

Manulife Financial Corporation
Consolidated Financial Statements

For the year ended December 31, 2012



2012 MANULIFE FINANCIAL CORPORATION

Consolidated Financial Statements

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Responsibility for Financial Reporting

The accompanying consolidated financial statements of Manulife Financial Corporation are the responsibility of management and have been approved by the Board of Directors. It is also the responsibility of management to ensure that all information in the annual report to shareholders is consistent with these consolidated financial statements.

The consolidated financial statements have been prepared by management in accordance with International Financial Reporting Standards and the accounting requirements of the Office of the Superintendent of Financial Institutions, Canada. When alternative accounting methods exist, or when estimates and judgment are required, management has selected those amounts that present the Company's financial position and results of operations in a manner most appropriate to the circumstances.

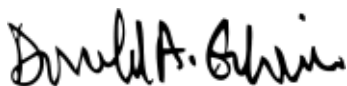
Appropriate systems of internal control, policies and procedures have been maintained to ensure that financial information is both relevant and reliable. The systems of internal control are assessed on an ongoing basis by management and the Company's internal audit department.

The actuary appointed by the Board of Directors (the "Appointed Actuary") is responsible for ensuring that assumptions and methods used in the determination of policy liabilities are appropriate to the circumstances and that reserves will be adequate to meet the Company's future obligations under insurance and annuity contracts.

The Board of Directors is responsible for ensuring that management fulfills its responsibility for financial reporting and is ultimately responsible for reviewing and approving the consolidated financial statements. These responsibilities are carried out primarily through an Audit Committee of unrelated and independent directors appointed by the Board of Directors.

The Audit Committee meets periodically with management, the internal auditors, the external auditors and the Appointed Actuary to discuss internal control over the financial reporting process, auditing matters and financial reporting issues. The Audit Committee reviews the consolidated financial statements prepared by management and then recommends them to the Board of Directors for approval. The Audit Committee also recommends to the Board of Directors and shareholders the appointment of external auditors and approval of their fees.

The consolidated financial statements have been audited by the Company's external auditors, Ernst & Young LLP, in accordance with Canadian generally accepted auditing standards and the standards of the Public Company Accounting Oversight Board (United States). Ernst & Young LLP has full and free access to management and the Audit Committee.



Donald A. Guloien
President and Chief Executive Officer



Steve B. Roder
Senior Executive Vice President and Chief Financial Officer

Toronto, Canada

March 15, 2013

Appointed Actuary's Report to the Shareholders

I have valued the policy liabilities of Manulife Financial Corporation for its Consolidated Statements of Financial Position as at December 31, 2012 and 2011 and their change in the Consolidated Statements of Income for the years then ended in accordance with actuarial practice generally accepted in Canada, including selection of appropriate assumptions and methods.

In my opinion, the amount of policy liabilities makes appropriate provision for all policyholder obligations and the consolidated financial statements fairly present the results of the valuation.



Cindy Forbes, F.C.I.A.
Executive Vice President and Appointed Actuary

Toronto, Canada

March 15, 2013

Independent Auditors' Report of Registered Public Accounting Firm

To the Shareholders of Manulife Financial Corporation

We have audited the accompanying consolidated financial statements of Manulife Financial Corporation, which comprise the Consolidated Statements of Financial Position as at December 31, 2012 and 2011 and the Consolidated Statements of Income, Comprehensive Income, Changes in Equity and Cash Flows for the years then ended, and a summary of significant accounting policies and other explanatory information.

Management's responsibility for the consolidated financial statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with Canadian generally accepted auditing standards and the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements, evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

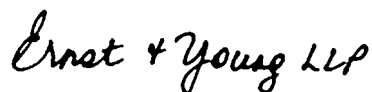
We believe that the audit evidence we have obtained in our audits is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of Manulife Financial Corporation as at December 31, 2012 and 2011 and its financial performance and its cash flows for the years then ended in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board.

Other matter

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), Manulife Financial Corporation's internal control over financial reporting as of December 31, 2012, based on the criteria established in *Internal Control – Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated March 15, 2013 expressed an unqualified opinion on Manulife Financial Corporation's internal control over financial reporting.

The logo for Ernst & Young LLP, featuring the company name in a stylized, handwritten-style script.

Ernst & Young LLP
Chartered Accountants
Licensed Public Accountants

Toronto, Canada

March 15, 2013

Independent Auditors' Report on Internal Controls under Standards of the Public Company Accounting Oversight Board (United States)

To the Shareholders of Manulife Financial Corporation

We have audited Manulife Financial Corporation's internal control over financial reporting as of December 31, 2012, based on criteria established in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (the COSO criteria). Manulife Financial Corporation's management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in Management's Report on Internal Controls over Financial Reporting contained in Management's Discussion and Analysis. Our responsibility is to express an opinion on the company's internal control over financial reporting based on our audit.

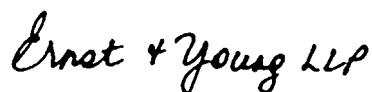
We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, Manulife Financial Corporation maintained, in all material respects, effective internal control over financial reporting as of December 31, 2012, based on the COSO criteria.

We also have audited, in accordance with Canadian generally accepted auditing standards and the standards of the Public Company Accounting Oversight Board (United States), the Consolidated Statements of Financial Position as at December 31, 2012 and 2011 and the Consolidated Statements of Income, Comprehensive Income, Changes in Equity and Cash Flows for the years then ended of Manulife Financial Corporation and our report dated March 15, 2013 expressed an unqualified opinion thereon.

The logo for Ernst & Young LLP, featuring the company name in a stylized, handwritten-style script.

Ernst & Young LLP
Chartered Accountants
Licensed Public Accountants

Toronto, Canada

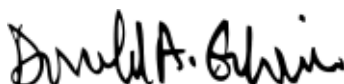
March 15, 2013

Consolidated Statements of Financial Position

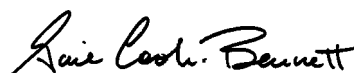
As at December 31,
(Canadian \$ in millions)

	2012	2011
ASSETS		
Cash and short-term securities	\$ 13,484	\$ 12,813
Securities		
Bonds	119,281	120,487
Stocks	11,995	10,243
Loans		
Mortgages	35,082	35,023
Private placements	20,275	20,294
Policy loans	6,793	6,827
Bank loans	2,142	2,288
Real estate	8,513	7,466
Other invested assets	12,363	11,079
Total invested assets (note 4)	\$ 229,928	\$ 226,520
Other assets		
Accrued investment income	\$ 1,802	\$ 1,802
Outstanding premiums	1,009	781
Derivatives (note 5)	14,707	15,472
Reinsurance assets (note 8)	18,681	10,728
Deferred tax asset (note 6)	3,148	1,757
Goodwill and intangible assets (note 7)	5,113	5,442
Miscellaneous	3,683	3,542
Total other assets	\$ 48,143	\$ 39,524
Segregated funds net assets (note 23)	\$ 207,985	\$ 195,933
Total assets	\$ 486,056	\$ 461,977
LIABILITIES and EQUITY		
Liabilities		
Policy liabilities		
Insurance contract liabilities (note 8)	\$ 199,588	\$ 190,366
Investment contract liabilities (note 9)	2,424	2,540
Bank deposits	18,857	18,010
Derivatives (note 5)	7,206	7,627
Deferred tax liability (note 6)	694	766
Other liabilities	14,253	12,341
	\$ 243,022	\$ 231,650
Long-term debt (note 12)	5,452	5,503
Liabilities for preferred shares and capital instruments (note 13)	3,501	4,012
Segregated funds net liabilities (note 23)	207,985	195,933
Total liabilities	\$ 459,960	\$ 437,098
Equity		
Issued share capital		
Preferred shares (note 14)	\$ 2,497	\$ 1,813
Common shares (note 14)	19,886	19,560
Contributed surplus	257	245
Shareholders' retained earnings	3,178	2,501
Shareholders' accumulated other comprehensive income (loss)		
On available-for-sale securities	366	104
On cash flow hedges	(50)	(91)
On translation of foreign operations	(685)	83
Total shareholders' equity	\$ 25,449	\$ 24,215
Participating policyholders' equity	146	249
Non-controlling interest in subsidiaries	501	415
Total equity	\$ 26,096	\$ 24,879
Total liabilities and equity	\$ 486,056	\$ 461,977

The accompanying notes are an integral part of these consolidated financial statements.



Donald A. Guloien
President and Chief Executive Officer



Gail Cook-Bennett
Chair of the Board of Directors

Consolidated Statements of Income

For the years ended December 31,
(Canadian \$ in millions except per share amounts)

	2012	2011
Revenue		
Premium income		
Gross premiums	\$ 25,157	\$ 23,898
Premiums ceded to reinsurers	(7,194)	(6,394)
Net premium income prior to fixed deferred annuity coinsurance	\$ 17,963	\$ 17,504
Premiums ceded relating to fixed deferred annuity coinsurance (note 8(c))	(7,229)	–
Net premium income	\$ 10,734	\$ 17,504
Investment income (note 4)		
Investment income	\$ 8,792	\$ 10,367
Realized and unrealized gains on assets supporting insurance and investment contract liabilities	3,050	15,870
Net investment income	\$ 11,842	\$ 26,237
Other revenue	\$ 7,356	\$ 7,242
Total revenue	\$ 29,932	\$ 50,983
Contract benefits and expenses		
To contract holders and beneficiaries		
Death, disability and other claims	\$ 9,527	\$ 9,213
Maturity and surrender benefits	5,058	5,403
Annuity payments	3,244	3,164
Policyholder dividends and experience rating refunds	1,092	1,080
Net transfers from segregated funds	(718)	(299)
Change in insurance contract liabilities	13,442	27,934
Change in investment contract liabilities	87	64
Ceded benefits and expenses	(5,924)	(4,918)
Change in reinsurance assets (note 8(c))	(8,065)	(1,852)
Net benefits and claims	\$ 17,743	\$ 39,789
General expenses	4,531	4,061
Investment expenses (note 4)	1,091	1,001
Commissions	3,932	3,813
Interest expense	967	1,249
Net premium taxes	299	257
Goodwill impairment (note 7)	200	665
Total contract benefits and expenses	\$ 28,763	\$ 50,835
Income before income taxes	\$ 1,169	\$ 148
Income tax recovery (note 6)	523	97
Net income	\$ 1,692	\$ 245
Net income (loss) attributed to:		
Non-controlling interest in subsidiaries	\$ 59	\$ 27
Participating policyholders	(103)	89
Shareholders	1,736	129
	\$ 1,692	\$ 245
Net income attributed to shareholders	\$ 1,736	\$ 129
Preferred share dividends	(112)	(85)
Common shareholders' net income	\$ 1,624	\$ 44
EARNINGS PER SHARE		
Weighted average number of common shares outstanding (in millions)	1,812	1,786
Weighted average number of diluted common shares outstanding (in millions)	1,888	1,789
Basic earnings per common share	\$ 0.90	\$ 0.02
Diluted earnings per common share	\$ 0.88	\$ 0.02
Dividends per common share	\$ 0.52	\$ 0.52

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statements of Comprehensive Income

