             | 2,324             | 1,974             | 1,679                          | 1,802             | 2,039             | 1,769             |
| <b>Total revenue</b>   | <b>\$ 7,042</b>   | <b>\$ 6,305</b>   | <b>\$ (510)</b>   | <b>\$ 5,835</b>   | <b>\$ 6,945</b>                | <b>\$ 7,439</b>   | <b>\$ 11,137</b>  | <b>\$ 3,589</b>   |
| Income (loss) before income taxes  | \$ 1,854          | \$ 1,118          | \$ 205            | \$ 570            | \$ 1,091                       | \$ (679)          | \$ (485)          | \$ 1,316          |
| Income tax (expense) recovery  | (497)             | (172)             | 103               | (15)              | 14                             | 360               | 186               | (68)              |
| <b>Net income (loss)</b>   | <b>\$ 1,357</b>   | <b>\$ 946</b>     | <b>\$ 308</b>     | <b>\$ 555</b>     | <b>\$ 1,105</b>                | <b>\$ (319)</b>   | <b>\$ (299)</b>   | <b>\$ 1,248</b>   |
| <b>Net income (loss) attributed to<br/>shareholders</b>  | <b>\$ 1,297</b>   | <b>\$ 1,034</b>   | <b>\$ 259</b>     | <b>\$ 540</b>     | <b>\$ 1,077</b>                | <b>\$ (211)</b>   | <b>\$ (281)</b>   | <b>\$ 1,225</b>   |
| <b>Basic earnings (loss) per common share</b>  | <b>\$ 0.69</b>    | <b>\$ 0.54</b>    | <b>\$ 0.12</b>    | <b>\$ 0.28</b>    | <b>\$ 0.57</b>                 | <b>\$ (0.13)</b>  | <b>\$ (0.17)</b>  | <b>\$ 0.67</b>    |
| <b>Diluted earnings (loss) per common<br/>share</b>  | <b>\$ 0.68</b>    | <b>\$ 0.54</b>    | <b>\$ 0.12</b>    | <b>\$ 0.28</b>    | <b>\$ 0.57</b>                 | <b>\$ (0.13)</b>  | <b>\$ (0.17)</b>  | <b>\$ 0.63</b>    |
| <b>Segregated funds deposits</b>   | <b>\$ 5,756</b>   | <b>\$ 5,321</b>   | <b>\$ 5,516</b>   | <b>\$ 6,466</b>   | <b>\$ 5,728</b>                | <b>\$ 5,625</b>   | <b>\$ 5,752</b>   | <b>\$ 6,428</b>   |
| <b>Total assets</b>  | <b>\$ 513,628</b> | <b>\$ 498,016</b> | <b>\$ 498,243</b> | <b>\$ 497,590</b> | <b>\$ 484,998</b>              | <b>\$ 479,331</b> | <b>\$ 478,103</b> | <b>\$ 463,843</b> |
| <b>Weighted average common shares<br/>(in millions)</b>  | <b>1,844</b>      | <b>1,839</b>      | <b>1,834</b>      | <b>1,828</b>      | <b>1,822</b>                   | <b>1,816</b>      | <b>1,808</b>      | <b>1,802</b>      |
| <b>Diluted weighted average common<br/>shares (in millions)</b>  | <b>1,869</b>      | <b>1,864</b>      | <b>1,860</b>      | <b>1,856</b>      | <b>1,854</b>                   | <b>1,816</b>      | <b>1,808</b>      | <b>1,919</b>      |
| <b>Dividends per common share</b>  | <b>\$ 0.13</b>                 | <b>\$ 0.13</b>    | <b>\$ 0.13</b>    | <b>\$ 0.13</b>    |
| <b>CDN\$ to US\$1 – Statement of Financial<br/>Position</b>  | <b>1.0640</b>     | <b>1.0285</b>     | <b>1.0512</b>     | <b>1.0156</b>     | <b>0.9949</b>                  | <b>0.9837</b>     | <b>1.0191</b>     | <b>0.9991</b>     |
| <b>CDN\$ to US\$1 – Statement of Income</b>  | <b>1.0494</b>     | <b>1.0386</b>     | <b>1.0230</b>     | <b>1.0083</b>     | <b>0.9914</b>                  | <b>0.9953</b>     | <b>1.0105</b>     | <b>1.0011</b>     |

<sup>(1)</sup> The 2012 IFRS amounts were restated to reflect the retrospective application of new IFRS accounting standards effective January 1, 2013. For a detailed description of the change see note 2 to our 2013 Consolidated Financial Statements.