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

	2012	2011
Net income	\$ 1,692	\$ 245
Other comprehensive income (loss), net of tax		
Change in unrealized foreign exchange gains (losses) on:		
Translation of foreign operations	\$ (815)	\$ 577
Net investment hedges	46	(30)
Change in unrealized gains on available-for-sale financial securities		
Unrealized gains arising during the year	386	303
Reclassification of realized gains and (recoveries) impairments to net income	(121)	(536)
Changes in unrealized gains (losses) on derivative instruments designated as cash flow hedges		
Unrealized gains (losses) arising during the year	26	(52)
Reclassification of realized losses to net income	8	8
Share of other comprehensive income (loss) of associates	(3)	7
Other comprehensive income (loss), net of tax	\$ (473)	\$ 277
Total comprehensive income, net of tax	\$ 1,219	\$ 522
Total comprehensive income (loss) attributed to:		
Non-controlling interest	\$ 51	\$ 22
Participating policyholders	(103)	89
Shareholders	1,271	411

Income Taxes Included in Other Comprehensive Income (Loss)

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

	2012	2011
Income tax expense (recovery)		
Change in unrealized foreign exchange gains (losses)		
Income tax expense on translation of foreign operations	\$ 3	\$ 5
Income tax (recovery) expense on net investment hedges	18	(17)
Change in unrealized gains/losses on available-for-sale financial securities		
Income tax expense from unrealized gains arising during the year	119	68
Income tax expense related to reclassification of realized gains and recoveries/impairments to net income	(8)	(139)
Changes in unrealized gains/losses on derivative instruments designated as cash flow hedges		
Income tax expense (recovery) from unrealized gains/losses arising during the year	23	(10)
Income tax recovery related to reclassification of realized losses to net income	4	4
Income tax expense (recovery) on share of other comprehensive income (loss) of associates	(1)	4
Total income tax expense (recovery)	\$ 158	\$ (85)

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statements of Changes in Equity

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

	2012	2011
Preferred shares		
Balance, beginning of year	\$ 1,813	\$ 1,422
Issued during the year (note 14)	700	400
Issuance costs, net of tax	(16)	(9)
Balance, end of year	\$ 2,497	\$ 1,813
Common shares		
Balance, beginning of year	\$ 19,560	\$ 19,254
Issued on exercise of stock options and deferred share units	–	2
Issued under dividend reinvestment and share purchase plans	326	304
Balance, end of year	\$ 19,886	\$ 19,560
Contributed surplus		
Balance, beginning of year	\$ 245	\$ 222
Exercise of stock options and deferred share units	1	–
Stock option expense	17	23
Acquisition of non-controlling interest	(6)	–
Balance, end of year	\$ 257	\$ 245
Shareholders' retained earnings		
Balance, beginning of year	\$ 2,501	\$ 3,393
Net income attributed to shareholders	1,736	129
Preferred share dividends	(112)	(85)
Common share dividends	(947)	(936)
Balance, end of year	\$ 3,178	\$ 2,501
Shareholders' accumulated other comprehensive income (loss) ("AOCI")		
Balance, beginning of year	\$ 96	\$ (186)
Change in unrealized foreign exchange gains (losses) on translation of foreign operations	(768)	547
Change in unrealized gains (losses) on available-for-sale financial securities	265	(236)
Changes in unrealized gains (losses) on derivative instruments designated as cash flow hedges	41	(36)
Share of other comprehensive income (loss) of associates	(3)	7
Balance, end of year	\$ (369)	\$ 96
Total shareholders' equity, end of year	\$ 25,449	\$ 24,215
Participating policyholders' equity		
Balance, beginning of year	\$ 249	\$ 160
Net income (loss) attributed to participating policyholders	(103)	89
Balance, end of year	\$ 146	\$ 249
Non-controlling interest		
Balance, beginning of year	\$ 415	\$ 410
Net income attributed to non-controlling interest	59	27
Other comprehensive loss attributed to non-controlling interest	(8)	(5)
Contributions (distributions), net	35	(17)
Balance, end of year	\$ 501	\$ 415
Total equity, end of year	\$ 26,096	\$ 24,879

The accompanying notes are an integral part of these consolidated financial statements.

Consolidated Statements of Cash Flows

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

	2012	2011
Operating activities		
Net income	\$ 1,692	\$ 245
Adjustments for non-cash items in net income:		
Increase in insurance contract liabilities	13,442	27,934
Increase in investment contract liabilities	87	64
Increase in reinsurance assets, net of premiums ceded relating to fixed deferred annuity coinsurance (note 8(c))	(836)	(1,852)
Amortization of premium/discount on invested assets	27	25
Other amortization	390	345
Net realized and unrealized gains including impairments	(2,260)	(16,759)
Deferred income tax recovery	(1,504)	(210)
Stock option expense	17	23
Goodwill impairment	200	665
Net income adjusted for non-cash items	\$ 11,255	\$ 10,480
Changes in policy related and operating receivables and payables	(175)	388
Cash provided by operating activities	\$ 11,080	\$ 10,868
Investing activities		
Purchases and mortgage advances	\$ (82,373)	\$ (82,830)
Disposals and repayments	71,550	71,851
Changes in investment broker net receivables and payables	(171)	222
Cash used in investing activities	\$ (10,994)	\$ (10,757)
Financing activities		
Increase in repurchase agreements and securities sold but not yet purchased	\$ 14	\$ 66
Repayment of long-term debt	—	(396)
Issue of capital instruments, net	497	547
Repayment of capital instruments	(1,000)	(550)
Net redemption of investment contract liabilities	(154)	(568)
Funds (redeemed) borrowed, net	(11)	44
Secured borrowings from securitization transactions	500	250
Changes in bank deposits, net	880	1,603
Shareholder dividends paid in cash	(733)	(717)
Contributions from (distributions to) non-controlling interest, net	29	(17)
Common shares issued, net	—	2
Preferred shares issued, net	684	391
Cash provided by financing activities	\$ 706	\$ 655
Cash and short-term securities		
Increase during the year	\$ 792	\$ 766
Effect of foreign exchange rate changes on cash and short-term securities	(221)	192
Balance, beginning of year	12,280	11,322
Balance, December 31	\$ 12,851	\$ 12,280
Cash and short-term securities		
Beginning of year		
Gross cash and short-term securities	\$ 12,813	\$ 11,849
Net payments in transit, included in other liabilities	(533)	(527)
Net cash and short-term securities, January 1	\$ 12,280	\$ 11,322
End of year		
Gross cash and short-term securities	\$ 13,484	\$ 12,813
Net payments in transit, included in other liabilities	(633)	(533)
Net cash and short-term securities, December 31	\$ 12,851	\$ 12,280
Supplemental disclosures on cash flow information:		
Interest paid	\$ 1,060	\$ 1,053
Interest received	\$ 8,739	\$ 8,395
Income taxes paid	\$ 469	\$ 255

The accompanying notes are an integral part of these consolidated financial statements.

Notes to Consolidated Financial Statements

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Notes to Consolidated Financial Statements

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

Note 1 Nature of Operations and Significant Accounting Policies

(a) Reporting entity

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

MFC is domiciled in Canada and incorporated under the Insurance Companies Act (Canada) ("ICA"). These consolidated financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB") and the accounting requirements of the Office of the Superintendent of Financial Institutions, Canada ("OSFI"). None of the accounting requirements of OSFI are exceptions to IFRS. As outlined in (h) below, IFRS does not currently include an insurance contract measurement model and, therefore, as permitted by IFRS 4 "Insurance Contracts", insurance contract liabilities continue to be measured using the Canadian Asset Liability Method ("CALM").

These consolidated financial statements of MFC as at and for the year ended December 31, 2012 were authorized for issue by the Board of Directors on March 15, 2013.

(b) Basis of preparation

The preparation of the consolidated financial statements in conformity with IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, and the disclosure of contingent assets and liabilities as at the date of the consolidated financial statements, and the reported amounts of revenue and expenses during the reporting periods. Actual results may differ from these estimates. The most significant estimation processes relate to the determination of insurance and investment contract liabilities, provisioning for asset impairment, determination of pension and other post-employment benefit obligations and expenses, income taxes and uncertain tax positions, impairment testing of goodwill and intangible assets, fair value of certain financial instruments, derivative and hedge accounting, assessment of relationships with other entities for consolidation and the measurement and disclosure of contingent liabilities. Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the year in which the estimates are revised and in any future years affected. Although some variability is inherent in these estimates, management believes that the amounts recorded are appropriate. The significant accounting policies used and the most significant judgments made by management in applying these accounting policies in the preparation of these consolidated financial statements are summarized below.

(c) Basis of consolidation

MFC consolidates the financial statements of all subsidiary companies including certain special purpose entities ("SPEs") where appropriate. Subsidiaries are entities controlled by the Company. Control exists when the Company has the power to govern the financial and operating policies of another entity so as to obtain benefits from its activities. In assessing control, significant judgment is applied that considers whether potential voting rights that are presently exercisable and contractual management relationships with the entity, if any, provide the Company with power over the entity's financial and operating policies. Significant judgment is also applied to assess the level of significance of benefits to the Company from the entity's activities. The financial statements of the subsidiaries are included in the Company's consolidated results from the date control is established and are excluded from consolidation from the date control ceases. SPEs are consolidated when the substance of the relationship between the Company and that entity indicates control. Potential indicators of control include the assessment of the Company's exposure to the risks and rewards of the SPE. The assessment of risks and rewards is based on arrangements in place and the assessed risk exposures at inception. The initial assessment is reconsidered at a later date if the Company acquires additional interest in the entity, the contractual arrangements of the entity are amended such that the relative exposure to risks and rewards change, or if the Company acquires or loses control over the key operating and financial decisions of the entity.

The Company's consolidated financial statements have been prepared using uniform accounting policies for like transactions and events in similar circumstances. Intercompany balances, and income and expenses arising from intercompany transactions, have been eliminated in preparing the consolidated financial statements.

Non-controlling interest in subsidiaries represents interests of outside parties in the equity of the Company's subsidiaries and is presented within total equity, separate from the equity of MFC's shareholders. Non-controlling interest in the net income and other comprehensive income ("OCI") of MFC's subsidiaries is included in total net income and total other comprehensive income, respectively. An exception to this occurs where the subsidiary's shares are required to be redeemed for cash on a fixed or determinable date, in which case non-controlling interest in the subsidiary's equity is presented as liabilities of the Company and non-controlling interest in the subsidiary's income and OCI is recorded as expenses of the Company.

The equity method of accounting is used to account for investments over which the Company has significant influence, whereby the Company records its share of the investee's net assets and financial results using uniform accounting policies for similar transactions and events. Significant judgment is used to determine whether voting rights, contractual management and other relationships with the entity, if any, provide the Company with significant influence over the entity. Gains and losses on sale of these investments are included in income when realized, while impairment losses are recognized immediately when there is objective evidence of impairment. Gains and losses on transactions with investees are eliminated to the extent of the Company's interest in the investee. These investments are included in other invested assets on the Company's Consolidated Statements of Financial Position.

(d) Invested assets

Invested assets that are considered financial instruments are classified as fair-value-through-profit-or-loss ("FVTPL"), loans and receivables, available-for-sale ("AFS") financial assets, or as derivatives, including those designated as hedging instruments in an effective hedge, as appropriate. The Company determines the classification of its financial assets at initial recognition. Invested assets are recognized initially at fair value plus, in the case of investments not at FVTPL, directly attributable transaction costs. Invested assets are classified as financial instruments at FVTPL if they are held for trading, or if they are designated by management under the fair value option, or if a derivative is embedded in the investment.

Invested assets classified as AFS are non-derivative financial assets that are designated as AFS and are not categorized into any of the other categories described above. They are initially recognized at fair value including direct and incremental transaction costs. They are subsequently held at fair value.

The invested assets held by the Company are accounted for using the methods described below.

Cash and short-term securities comprise cash, current operating accounts, overnight bank and term deposits, and fixed income securities held for the purpose of meeting short-term cash commitments. Short-term securities are carried at their fair values. Net payments in transit and overdraft bank balances are included in other liabilities.

Bonds are carried at fair value. Realized gains and losses on sale of bonds and unrealized gains and losses on bonds designated as FVTPL are recognized in investment income immediately. Unrealized gains and losses on AFS bonds are recorded in OCI, with the exception of unrealized gains and losses on foreign currency translation which are included in income. Impairment losses on AFS bonds are recognized in income when there is objective evidence of impairment. Impairment is considered to have occurred when it is deemed probable that the Company will not be able to collect all amounts due according to contractual terms of the bond.

Stocks are carried at fair value. Realized gains and losses on sale of stocks and unrealized gains and losses on stocks designated as FVTPL are recognized in income immediately. Unrealized gains and losses on AFS stocks are recorded in OCI. Impairment losses on AFS stocks are recognized in income on an individual security basis when there is objective evidence that the cost may not be recovered. Impairment is considered to have occurred when fair value has declined below cost by significant amounts or for prolonged periods of time. Judgment is applied in determining whether the decline is significant or prolonged.

Mortgages are classified as loans and are carried at amortized cost less allowance for impairment losses, if any. Realized gains and losses are recorded in income immediately. When mortgages are impaired or when contractual payments are more than 90 days in arrears, contractual interest is no longer accrued. Contractual interest accruals are resumed once the contractual payments are no longer in arrears and are considered current. Impairment losses are recorded on mortgages when there is no longer reasonable assurance as to the timely collection of the full amount of principal and interest. Impairment is measured based on the discounted value of expected future cash flows at the original effective interest rates inherent in the mortgages. Expected future cash flows are typically determined in reference to the fair value of collateral security underlying the mortgages, net of expected costs of realization and any amounts legally required to be paid to the borrowers; or observable market prices for the mortgages, if any.

The Company accounts for current insured mortgage securitizations as secured financing transactions since the criteria for sale accounting are not met. For these transactions, the Company continues to recognize the mortgages and records a liability in other liabilities for the amount owed at maturity. Interest income on the mortgages and interest expense on the borrowing are recorded using the effective interest rate method.

Private placements, which include corporate loans for which there is no active market, are classified as loans and are carried at amortized cost less allowance for impairments. Realized gains and losses are recorded in income immediately. When private placements are considered impaired, contractual interest is no longer accrued. Contractual interest accruals are resumed once the investment is no longer considered to be impaired. Impairment losses are recorded on private placements when there is no longer assurance as to the timely collection of the full amount of principal and interest. Impairment is measured based on the discounted value of expected future cash flows at the original effective interest rates inherent in the loans. Judgment is applied in the determination of impairment including the timing and amount of future collections.

Policy loans are classified as loans with a carrying value equal to their unpaid balance. Policy loans are fully collateralized by the cash surrender value of the underlying policies.

Bank loans are carried at unpaid principal less allowance for credit losses, if any. When bank loans are impaired or when contractual payments are more than 90 days in arrears, contractual interest is no longer accrued. Contractual interest accruals are resumed once the contractual payments are no longer in arrears and are considered current.

Once established, allowances for impairment of mortgages, private placements and bank loans are reversed only if the conditions that caused the impairment no longer exist. Reversals of impairment charges on AFS debt securities are only recognized in income to the extent that increases in fair value can be attributed to events subsequent to the impairment loss being recorded. Impairment losses for AFS equity instruments are not reversed through income. On disposition of an impaired asset, any allowance for impairment is released.

In addition to allowances against the carrying value of impaired assets, the Company considers the impact of the impairments on the investment yields assumed in the calculation of actuarial liabilities.

Interest income is recognized on bonds and loans as it accrues and is calculated by using the effective interest rate method. Premiums, discounts and transaction costs are amortized over the life of the underlying investment using the effective yield method for AFS bonds and loans and receivables measured at amortized cost.

The Company records purchases and sales of invested assets on a trade date basis.

Real estate consists of both own use and investment property.

Own use property is carried at cost less accumulated depreciation and any accumulated impairment losses. Depreciation is calculated based on the cost of an asset less its residual value and is recognized in income on a straight-line basis over the estimated useful life ranging from 30 to 60 years. Impairment losses are recorded in income to the extent the recoverable amount is less than the carrying amount.

Investment property is property held to earn rental income, for capital appreciation, or both. Investment property is measured at fair value with changes in fair value recognized in income.

Other invested assets include private equity and fixed income investments held primarily in power and infrastructure, oil and gas, and timber and agriculture sectors. Private equity investments are accounted for using the equity method when the Company has the ability to exercise significant influence over the financial and operating policy decision of the investee, or are classified as FVTPL or AFS and carried at fair value when the Company does not have significant influence. Fixed income investments are carried at amortized cost less impairment. Investments in oil and gas exploration and evaluation costs are measured on a "successful efforts" basis.

Other invested assets also include investments in leveraged leases. The carrying value of investments in leveraged leases is calculated by accruing income on the lease receivable and related non-recourse debt using the effective yield method.

(e) Goodwill and intangible assets

Goodwill represents the difference between the acquisition cost of the business combination and the Company's proportionate share of the net identifiable assets acquired and liabilities and certain contingent liabilities assumed. It is initially recorded at cost and subsequently measured at cost less accumulated impairment.

Goodwill is tested for impairment at least annually or whenever events or changes in circumstances indicate that the carrying amounts may not be recoverable at the cash generating unit ("CGU") or group of CGUs level. The Company allocates goodwill to CGUs or groups of CGUs for the purpose of impairment testing based on the lowest level within the entity in which the goodwill is monitored for internal management purposes. The allocation is made to those CGUs or groups of CGUs that are expected to benefit from the business combination in which the goodwill arose. Any potential impairment of goodwill is identified by comparing the recoverable amount of a CGU or group of CGUs to its carrying value. If the deficiency exceeds the carrying amount of goodwill, the carrying values of the remaining assets in the CGU or group of CGUs are reduced by the excess on a pro-rata basis.

The recoverable amount of a CGU is the higher of the estimated fair value less costs to sell or value-in-use of the group. In assessing value-in-use, the estimated future cash flows are discounted using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset.

Intangible assets consist of assets with indefinite useful lives such as the John Hancock brand name and certain investment management contracts and assets with finite useful lives such as the Company's distribution networks. The assessment of the indefinite useful life is based on the brand name being protected in the markets where they are sold by trademarks, which are renewable indefinitely. There are no legal, regulatory or contractual provisions that limit the useful life.

An intangible asset with an indefinite useful life is subject to an annual impairment test or more frequently if there is an indication that it is not recoverable.

Finite life intangible assets are amortized over their estimated useful lives, which vary from three to 68 years, and assessed for indicators of impairment at each reporting period, or more frequently when events or changes in circumstances dictate. If any indication of impairment exists, these assets are subject to an impairment test.

(f) Miscellaneous assets

Miscellaneous assets include defined benefit assets (refer to note 1(n)), deferred acquisition costs and capital assets. Deferred acquisition costs are carried at cost less accumulated amortization. These costs are recognized over the period where redemption fees may be charged or over the period revenue is earned. Capital assets are carried at cost less accumulated amortization computed on a straight-line basis over their estimated useful lives, which vary from two to 10 years.

(g) Segregated funds

The Company manages a number of segregated funds on behalf of policyholders. The investment returns on these funds are passed directly to the policyholders, although in some cases the Company has provided guarantees of investment performance as described below. Segregated funds net assets and segregated funds net liabilities are presented on separate lines on the Consolidated Statements of Financial Position. Segregated funds net assets are recorded at fair value. The fair value of the segregated funds net liabilities is equal to the fair value of the segregated funds net assets. Income earned from segregated fund management fees is included in other revenue. Investment income earned by the segregated funds and expenses incurred by the segregated funds are not separately presented in the Consolidated Statements of Income and are disclosed in note 23.

The Company provides minimum guarantees on certain individual variable life and annuity contracts. These include minimum death benefit guarantees, minimum withdrawal guarantees, minimum accumulation guarantees and minimum income benefit guarantees. The liabilities associated with these minimum guarantees are recorded within insurance contract liabilities in the general fund.

(h) Insurance and investment contract liabilities

Contract classification

Most contracts issued by the Company are considered insurance, investment or service contracts. Contracts under which the Company accepts significant insurance risk from a policyholder are classified as insurance contracts in the consolidated financial statements. A contract is considered to have significant insurance risk if, and only if, an insured event could cause an insurer to make significant additional payments in any scenario, excluding scenarios that lack commercial substance at the inception of the contract. Contracts under which the Company does not accept significant insurance risk are classified as either investment contracts or considered a service contract and are accounted for in accordance with IAS 39 "Financial Instruments: Recognition and Measurement" or IAS 18 "Revenue", respectively.

Once a contract has been classified as an insurance contract, it remains an insurance contract for the remainder of its term, even if the insurance risk reduces significantly during this period, unless all rights and obligations are extinguished or expire. Investment contracts can be reclassified as insurance contracts if insurance risk subsequently becomes significant.

Insurance contract liabilities

Insurance contract liabilities, net of reinsurance assets, represent the amount which, together with estimated future premiums and net investment income, will be sufficient to pay estimated future benefits, policyholder dividends and refunds, taxes (other than income taxes) and expenses on policies in force. Insurance contract liabilities are presented gross of reinsurance assets on the Consolidated Statements of Financial Position. The Company's Appointed Actuary is responsible for determining the amount of insurance contract liabilities in accordance with standards established by the Canadian Institute of Actuaries. Insurance contract liabilities, net of reinsurance assets, have been determined using the Canadian Asset Liability Method ("CALM") as permitted by IFRS 4 "Insurance Contracts". Refer to note 8.

Investment contract liabilities and deposits

Investment contract liabilities include contracts issued to retail and institutional investors that do not contain significant insurance risk. Investment contract liabilities and deposits are measured at amortized cost, or at fair value, if elected, to ensure consistent measurement and reduce accounting mismatches between the assets supporting the contracts and the liabilities. The liability is derecognized when the contract expires, is discharged or is cancelled.

Embedded derivatives

Derivatives embedded within insurance contracts are separated if they are not considered to be closely related to the host insurance contract and do not meet the definition of an insurance contract. These embedded derivatives are presented separately in other assets or other liabilities and are measured at fair value with changes in fair value recognized in income.

(i) Reinsurance assets

The Company uses reinsurance in the normal course of business to manage its risk exposure. Insurance ceded to a reinsurer does not relieve the Company from its obligations to policyholders. The Company remains liable to its policyholders for the portion reinsured to the extent that any reinsurer does not meet its obligations for reinsurance ceded to it under the reinsurance agreements.

Reinsurance assets represent the benefit derived from reinsurance agreements in force at the reporting date, taking into account the financial condition of the reinsurer. Amounts recoverable from reinsurers are estimated in accordance with the terms of the relevant reinsurance contract.

Gains or losses on buying reinsurance are recognized in income immediately at the date of purchase and are not amortized. Premiums ceded and claims reimbursed are presented on a gross basis on the Consolidated Statements of Income. Reinsurance assets are not offset against the related insurance contract liabilities and are presented separately on the Consolidated Statements of Financial Position.

(j) Other financial instruments accounted for as liabilities

The Company issues a variety of other financial instruments classified as liabilities, including notes payable, term notes, senior notes, senior debentures, subordinated notes, surplus notes and preferred shares. These financial liabilities are measured at amortized cost, with issuance costs deferred and amortized using the effective interest rate method.