<sup>(2)</sup> With effective dates of April 1, 2012 and July 1, 2012, the Company entered into coinsurance agreements to reinsure 89 per cent of its book value fixed deferred annuity business. Under the terms of the agreements, the Company will maintain responsibility for servicing of the policies and some of the assets and has retained the remaining exposure.

<sup>(3)</sup> 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 (losses) on the assets is largely offset in the change in insurance and investment contract liabilities.

## Selected Annual Financial Information

As at and for the years ended December 31,  
(C\$ millions, except per share amounts)

|  | 2013              | restated <sup>(1)</sup><br>2012 | 2011              |
|--|-------------------|---------------------------------|-------------------|
| <b>Revenue</b>   |                   |                                 |                   |
| Asia Division  | \$ 8,914          | \$ 9,955                        | \$ 8,428          |
| Canadian Division  | 6,060             | 10,229                          | 11,942            |
| U.S. Division  | 5,756             | 9,701                           | 28,415            |
| Corporate and Other                                      | (2,058)           | (775)                           | 2,198             |
| <b>Total revenue</b>                                     | <b>\$ 18,672</b>  | <b>\$ 29,110</b>                | <b>\$ 50,983</b>  |
| <b>Total assets</b>                                      | <b>\$ 513,628</b> | <b>\$ 484,998</b>               | <b>\$ 461,977</b> |
| <b>Long-term financial liabilities</b>                   |                   |                                 |                   |
| Long-term debt   | \$ 4,775          | \$ 5,046                        | \$ 5,503          |
| Liabilities for preferred shares and capital instruments | 4,385             | 3,903                           | 4,012             |
| <b>Total</b>   | <b>\$ 9,160</b>   | <b>\$ 8,949</b>                 | <b>\$ 9,515</b>   |
| Dividend per common share                                | \$ 0.52           | \$ 0.52                         | \$ 0.52           |
| Cash dividend per Class A Share, Series 1                | 1.025             | 1.025                           | 1.025             |
| Cash dividend per Class A Share, Series 2                | 1.16252           | 1.16252                         | 1.16252           |
| Cash dividend per Class A Share, Series 3                | 1.125             | 1.125                           | 1.125             |
| Cash dividend per Class A Share, Series 4                | 1.65              | 1.65                            | 1.65              |
| Cash dividend per Class 1 Share, Series 1                | 1.40              | 1.40                            | 1.40              |
| Cash dividend per Class 1 Share, Series 3                | 1.05              | 1.05                            | 0.81267           |
| Cash dividend per Class 1 Share, Series 5                | 1.10              | 1.10                            | –                 |
| Cash dividend per Class 1 Share, Series 7                | 1.15              | 0.94678                         | –                 |
| Cash dividend per Class 1 Share, Series 9                | 1.10              | 0.63062                         | –                 |
| Cash dividend per Class 1 Share, Series 11               | 1.00              | –                               | –                 |
| Cash dividend per Class 1 Share, Series 13               | 0.475             | –                               | –                 |

<sup>(1)</sup> The 2012 IFRS amounts were restated to reflect the retrospective application of new IFRS accounting standards effective January 1, 2013. For a detailed description of the change see note 2 to our 2013 Consolidated Financial Statements.

## Additional Information Available

Additional information relating to Manulife Financial, including MFC's Annual Information Form, is available on the Company's website at [www.manulife.com](http://www.manulife.com) and on SEDAR at [www.sedar.com](http://www.sedar.com).

## Outstanding Shares – Selected Information

### Class A Shares Series 1

As at February 21, 2014, MFC had 14 million Class A Shares Series 1 ("Series 1 Preferred Shares") outstanding at a price of \$25.00 per share, for an aggregate amount of \$350 million. The Series 1 Preferred Shares are non-voting and are entitled to non-cumulative preferential cash dividends payable quarterly, if and when declared, at a per annum rate of 4.10%. With regulatory approval, the Series 1 Preferred Shares may be redeemed by MFC, in whole or in part, at declining premiums that range from \$1.25 to nil per Series 1 Preferred Share, by either payment of cash or the issuance of MFC common shares. On or after December 19, 2015, the Series 1 Preferred Shares will be convertible at the option of the holder into MFC common shares, the number of which is determined by a prescribed formula, and is subject to the right of MFC prior to the conversion date to redeem for cash or find substitute purchasers for such preferred shares. The prescribed formula is the face amount of the Series 1 Preferred Shares divided by the greater of \$2.00 and 95% of the then market price of MFC common shares.

### Common Shares

As at February 21, 2014, MFC had 1,848,655,645 common shares outstanding.