(k) Income taxes

The Company provides for income taxes using the liability method of tax allocation. Under this method, the provision for income taxes is calculated based on income tax laws and income tax rates substantively enacted as at the date of the Consolidated Statements of Financial Position. The income tax provision is comprised of current income taxes and deferred income taxes. Current and deferred income taxes relating to items recognized in OCI and directly in equity are similarly recognized in OCI and directly in equity, respectively.

Current income taxes are amounts expected to be payable or recoverable as a result of operations in the current year and any adjustments to taxes payable in respect of previous years.

Deferred income taxes result from temporary differences between the carrying values of assets and liabilities and their respective tax bases. Deferred income tax is measured at the substantively enacted tax rates that are expected to be applied to temporary differences when they reverse.

A deferred tax asset is recognized to the extent that future realization of the tax benefit is probable. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the tax benefit will be realized. Deferred tax assets and liabilities are offset if there is a legally enforceable right to offset current tax liabilities and assets and they relate to income taxes levied by the same tax authority on the same taxable entity.

Deferred tax liabilities are recognized for all taxable temporary differences, except in respect of taxable temporary differences associated with investments in subsidiaries and investments subject to significant influence, where the timing of the reversal of the temporary differences can be controlled and it is probable that the temporary differences will not reverse in the foreseeable future.

(l) Foreign currency translation

Items included in the financial statements of each of the Company's subsidiaries are measured using the currency of the primary economic environment in which the entity operates (the "functional currency"). Transactions in a foreign currency are initially recorded at the functional currency rate prevailing at the date of the transaction.

Assets and liabilities denominated in foreign currencies are retranslated to the functional currency at the exchange rate in effect at the reporting date. Revenue and expenses denominated in foreign currencies are translated at the average exchange rate prevailing during the year. Exchange gains and losses are recognized in income with the exception of foreign monetary items that form part of a net investment in a foreign operation and the results of hedging these positions. These foreign exchange gains and losses are recognized in OCI until such time that the foreign operation is disposed of.

(m) Stock-based compensation

The Company provides stock-based compensation to certain employees and directors as described in note 16. The Company uses the fair value method for stock option awards granted on or after January 1, 2002.

Compensation expense of equity instruments is accrued based on the best estimate of the number of instruments expected to vest, with revisions made to that estimate if subsequent information indicates that actual forfeitures are likely to differ from initial estimates, unless forfeitures are due to market-based conditions.

Stock options are expensed with a corresponding increase in contributed surplus. Restricted share units, special restricted share units and deferred share units are expensed with a corresponding liability accrued based on the fair value of MFC's common shares. Performance share units are expensed with a corresponding liability accrued based on specific performance conditions and the market value of MFC's common shares. The change in the value of units resulting from changes in the Company's market value or changes in the specific performance conditions and credited dividends is recognized in income, offset by the impact of total return swaps used to manage the variability of the related liability.

Stock-based compensation is recognized as compensation expense over the applicable vesting period, except if the employee is eligible to retire at the time of grant or will be eligible to retire during the vesting period. Compensation cost, attributable to stock options and restricted share units granted to employees who are eligible to retire on the grant date or who will become eligible to retire during the vesting period, is recognized over the period from the grant date to the date of retirement eligibility.

When a stock-based compensation award vests in instalments (graded vesting features), each instalment is considered a separate award with the compensation expense amortized accordingly.

Contributions to the Global Share Ownership Plan ("GSOP") are expensed as incurred. Under the GSOP, subject to certain conditions, the Company will match a percentage of the employee's eligible contributions to certain maximums. All contributions are used by the plan's trustee to purchase MFC common shares in the open market.

(n) Employee future benefits

The Company maintains a number of pension plans, both defined benefit and defined contribution, and other post-employment plans for eligible employees and agents. These plans include broad-based pension plans for employees, supplemental pension plans for executives, retiree welfare plans and disability welfare plans.

The Company's obligation in respect of defined benefit pension plans and other post-employment plans is calculated for each plan as the estimated present value of the future benefits that eligible employees have earned in return for their service up to the reporting date. The discount rate used is based on the yield at the reporting date on high quality corporate bonds that have maturity dates approximating the terms of these obligations and that are denominated in the same currency in which the benefits are expected to be paid. To determine the Company's net defined benefit asset or liability, the fair value of any plan assets, any unrecognized past service costs and any unrecognized actuarial gains and losses are then deducted. When this calculation results in an asset, the amount recognized is limited to the sum of any unrecognized past service costs and actuarial losses and the present value of economic benefits available in the form of any future refunds from the plan or reductions in future contributions to the plan.

Defined benefit assets are included in other assets and defined benefit liabilities are included in other liabilities. The net benefit cost for the year is included in general expenses.

The traditional defined benefit pension plans provide pension benefits based on the length of the employees' service and the employees' final average earnings. The other defined benefit pension plans consist of cash balance plans in the United States and Japan that provide benefits based on notional accumulated contributions and interest credits. The cost of all defined benefit pension plans is recognized using the projected benefit method, prorated on service, and estimates of expected return on plan assets and, where applicable, rates of compensation increases and retirement ages of employees. Actuarial gains and losses that exceed 10 per cent of the greater of the defined benefit obligation or the fair value of the plan assets are amortized and recognized in income on a straight-line basis over the estimated average remaining service life of the plan members. The expected return on plan assets is based on the Company's best estimate of the long-term expected rate of return and on the fair value of plan assets.

The defined contribution plans provide pension benefits based on the accumulated contributions and fund earnings. The cost of defined contribution plans is the contribution provided by the Company. Contributions to defined contribution pension plans are recognized in income in the periods during which services are rendered by employees.

The Company's retiree welfare plans provide health, dental and, in some instances, life insurance benefits to qualifying employees upon retirement. The estimated present value of the cost of these benefits is recognized in income over the employees' years of service to their dates of full entitlement. Actuarial gains and losses that exceed 10 per cent of the defined benefit obligation are amortized and recognized in income on a straight-line basis over the estimated average remaining service life of the plan members.

In Canada and the United States, disability welfare plans provide health, dental and in some instances, life insurance benefits to employees who are absent from work due to disability (or other approved leave). The year-over-year change in the defined benefit obligation, including any actuarial gains or losses, is recognized in income in the current year.

When the benefits under the pension plans and other post-employment plans are improved, the portion of the increased benefit relating to past service by employees is recognized in income on a straight-line basis over the average period until the benefits become vested. To the extent that the benefits vest immediately, the increased benefit for past service is immediately recognized in income.

Further details about the characteristics of these plans are included in note 17.

(o) Derivative and hedging instruments

The Company uses derivative financial instruments ("derivatives") to manage exposures to foreign currency, interest rate and other market risks arising from on-balance sheet financial instruments, selected anticipated transactions and certain insurance contract liabilities. Derivatives embedded in other financial instruments ("host instruments") are separately recorded as derivatives when their economic characteristics and risks are not closely related to those of the host instrument, the terms of the embedded derivative are the same as those of a standalone derivative and the host instrument itself is not recorded at FVTPL. Derivatives are recorded at fair value. Derivatives with unrealized gains are reported as derivative assets and derivatives with unrealized losses are reported as derivative liabilities.

A determination is made for each relationship as to whether hedge accounting can be applied. Where hedge accounting is not applied, changes in the fair value of derivatives are recorded in investment income. Refer to note 5.

Hedge accounting

Where the Company has elected to use hedge accounting, a hedging relationship is designated and documented at inception. Hedge effectiveness is evaluated at inception and throughout the term of the hedge and hedge accounting is only applied when the Company expects that each hedging relationship will be highly effective in achieving offsetting changes in fair value or changes in cash flows attributable to the risk being hedged. The assessment of hedge effectiveness is performed at the end of each reporting period both prospectively and retrospectively. When it is determined that the hedging relationship is no longer effective, or the hedging instrument or the hedged item has been sold or terminated, the Company discontinues hedge accounting prospectively. In such cases, if the derivatives are not sold or terminated, any subsequent changes in fair value of the derivative are recognized in investment income.

For derivatives that are designated as hedging instruments, changes in fair value are recognized according to the nature of the risks being hedged, as discussed below.

Fair value hedges

In a fair value hedging relationship, changes in the fair value of the hedging derivatives are recorded in investment income, along with changes in fair value attributable to the hedged risk. The carrying value of the hedged item is adjusted for changes in fair value attributable to the hedged risk. To the extent the changes in the fair value of derivatives do not offset the changes in the fair value of the hedged item attributable to the hedged risk in investment income, any ineffectiveness will remain in investment income. When hedge accounting is discontinued, the carrying value of the hedged item is no longer adjusted and the cumulative fair value adjustments are amortized to investment income over the remaining term of the hedged item unless the hedged item is sold, at which time the balance is recognized immediately in investment income.

Cash flow hedges

In a cash flow hedging relationship, the effective portion of the changes in the fair value of the hedging instrument is recorded in OCI while the ineffective portion is recognized in investment income. Gains and losses accumulated in accumulated other comprehensive income ("AOCI") are recognized in income during the same periods as the variability in the cash flows hedged or the hedged forecasted transactions are recognized. The reclassifications from AOCI are made to investment income, with the exception of total return swaps that hedge restricted share units, which are reclassified to general expenses.

Gains and losses on cash flow hedges accumulated in AOCI are reclassified immediately to investment income when the hedged item is sold or the forecasted transaction is no longer expected to occur. When a hedge is discontinued, but the hedged forecasted transaction remains highly probable to occur, the amounts accumulated in AOCI are reclassified to investment income in the periods during which variability in the cash flows hedged or the hedged forecasted transaction is recognized in income.

Net investment hedges

In a net investment hedging relationship, the gains and losses relating to the effective portion of the hedge are recorded in OCI. Gains and losses in AOCI are recognized in income during the periods when gains or losses on the underlying hedged net investment in foreign operations are recognized in income.

(p) Premium income and related expenses

Gross premiums for all types of insurance contracts, and contracts with limited mortality or morbidity risk, are generally recognized as revenue when due. Premiums are reported gross of reinsurance ceded (see note 8). Revenue on service contracts is recognized as services are rendered.

Expenses are recognized when incurred. Insurance contract liabilities are computed at the end of each year, resulting in benefits and expenses being matched with the premium income.

Note 2 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 IASB that will impact the Company beginning in 2013 and subsequently. Summaries of each of the most recently issued key accounting standards are presented below:

(a) IFRS 10 "Consolidated Financial Statements"

IFRS 11 "Joint Arrangements"

IFRS 12 "Disclosure of Interests in Other Entities"

IAS 27 "Separate Financial Statements" (as amended)

IAS 28 "Investments in Associates and Joint Ventures" (as amended) "Investment Entities" (Amendments to IFRS 10, IFRS 12 and IAS 27)

IFRS 10 "Consolidated Financial Statements", IFRS 11 "Joint Arrangements", IFRS 12 "Disclosure of Interests in Other Entities", IAS 27 "Separate Financial Statements" and IAS 28 "Investments in Associates and Joint Ventures" were all issued in May 2011 and are effective for fiscal years beginning on or after January 1, 2013. In October 2012, "Investment Entities" (Amendments to IFRS 10, IFRS 12 and IAS 27) was issued and is effective for fiscal years beginning on or after January 1, 2014.

IFRS 10 replaces the consolidation guidance in IAS 27 "Separate Financial Statements" and Standards Interpretation Committee ("SIC") - 12 "Consolidation – Special Purpose Entities" and introduces a single consolidation model for all entities based on control, irrespective of the nature of the investee. Under IFRS 10, control results from an investor having: 1) power over the investee; 2) exposure or rights to variable returns from its involvement with the investee; and 3) the ability to use its power over the investee to affect the amount of the returns. The adoption of IFRS 10 is expected to result in deconsolidation of certain investments in private equity funds, a timber fund and certain of the Company's financing trusts from the consolidated financial statements. The Company is evaluating the impact of adopting IFRS 10 on its segregated funds. The adoption of IFRS 10 is not expected to have a significant impact on the consolidated financial statements.

IFRS 11 introduces new accounting requirements for joint arrangements, replacing IAS 31 “Interests in Joint Ventures”. The option to apply the proportional consolidation method when accounting for jointly controlled entities is removed. The adoption of IFRS 11 is not expected to have a significant impact on the consolidated financial statements as the Company does not have significant joint venture arrangements.

IFRS 12 requires enhanced disclosures about both consolidated entities and unconsolidated entities in which an entity has involvement. The objective of IFRS 12 is to present information so that financial statement users may evaluate the basis of control, any restrictions on consolidated assets and liabilities, risk exposures arising from involvements with unconsolidated structured entities and non-controlling interest holders’ involvement in the activities of consolidated entities, and of associates and joint ventures. The adoption of IFRS 12 is not expected to have a significant impact on the Company’s consolidated financial statements.

Investment Entities (Amendments to IFRS 10, IFRS 12 and IAS 27) establishes 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 to their investments. The adoption of these amendments is not expected to have a significant impact on the Company’s consolidated financial statements.

(b) Amendments to IAS 19 “Employee Benefits”

The amendments to IAS 19 “Employee Benefits” were issued in June 2011. The amendments require the full funded status of the plan to be reflected as the net defined benefit liability or asset in the Consolidated Statements of Financial Position and eliminate the corridor approach for amortization of actuarial gains and losses. This will result in actuarial gains and losses being recognized in full in OCI when they occur rather than being recognized in net income. Past service costs or credits will be immediately recognized in income when a plan is amended. Interest costs and expected return on plan assets under current IAS 19 will be replaced with a net interest amount calculated by applying the discount rate to the net defined benefit liability or asset. Further, these amendments include enhanced disclosures about the characteristics of the pension and other post-employment benefit plans and the risks to which the entity is exposed through participation in these plans. Some of these enhanced disclosures have been incorporated into note 17.

The amendments to IAS 19 are effective for fiscal years beginning on or after January 1, 2013.

The following is a summary of the expected impacts of the adoption of the amendments to IAS 19 in respect of all Company pension and other post-employment plans as at and for the year ended December 31, 2012. These adjustments will be recognized in 2013 by restating 2012 to reflect the impact of the amendments.

	Pension plans	Other post-employment benefits	Total
Increase (decrease) in defined benefit liability	\$ 872	\$ (33)	\$ 839
Increase (decrease) in deferred tax liability	(277)	11	(266)
Increase (decrease) in AOCI	(669)	15	(654)
Increase (decrease) in 2012 net income	74	(7)	67

(c) IFRS 13 “Fair Value Measurement”

IFRS 13 “Fair Value Measurement” was issued in May 2011 and replaces existing IFRS guidance on fair value measurement with a single standard. IFRS 13 defines fair value, provides guidance on how to determine fair value and requires disclosures about fair value measurements. IFRS 13 does not change the requirements regarding which items should be measured or disclosed at fair value. The standard is effective for fiscal years beginning on or after January 1, 2013. The adoption of IFRS 13 will result in additional financial statement disclosure but is not expected to have a significant impact on the Company’s consolidated financial statements.

(d) Amendments to IAS 1 “Presentation of Financial Statements”

An amendment to IAS 1 was issued in June 2011 requiring changes to the presentation of items of other comprehensive income. Under the amendments, presentation of items within other comprehensive income will be separately presented based on whether or not the item will be subsequently reclassified into net income. The amendments are effective for the Company for fiscal years beginning on or after January 1, 2013. The adoption of these amendments is not expected to have a significant impact on the Company’s consolidated financial statements.

(e) Amendments to IFRS 7 “Financial Instruments: Disclosure” Amendments to IAS 32 “Financial Instruments: Presentation”

The amendments to IFRS 7 “Offsetting Financial Assets and Financial Liabilities” issued in December 2011 introduce new disclosure requirements for financial instruments relating to their rights of offset and related arrangements under an enforceable master netting agreement or similar arrangements. The amendments to IFRS 7 are effective for fiscal years beginning on or after January 1, 2013. The adoption of this amendment is not expected to have a significant impact on the Company’s consolidated financial statements.

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

(f) IFRS 9 “Financial Instruments”

IFRS 9 “Financial Instruments” issued in November 2009 and amended in October 2010 is the first phase of a three phase project to replace IAS 39 “Financial Instruments: Recognition and Measurement”. IFRS 9 currently 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. The other phases of this project which are currently under development include impairment of financial assets and hedge accounting.

IFRS 9 is effective for fiscal years beginning on or after January 1, 2015. The Company is assessing the impact of IFRS 9 on its consolidated financial statements in conjunction with the completion of the other phases of this project.

Note 3 Disposition

On July 18, 2011, the Company entered into an agreement with Pacific Life Insurance Company (“Pacific Life”) to sell its life retrocession business. The transaction closed on August 31, 2011. The transaction was structured as reinsurance agreements between Pacific Life and the Company, in which the actuarial liabilities and related operating assets were transferred to Pacific Life. The net cash payment to Pacific Life was \$704 in lieu of transferring the invested assets backing the actuarial liabilities. Under the terms of the agreement, the Company transferred the infrastructure (including information technology systems and workforce) required to administer the life retrocession business to Pacific Life.

Note 4 Invested Assets and Investment Income

(a) Carrying values and fair values of invested assets

As at December 31, 2012	FVTPL	AFS	Other	Total carrying value	Total fair value
Cash and short-term securities ⁽¹⁾	\$ 531	\$ 8,364	\$ 4,589	\$ 13,484	\$ 13,484
Bonds ⁽²⁾					
Canadian government & agency	12,929	3,014	–	15,943	15,943
U.S. government & agency	18,361	8,811	–	27,172	27,172
Other government & agency	11,750	1,866	–	13,616	13,616
Corporate	54,024	4,778	–	58,802	58,802
Mortgage/asset-backed securities	3,219	529	–	3,748	3,748
Stocks ⁽³⁾	10,370	1,625	–	11,995	11,995
Loans					
Mortgages ⁽⁴⁾	–	–	35,082	35,082	37,468
Private placements ⁽⁵⁾	–	–	20,275	20,275	22,548
Policy loans ⁽⁶⁾	–	–	6,793	6,793	6,793
Bank loans ⁽⁴⁾	–	–	2,142	2,142	2,148
Real estate ⁽⁷⁾					
Own use property	–	–	789	789	1,368
Investment property	–	–	7,724	7,724	7,724
Other invested assets ⁽⁸⁾	4,832	116	7,415	12,363	12,570
Total invested assets	\$ 116,016	\$ 29,103	\$ 84,809	\$ 229,928	\$ 235,379

As at December 31, 2011

Cash and short-term securities ⁽¹⁾	\$ 568	\$ 8,473	\$ 3,772	\$ 12,813	\$ 12,813
Bonds ⁽²⁾					
Canadian government & agency	11,030	5,517	–	16,547	16,547
U.S. government & agency	20,108	7,904	–	28,012	28,012
Other government & agency	10,318	1,844	–	12,162	12,162
Corporate	53,091	5,017	–	58,108	58,108
Mortgage/asset-backed securities	5,135	523	–	5,658	5,658
Stocks ⁽³⁾	8,778	1,465	–	10,243	10,243
Loans					
Mortgages ⁽⁴⁾	–	–	35,023	35,023	37,062
Private placements ⁽⁵⁾	–	–	20,294	20,294	22,191
Policy loans ⁽⁶⁾	–	–	6,827	6,827	6,827
Bank loans ⁽⁴⁾	–	–	2,288	2,288	2,299
Real estate ⁽⁷⁾					
Own use property	–	–	831	831	1,260
Investment property	–	–	6,635	6,635	6,635
Other invested assets ⁽⁸⁾	4,062	121	6,896	11,079	11,390
Total invested assets	\$ 113,090	\$ 30,864	\$ 82,566	\$ 226,520	\$ 231,207

⁽¹⁾ Fair values of short-term securities are determined using appropriate prevailing interest rates and credit spreads. This includes short-term securities (i.e., maturities of less than one year at acquisition) amounting to \$2,032 (2011 – \$2,994) and cash equivalents (i.e., maturities of less than 90 days at acquisition) amounting to \$6,863 (2011 – \$6,047).

⁽²⁾ Fair values for bonds, including corporate, U.S. Treasury and municipal securities, are based on quoted market prices when available. When market prices are not available, fair value is generally estimated using discounted cash flow analyses, incorporating current market inputs for similar financial instruments with comparable terms and credit quality (matrix pricing). The significant inputs into these models include, but are not limited to, yield curves, credit risks and spreads, measures of volatility and prepayment rates. Total bonds include securities which are deemed to be short-term securities and cash equivalents of \$850 and \$132, respectively (2011 – \$520 and \$6, respectively).

⁽³⁾ Fair values for stocks are determined with reference to quoted market prices.

⁽⁴⁾ Fair values of fixed rate mortgages and bank loans are determined by discounting the expected future cash flows at market interest rates for mortgages with similar remaining terms and credit risks. Fair values for the majority of variable rate mortgages and bank loans are assumed to equal their carrying values since there are no fixed spreads. Where a variable rate mortgage has a fixed spread above the benchmark rate, the mortgages are valued using current market spreads for equivalently rated borrowers.

⁽⁵⁾ Fair values of private placements are based on valuation techniques and assumptions which reflect changes in interest rates and changes in the creditworthiness of individual borrowers which have occurred since the investments were originated. The assumptions are based primarily on market observable data. Fair values also reflect any applicable provision for credit loan losses.

⁽⁶⁾ Policy loans are carried at amortized cost. As policy loans are fully collateralized by their cash surrender values and can be repaid at any time, their carrying values approximate their fair values.

⁽⁷⁾ Fair values of investment property real estate are determined by qualified independent external appraisals using a variety of techniques including discounted cash flows, income capitalization approaches and comparable sales analysis. These appraisals incorporate relevant market evidence, where available. Own use real estate properties are carried on a cost basis with carrying values adjusted for accumulated depreciation and any accumulated impairment losses.

⁽⁸⁾ Other invested assets include private equity of \$1,761, power and infrastructure of \$2,913, oil and gas of \$1,355, timber and agriculture sectors of \$2,890 as well as investments in leveraged leases of \$2,591 (2011 – \$1,474, \$2,507, \$1,292, \$2,289 and \$2,560, respectively). Fair values of these investments are estimated based on the best information available which is generally not market observable. This may include external appraisals, various valuation techniques used by external managers as well as internal valuations using a variety of techniques including discounted cash flows, earnings multiple of comparable companies and comparable sales analyses. Leveraged leases are carried at values taking into account the present value of future cash flows from the net investment.

(b) Bonds and stocks classified as FVTPL

The FVTPL classification was elected for securities backing insurance and investment contract liabilities in order to substantially reduce an accounting mismatch arising from changes in the value of these assets and changes in the value recorded for the related insurance and investment contract liabilities. There would otherwise be a mismatch if the AFS classification was selected because changes in insurance and investment contract liabilities are reflected in net income rather than in OCI.

(c) Bonds and stocks classified as AFS

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

(d) Other invested assets

Other invested assets include investments in associates accounted for using the equity method of accounting as follows.

As at December 31,	2012		2011	
	Carrying value	% of total	Carrying value	% of total
Leases	\$ 2,591	81	\$ 2,560	76
Private equity	66	2	45	1
Timber	182	5	129	4
Agriculture	88	3	183	5
Affordable housing	282	9	336	10
Other	—	—	132	4
Total	\$ 3,209	100	\$ 3,385	100

The Company's share of profit from its investments in associates included in income for the year ended December 31, 2012 was \$48 (2011 – \$54).

During the year ended December 31, 2012, the Company did not receive dividends from any of its investments in associates (2011 – nil).

(e) Mortgages

The following table presents the carrying values and fair values of mortgages by property type:

Mortgage loans by property type

As at December 31,	2012		2011	
	Carrying value	Fair value	Carrying value	Fair value
Residential	\$ 18,540	\$ 18,984	\$ 16,893	\$ 17,266
Office	5,169	5,734	5,688	6,153
Retail	5,689	6,397	5,816	6,398
Industrial	2,394	2,622	2,888	3,120
Other	3,290	3,731	3,738	4,125
Total	\$ 35,082	\$ 37,468	\$ 35,023	\$ 37,062

The carrying value of government-insured mortgages was 31 per cent of the total mortgage portfolio as at December 31, 2012 (2011 – 32 per cent) and the carrying value of privately-insured mortgages was 0.4 per cent of the total mortgage portfolio as at December 31, 2012 (2011 – 0.4 per cent), the majority of these insured mortgages are residential loans as classified in the table above.

(f) Investment income

For the year ended December 31, 2012	FVTPL	AFS	Other ⁽²⁾	Total	Yields
Cash and short-term securities					0.8%
Interest income	\$ 17	\$ 78	\$ –	\$ 95	
Gains (losses) ⁽¹⁾	16	(19)	–	(3)	
Bonds					6.3%
Interest income	3,961	572	–	4,533	3.8%
Gains ⁽¹⁾	2,869	132	–	3,001	2.5%
Impairment loss, net	(41)	(18)	–	(59)	
Stocks					12.4%
Dividend income	252	52	–	304	
Gains ⁽¹⁾	974	47	–	1,021	
Impairment loss	–	(33)	–	(33)	
Loans					
Mortgages					5.2%
Interest income	–	–	1,645	1,645	
Gains ⁽¹⁾	–	–	127	127	
Provision, net	–	–	(16)	(16)	
Private placements					7.6%
Interest income	–	–	1,364	1,364	
Gains ⁽¹⁾	–	–	95	95	
Recovery, net	–	–	2	2	
Policy loans	–	–	394	394	5.8%
Bank loans					4.2%
Interest income	–	–	93	93	
Provision, net	–	–	(1)	(1)	
Real estate					11.2%
Rental income, net of depreciation	–	–	424	424	
Gains ⁽¹⁾	–	–	430	430	
Impairment loss	–	–	(1)	(1)	
Derivatives					n/a
Interest income, net	–	–	544	544	
Losses ⁽¹⁾	–	–	(2,973)	(2,973)	
Other investments					7.7%
Interest income	–	–	34	34	
Oil and gas, timber, agriculture and other income	–	–	492	492	
Gains ⁽¹⁾	177	11	140	328	
(Impairment) recovery, net	–	(1)	3	2	
Total investment income	\$ 8,225	\$ 821	\$ 2,796	\$ 11,842	5.3%
Interest income	\$ 3,978	\$ 650	\$ 4,074	\$ 8,702	3.9%
Dividend, rental and other income	252	52	916	1,220	0.5%
Impairments and provisions for loan losses (note 10)	(41)	(52)	(13)	(106)	0.0%
Realized gains (losses) on assets backing surplus	82	155	(1,261)	(1,024)	(0.4)%
	\$ 4,271	\$ 805	\$ 3,716	\$ 8,792	
Realized and unrealized gains (losses) on assets supporting insurance and investment contract liabilities					
Bonds	\$ 2,868	\$ 15	\$ –	\$ 2,883	1.3%
Stocks	924	2	–	926	0.4%
Loans	–	–	197	197	0.1%
Real estate	–	–	420	420	0.2%
Other investments	162	(1)	151	312	0.1%
Derivatives	–	–	(1,688)	(1,688)	(0.7)%
	\$ 3,954	\$ 16	\$ (920)	\$ 3,050	
Total investment income	\$ 8,225	\$ 821	\$ 2,796	\$ 11,842	5.3%

For the year ended December 31, 2011	FVTPL	AFS	Other ⁽²⁾	Total	Yields
Cash and short-term securities					1.3%
Interest income	\$ 16	\$ 83	\$ –	\$ 99	
Gains ⁽¹⁾	9	44	–	53	
Bonds					13.1%
Interest income	4,014	620	–	4,634	4.4%
Gains ⁽¹⁾	8,070	640	–	8,710	8.4%
Impairment loss, net	(60)	(15)	–	(75)	
Stocks					(2.8)%
Dividend income	210	68	–	278	
Gains (losses) ⁽¹⁾	(648)	133	–	(515)	
Impairment loss	–	(61)	–	(61)	
Loans					
Mortgages					5.1%
Interest income	–	–	1,660	1,660	
Gains ⁽¹⁾	–	–	24	24	
Provision, net	–	–	(24)	(24)	
Private placements					7.2%
Interest income	–	–	1,319	1,319	
Gains ⁽¹⁾	–	–	23	23	
Recovery, net	–	–	28	28	
Policy loans	–	–	391	391	6.0%
Bank loans					4.3%
Interest income	–	–	97	97	
Real estate					10.1%
Rental income, net of depreciation	–	–	358	358	
Gains ⁽¹⁾	–	–	271	271	
Impairment loss	–	–	(3)	(3)	
Derivatives					n/a
Interest income, net	–	–	316	316	
Gains ⁽¹⁾	–	–	7,802	7,802	
Other investments					8.8%
Interest income	–	–	30	30	
Oil and gas, timber, agriculture and other income	–	–	585	585	
Gains ⁽¹⁾	163	23	48	234	
Recovery	–	–	3	3	
Total investment income	\$ 11,774	\$ 1,535	\$ 12,928	\$ 26,237	13.4%
Interest income	\$ 4,030	\$ 703	\$ 3,813	\$ 8,546	4.2%
Dividend, rental and other income	210	68	943	1,221	0.6%
Impairments and provisions for loan losses (note 10)	(60)	(76)	4	(132)	(0.1)%
Realized gains (losses) on assets backing surplus	(18)	799	(49)	732	0.4%
	\$ 4,162	\$ 1,494	\$ 4,711	\$ 10,367	
Realized and unrealized gains (losses) on assets supporting insurance and investment contract liabilities					
Bonds	\$ 8,070	\$ 28	\$ –	\$ 8,098	3.9%
Stocks	(648)	13	–	(635)	(0.3)%
Loans	–	–	44	44	0.0%
Real estate	–	–	267	267	0.1%
Other investments	190	–	32	222	0.1%
Derivatives	–	–	7,874	7,874	3.8%
	\$ 7,612	\$ 41	\$ 8,217	\$ 15,870	
Total investment income	\$ 11,774	\$ 1,535	\$ 12,928	\$ 26,237	13.4%

⁽¹⁾ Gains (losses) include realized and unrealized gains (losses) for securities and derivatives designated as FVTPL and realized gains (losses) for AFS securities, loans and other invested assets.

⁽²⁾ Other includes interest income, real estate rental income and derivative income as outlined in note 5 and earnings on other investments.

(g) Investment expenses

For the years ended December 31,	2012	2011
Related to invested assets	\$ 406	\$ 381
Related to segregated, mutual and other funds	685	620
Total investment expenses	\$ 1,091	\$ 1,001

(h) Real estate

A summary of the Company's real estate assets by type is as follows.

As at December 31,	2012	2011
Own use property ⁽¹⁾	\$ 789	\$ 831
Investment property	7,724	6,635
Total real estate	\$ 8,513	\$ 7,466

⁽¹⁾ Net of accumulated depreciation of \$265 (2011 – \$244).

Investment property

Investment property comprises a number of commercial properties that are leased to third parties. Investment property activity is summarized as follows.

For the years ended December 31,	2012	2011
Balance, January 1	\$ 6,635	\$ 5,531
Acquisitions	891	1,093
Disposals	(74)	(321)
Change in fair value	399	241
Impact of changes in foreign exchange rates	(127)	91
Balance, December 31	\$ 7,724	\$ 6,635

The following table identifies the amounts included in investment income relating to investment property.

For the years ended December 31,	2012	2011
Rental income from investment property	\$ 798	\$ 656
Direct operating expenses that generated rental income	(423)	(341)
Net income from investment property	\$ 375	\$ 315

(i) Mortgage securitization

The Company securitizes certain insured fixed and variable rate commercial and residential mortgages and Home Equity Lines of Credit ("HELOC") through creation of mortgage-backed securities under the Canadian Mortgage Bond Program ("CMB"), Government of Canada NHA MBS program, as well as to other third party investors. Additionally, the Company mitigates credit risk on certain mortgages through transfers to third party investors. Under IFRS, these transactions remain "on-balance sheet" and are accounted for as secured borrowings, as described in note 1(d).

There are no expected credit losses on the mortgages that have been securitized under the Government of Canada CMB and NHA MBS programs and the HELOC securitization as they are government guaranteed. Benefits received from the transfers include interest spread between the asset and associated liability.

The cash flows received from the assets/mortgages are used to settle the related secured borrowing liability. Receipts of principal are deposited into a trust account for settlement of the liability at the time of maturity. The transferred assets and related cash flows cannot be transferred or otherwise used for other purposes. For the HELOC transactions, receipts of principal are allocated to the Company (the Seller) during the revolving period of the deal and are accumulated for settlement of the liability based on the terms of the note.

The carrying amount of securitized assets reflecting the Company's continuing involvement with the mortgages and the associated liabilities is as follows.

As at December 31, 2012	Securitized assets			Secured borrowing liabilities
	Securitized mortgages	Restricted cash and short-term securities	Total	
Securitization program				
HELOC securitization ⁽¹⁾	\$ 1,250	\$ 6	\$ 1,256	\$ 1,248
CMB securitization	200	283	483	482
NHA MBS securitization ⁽²⁾	1	8	9	9
Total	\$ 1,451	\$ 297	\$ 1,748	\$ 1,739

⁽¹⁾ The restricted cash balance for the HELOC securitization reflects a cash reserve fund established in relation to the transactions. The reserve will be drawn upon only in the event of insufficient cash flows from the underlying HELOCs to satisfy the secured borrowing liability.

⁽²⁾ Under the Government of Canada programs for NHA MBS securitization, cash received on the mortgages is held in a restricted cash account for the payment of the liability under the terms of the program.

As at December 31, 2011

Securitization program	Securitized assets			Secured borrowing liabilities
	Securitized mortgages	Restricted cash and short-term securities	Total	
HELOC securitization ⁽¹⁾	\$ 750	\$ 4	\$ 754	\$ 747
CMB securitization	391	93	484	481
NHA MBS securitization ⁽²⁾	39	–	39	39
Other	16	–	16	16
Total	\$1,196	\$97	\$1,293	\$1,283

⁽¹⁾ The restricted cash balance for the HELOC securitization reflects a cash reserve fund established in relation to the transactions. The reserve will be drawn upon only in the event of insufficient cash flows from the underlying HELOCs to satisfy the secured borrowing liability.

⁽²⁾ Under the Government of Canada programs for NHA MBS securitization, cash received on the mortgages is held in a restricted cash account for the payment of the liability under the terms of the program.

The fair value of the securitized assets and associated liabilities are as follows.

As at December 31, 2012

Securitization program	Securitized assets			Secured borrowing liabilities	Net
	Securitized mortgages	Restricted cash and short-term securities	Total		
HELOC securitization	\$ 1,250	\$ 6	\$ 1,256	\$ 1,256	\$ –
CMB securitization	205	282	487	491	(4)
NHA MBS securitization	1	8	9	9	–
Total	\$ 1,456	\$ 296	\$ 1,752	\$ 1,756	\$ (4)

Note 5 Derivative and Hedging Instruments

Derivatives are financial contracts, the value of which is derived from underlying interest rates, foreign exchange rates, other financial instruments, commodity prices or indices. The Company uses derivatives including swaps, forward 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.

Swaps are over-the-counter (“OTC”) contractual agreements between the Company and a third party to exchange a series of cash flows based upon rates applied to a notional amount. For interest rate swaps, counterparties generally exchange fixed or floating interest rate payments based on a notional value in a single currency. Cross currency swaps involve the exchange of principal amounts between parties as well as the exchange of interest payments in one currency for the receipt of interest payments in another currency. Total return swaps are contracts that involve the exchange of payments based on changes in the values of a reference asset, including any returns such as interest earned on these assets, in return for amounts based on reference rates specified in the contract.

Forward and futures agreements are contractual obligations to buy or sell a financial instrument, foreign currency or other underlying commodity on a predetermined future date at a specified price. Forward contracts are OTC contracts negotiated between counterparties, whereas futures agreements are contracts with standard amounts and settlement dates that are traded on regulated exchanges.

Options are contractual agreements whereby the holder has the right, but not the obligation, to buy (call option) or sell (put option) a security, exchange rate, interest rate, or other financial instrument at a predetermined price/rate within a specified time.

See variable annuity guarantee dynamic hedging strategy in note 10(a) for an explanation of the Company’s dynamic hedging strategy for its variable annuity product guarantees.

Hedging relationships

The Company uses derivatives for economic hedging purposes. In certain circumstances, these hedges also meet the requirements for hedge accounting. Hedging relationships eligible for hedge accounting are designated as fair value hedges, cash flow hedges or as net investment hedges, as described below.

Fair value hedges

The Company uses interest rate swaps to manage its exposure to changes in the fair value of fixed rate financial instruments caused by changes in interest rates. The Company also uses cross currency swaps to manage its exposure to foreign exchange rate fluctuations, interest rate fluctuations, or both.

The Company recognizes gains and losses on derivatives and the related hedged items in fair value hedges in investment income. These investment gains (losses) are shown in the following table.

Derivatives in fair value hedging relationships

	Hedged items in fair value hedging relationships	Gains (losses) recognized on derivatives	Gains (losses) recognized for hedged items	Ineffectiveness recognized in investment income
For the year ended December 31, 2012				
Interest rate swaps	Fixed rate assets	\$ (55)	\$ (36)	\$ (91)
	Fixed rate liabilities	(47)	48	1
Foreign currency swaps	Fixed rate assets	(1)	–	(1)
Total		\$ (103)	\$ 12	\$ (91)
For the year ended December 31, 2011				
Interest rate swaps	Fixed rate assets	\$ (1,688)	\$ 1,470	\$ (218)
	Fixed rate liabilities	98	(97)	1
Foreign currency swaps	Fixed rate assets	(7)	9	2
	Floating rate liabilities	(1)	1	–
Total		\$ (1,598)	\$ 1,383	\$ (215)

Cash flow hedges

The Company uses interest rate swaps to hedge the variability in cash flows from variable rate financial instruments and forecasted transactions. The Company also uses cross currency swaps and foreign currency forward contracts to hedge the variability from foreign currency financial instruments and foreign currency expenses. Total return swaps are used to hedge the variability in cash flows associated with certain stock-based compensation awards. Inflation swaps are used to reduce inflation risk generated from inflation indexed liabilities.

The effects of derivatives in cash flow hedging relationships on the Consolidated Statements of Income and the Consolidated Statements of Changes in Equity are shown in the following table.

Derivatives in cash flow hedging relationships

	Hedged items in cash flow hedging relationships	Gains (losses) deferred in AOCI on derivatives	Gains (losses) reclassified from AOCI into investment income	Ineffectiveness recognized in investment income
For the year ended December 31, 2012				
Interest rate swaps	Forecasted liabilities	\$ 14	\$ (12)	\$ –
Foreign currency swaps	Fixed rate assets	1	–	–
Foreign currency forwards	Forecasted expenses	4	–	–
Total return swaps	Stock-based compensation	34	–	–
Total		\$ 53	\$ (12)	\$ –
For the year ended December 31, 2011				
Interest rate swaps	Forecasted liabilities	\$ (12)	\$ (12)	\$ –
Foreign currency swaps	Fixed rate assets	(1)	–	1
Foreign currency forwards	Forecasted expenses	(24)	–	–
Total return swaps	Stock-based compensation	(24)	–	–
Total		\$ (61)	\$ (12)	\$ 1

The Company anticipates that net losses of approximately \$22 will be reclassified from AOCI to net income within the next twelve months. The maximum time frame for which variable cash flows are hedged is 29 years.

Hedges of net investments in net foreign operations

The Company primarily uses forward currency contracts, cross currency swaps and non-functional currency denominated debt to manage its foreign currency exposures to net investments in net foreign operations.

The effects of derivatives in net investment hedging relationships on the Consolidated Statements of Income and the Consolidated Statements of Changes in Equity are shown in the following table.

Hedging instruments in net investment hedging relationships

	Gains (losses) deferred in AOCI on derivatives	Gains (losses) reclassified from AOCI into investment income	Ineffectiveness recognized in investment income
For the year ended December 31, 2012			
Currency swaps and interest rate swaps	\$ 55	\$ –	\$ –
Non-functional currency denominated debt	24	–	–
Total	\$ 79	\$ –	\$ –
For the year ended December 31, 2011			
Currency swaps and interest rate swaps	\$ (69)	\$ –	\$ –
Non-functional currency denominated debt	(25)	–	–
Total	\$ (94)	\$ –	\$ –

Derivatives not designated as hedging instruments

Derivatives used in portfolios supporting insurance contract liabilities are generally not designated as hedging instruments because the change in the value of the insurance contract liabilities economically hedged by these derivatives is also recorded through net income. Given the changes in fair value of these derivatives and related hedged risks are recognized in investment income as they occur, they generally offset the change in hedged risk to the extent the hedges are economically effective. Interest rate and cross currency swaps are used in the portfolios supporting insurance contract liabilities to manage duration and currency risks.

The effects of derivatives in non-hedging relationships on the Consolidated Statements of Income are shown in the following table.

For the years ended December 31,	2012	2011
Non-hedging relationships		
Investment income (loss)		
Interest rate swaps	\$ 62	\$ 8,673
Credit default swaps	2	–
Stock futures	(2,606)	(216)
Currency futures	(135)	75
Interest rate futures	(100)	(352)
Interest rate options	(8)	1
Total return swaps	6	(29)
Foreign currency swaps	(71)	(108)
Foreign currency forwards	(34)	(28)
Total investment income (loss) from derivatives in non-hedging relationships	\$ (2,884)	\$ 8,016

Fair value of derivatives

The pricing models used to value OTC derivatives are based on market standard valuation methodologies and the inputs to these models are consistent with what a market participant would use when pricing the instruments. Derivative valuations can be affected by changes in interest rates, currency exchange rates, financial indices, credit spreads, default risk (including the counterparties to the contract), and volatility. The significant inputs to the pricing models for most OTC derivatives are inputs that are observable or can be corroborated by observable market data. Inputs that are observable generally include: interest rates, foreign currency exchange rates and interest rate curves. However, certain OTC derivatives may rely on inputs that are significant to the fair value that are not observable in the market or cannot be derived principally from, or corroborated by, observable market data. Inputs that are unobservable generally include: broker quotes, volatilities and inputs that are outside of the observable portion of the interest rate curve or other relevant market measures. These unobservable inputs may involve significant management judgment or estimation. Even though unobservable, these inputs are based on assumptions deemed appropriate given the circumstances and consistent with what market participants would use when pricing such instruments. The Company's use of unobservable inputs is limited and the impact on derivative fair values does not represent a material amount as evidenced by the limited amount of Level 3 derivatives in note 11. The credit risk of both the counterparty and the Company are considered in determining the fair value for all OTC derivatives after taking into account the effects of netting agreements and collateral arrangements.

The fair value of derivative instruments is summarized by term to maturity in the following tables. Fair values shown do not incorporate the impact of master netting agreements (see note 10).

Term to maturity	Less than 1 year	1 to 3 years	3 to 5 years	Over 5 years	Total
As at December 31, 2012					
Derivative assets	\$ 69	\$ 215	\$ 396	\$ 14,027	\$ 14,707
Derivative liabilities	73	262	386	6,485	7,206

As at December 31, 2011

Derivative assets	\$ 67	\$ 198	\$ 469	\$ 14,738	\$ 15,472
Derivative liabilities	115	342	387	6,783	7,627

As at December 31, 2012	Remaining term to maturity (notional amounts)				Fair value			Credit risk equivalent ⁽¹⁾	Risk-weighted amount ⁽²⁾
	Under 1 year	1 to 5 years	Over 5 years	Total	Positive	Negative	Net		
Interest rate contracts									
Swap contracts	\$ 5,745	\$ 27,774	\$ 122,476	\$ 155,995	\$ 14,791	\$ (6,915)	\$ 7,876	\$ 8,792	\$ 994
Futures	6,079	—	—	6,079	—	—	—	—	—
Options purchased	105	—	1,211	1,316	43	—	43	87	10
Subtotal	\$ 11,929	\$ 27,774	\$ 123,687	\$ 163,390	\$ 14,834	\$ (6,915)	\$ 7,919	\$ 8,879	\$ 1,004
Foreign exchange									
Swap contracts	699	1,585	5,372	7,656	351	(648)	(297)	1,252	134
Forward contracts	762	36	—	798	10	(13)	(3)	34	3
Futures	5,310	—	—	5,310	—	—	—	—	—
Credit derivatives	—	264	—	264	7	—	7	—	—
Equity contracts									
OTC contracts	239	98	4	341	14	(9)	5	96	10
Futures	17,482	—	—	17,482	—	—	—	—	—
Subtotal including accrued interest	\$ 36,421	\$ 29,757	\$ 129,063	\$ 195,241	\$ 15,216	\$ (7,585)	\$ 7,631	\$ 10,261	\$ 1,151
Less accrued interest	—	—	—	—	509	(379)	130	—	—
Total	\$ 36,421	\$ 29,757	\$ 129,063	\$ 195,241	\$ 14,707	\$ (7,206)	\$ 7,501	\$ 10,261	\$ 1,151

As at December 31, 2011

Interest rate contracts									
Swap contracts	\$ 6,301	\$ 22,726	\$ 99,494	\$ 128,521	\$ 15,378	\$ (7,185)	\$ 8,193	\$ 8,835	\$ 958
Futures	8,309	—	—	8,309	—	—	—	—	—
Options purchased	76	108	158	342	9	—	9	16	2
Subtotal	\$ 14,686	\$ 22,834	\$ 99,652	\$ 137,172	\$ 15,387	\$ (7,185)	\$ 8,202	\$ 8,851	\$ 960
Foreign exchange									
Swap contracts	561	1,884	5,169	7,614	522	(786)	(264)	1,516	159
Forward contracts	753	70	—	823	8	(2)	6	52	5
Futures	5,185	—	—	5,185	—	—	—	—	—
Credit derivatives	7	219	24	250	4	(1)	3	—	—
Equity contracts									
OTC contracts	116	67	7	190	3	(25)	(22)	72	7
Futures	16,320	—	—	16,320	—	—	—	—	—
Subtotal including accrued interest	\$ 37,628	\$ 25,074	\$ 104,852	\$ 167,554	\$ 15,924	\$ (7,999)	\$ 7,925	\$ 10,491	\$ 1,131
Less accrued interest	—	—	—	—	452	(372)	80	—	—
Total	\$ 37,628	\$ 25,074	\$ 104,852	\$ 167,554	\$ 15,472	\$ (7,627)	\$ 7,845	\$ 10,491	\$ 1,131

⁽¹⁾ Credit risk equivalent is the sum of replacement cost and the potential future credit exposure. Replacement cost represents the current cost of replacing all contracts with a positive fair value. The amounts take into consideration legal contracts that permit offsetting of positions. The potential future credit exposure is calculated based on a formula prescribed by OSFI.

⁽²⁾ Risk-weighted amount represents the credit risk equivalent, weighted according to the creditworthiness of the counterparty, as prescribed by OSFI.

The gross notional amount and the fair value of derivative contracts by the underlying risk exposure for all derivatives in hedging and non-hedging relationships are summarized in the following table.

As at December 31,		2012			2011			
Type of hedge	Instrument type	Notional amount	Fair value		Notional amount	Fair value		
			Assets	Liabilities		Assets	Liabilities	
Qualifying hedging relationships								
Fair value hedges	Interest rate swaps	\$ 7,276	\$ 110	\$ 1,352	\$ 8,294	\$ 150	\$ 1,905	
	Foreign currency swaps	69	–	28	71	–	28	
Cash flow hedges	Interest rate swaps	80	4	–	119	–	8	
	Foreign currency swaps	126	–	8	8	1	–	
	Forward contracts	182	9	–	205	4	–	
	Equity contracts	77	4	3	48	1	11	
Net investment hedges	Interest rate swaps	650	208	–	650	216	–	
	Foreign currency swaps	810	–	162	810	–	225	
Total derivatives in hedging relationships		\$ 9,270	\$ 335	\$ 1,553	\$ 10,205	\$ 372	\$ 2,177	
Non-hedging relationships								
	Interest rate swaps	\$ 147,990	\$ 13,962	\$ 5,197	\$ 119,458	\$ 14,559	\$ 4,911	
	Interest rate futures	6,079	–	–	8,309	–	–	
	Interest rate options	1,316	43	–	342	9	–	
	Foreign currency swaps	6,649	348	437	6,725	523	523	
	Currency rate futures	5,310	–	–	5,185	–	–	
	Forward contracts	617	1	13	618	3	2	
	Equity contracts	264	11	6	142	2	13	
	Credit default swaps	264	7	–	250	4	1	
	Equity futures	17,482	–	–	16,320	–	–	
Total derivatives in non-hedging relationships		\$ 185,971	\$ 14,372	\$ 5,653	\$ 157,349	\$ 15,100	\$ 5,450	
Total derivatives		\$ 195,241	\$ 14,707	\$ 7,206	\$ 167,554	\$ 15,472	\$ 7,627	

Embedded derivatives

Certain insurance contracts contain features that are classified as embedded derivatives and are measured separately at FVTPL including reinsurance contracts related to guaranteed minimum income benefits and contracts containing certain credit and interest rate features.

Certain reinsurance contracts related to guaranteed minimum income benefits are considered embedded derivatives requiring separate measurement at FVTPL as the financial component contained in the reinsurance contracts does not contain significant insurance risk. As at December 31, 2012, reinsurance ceded guaranteed minimum income benefits had a fair value of \$1,460 (2011 – \$1,682) and reinsurance assumed guaranteed minimum income benefits had a fair value of \$121 (2011 – \$123). Claims recovered under reinsurance ceded contracts offset the claims expenses and claims paid on the reinsurance assumed are reported as contract benefits.

The Company's credit and interest rate embedded derivatives promise to pay the returns on a portfolio of assets to the contract holder and contain a credit and interest rate risk that is a financial risk embedded in the underlying insurance contract. As at December 31, 2012, these embedded derivatives had a fair value of \$146 (2011 – \$116).

Other financial instruments classified as embedded derivatives but exempt from separate measurement at fair value include variable universal life and variable life products, minimum guaranteed credited rates, no lapse guarantees, guaranteed annuitization options, CPI indexing of benefits, and segregated fund minimum guarantees other than reinsurance ceded/assumed guaranteed minimum income benefits. These embedded derivatives are measured and reported within insurance contract liabilities and are exempt from separate fair value measurement as they contain insurance risk and/or are closely related to the insurance host contract.

Note 6 Income Taxes

Components of the income tax expense (recovery) are as follows:

Income tax recognized in Consolidated Statement of Income:

For the years ended December 31,	2012	2011
Current tax		
Current year	\$ 1,241	\$ 184
Adjustments to prior year	(260)	(71)
	\$ 981	\$ 113
Deferred tax		
Reversal of temporary differences	(1,436)	(210)
Effects of changes in tax rates	(68)	–
Income tax recovery	\$ (523)	\$ (97)

Income tax recognized in Other Comprehensive Income:

For the years ended December 31,	2012	2011
Current income tax expense (recovery)	\$ 38	\$ (57)
Deferred income tax expense (recovery)	120	(28)
Income tax expense (recovery)	\$ 158	\$ (85)

Income tax recognized directly in Equity:

For the years ended December 31,	2012	2011
Current income tax expense (recovery)	\$ 44	\$ 42
Deferred income tax expense (recovery)	(52)	(16)
Income tax (recovery) expense	\$ (8)	\$ 26

The effective income tax rate reported in the Consolidated Statements of Income varies from the Canadian tax rate of 26 per cent for the year ended December 31, 2012 (2011 – 28 per cent) for the following reasons:

Reconciliation of income tax (recovery) expense

For the years ended December 31,	2012	2011
Income before income taxes	\$ 1,169	\$ 148
Income tax expense at Canadian statutory tax rate	\$ 304	\$ 41
Increase (decrease) in income taxes due to:		
Tax-exempt investment income	(188)	(166)
Differences in tax rate on income not subject to tax in Canada	(405)	(164)
General business tax credit	(46)	(54)
Goodwill impairment	52	233
Other adjustment to current tax related to current tax for prior year	(260)	(71)
Unused tax losses not recognized as deferred tax assets	47	14
Other differences	(27)	70
Income tax recovery	\$ (523)	\$ (97)

As at December 31, 2012, the Company has approximately \$1,538 of current tax payable included in other liabilities (2011 – \$1,034) and a current tax recoverable of \$14 included in other assets (2011 – \$14).

Deferred taxes

(i) Recognized deferred tax assets and liabilities

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and they relate to the same tax authority on the same taxable entity.

As at December 31,	2012	2011
Deferred tax assets		
Loss carryforwards	\$ 455	\$ 733
Actuarial liabilities	7,991	4,495
Tax credits	309	497
Accrued interest	416	446
Deferred tax assets	\$ 9,171	\$ 6,171
Deferred tax liability		
Real estate	\$ (974)	\$ (439)
Securities and other investments	(4,404)	(3,622)
Sale of investments	(285)	(323)
Intangible assets	(582)	(584)
Other	(472)	(212)
Deferred tax liability	\$ (6,717)	\$ (5,180)
Net deferred tax asset	\$ 2,454	\$ 991

(ii) The movement in the net deferred tax asset (liability) was as follows.

Deferred tax assets and liabilities

For the year ended December 31, 2012	Real estate	Securities and other investments	Sale of investments	Intangible assets	Actuarial liabilities	Loss carry- forwards	Accrued interest	Tax credits	Other	Total
Balance, January 1	\$ (439)	\$ (3,622)	\$ (323)	\$ (584)	\$ 4,495	\$ 733	\$ 446	\$ 497	\$ (212)	\$ 991
Acquired in business combinations	—	—	—	(2)	—	—	—	—	—	(2)
Recognized in net income	(538)	(777)	38	(6)	3,449	(239)	(20)	(176)	(227)	1,504
Recognized in OCI	—	(55)	—	—	—	(18)	—	—	(47)	(120)
Recognized in equity	—	—	—	—	45	—	—	—	7	52
Translation and other	3	50	—	10	2	(21)	(10)	(12)	7	29
Balance, December 31	\$ (974)	\$ (4,404)	\$ (285)	\$ (582)	\$ 7,991	\$ 455	\$ 416	\$ 309	\$ (472)	\$ 2,454

For the year ended December 31, 2011	Real estate	Securities and other investments	Sale of investments	Intangible assets	Actuarial liabilities	Loss carry- forwards	Accrued interest	Tax credits	Other	Total
Balance, January 1	\$ (424)	\$ (1,681)	\$ (373)	\$ (580)	\$ 1,768	\$ 1,190	\$ 380	\$ 545	\$ (92)	\$ 733
Recognized in net income	(10)	(2,000)	50	7	2,802	(516)	60	(63)	(120)	210
Recognized in OCI	—	—	—	—	—	—	—	—	28	28
Recognized in equity	—	—	—	—	36	—	—	—	(20)	16
Translation and other	(5)	59	—	(11)	(111)	59	6	15	(8)	4
Balance, December 31	\$ (439)	\$ (3,622)	\$ (323)	\$ (584)	\$ 4,495	\$ 733	\$ 446	\$ 497	\$ (212)	\$ 991

The aggregate of deferred tax assets where the Company has suffered losses in either the current or preceding year and where the recognition is dependent on future taxable profits and feasible management actions is \$2,190 as at December 31, 2012 (2011 – \$1,144). The Company's continuing recognition of these deferred tax assets are based on future taxable profits in the relevant jurisdictions.

As at December 31, 2012, the Company has approximately \$2,232 (2011 – \$2,806) of tax loss carryforwards available of which \$2,209 expire between the years 2013 and 2032 while \$23 have no expiry date. Capital loss carryforwards in the amount of \$18 (2011 – \$5) expire in the year 2016. A tax benefit related to these tax loss carryforwards in the amount of \$455 (2011 – \$733), has been recognized in deferred income taxes as at December 31, 2012, and a benefit of \$166 (2011 – \$119) has not been recognized.

As at December 31, 2012, the Company has recognized approximately \$309 (2011 – \$497) of tax credit carryforwards available which expire between the years 2021 and 2032.

As at December 31, 2012, the aggregate amount of taxable temporary differences associated with investments in subsidiaries for which deferred tax liabilities have not been recognized amounted to \$5,298 (2011 – \$4,032).

Tax related contingencies

The Company is an investor in a number of leasing transactions and has established provisions for possible disallowance of the tax treatment and for interest on past due taxes. The Company continues to believe that deductions originally claimed in relation to these arrangements are appropriate. Should the tax attributes of the Company's lease transactions be fully denied, no material impact to the Company's results is expected.

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 and deferred 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 year. The Company may be required to change its provision for income taxes or deferred income tax balances when the ultimate deductibility of certain items is successfully challenged by taxing authorities or if estimates used in determining the amount of deferred tax asset to recognize change significantly, or when receipt of new information indicates the need for adjustment in the amount of deferred income taxes to be recognized. 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 taxes, deferred tax balances and the effective tax rate. Any such changes could materially affect the amounts reported in the consolidated financial statements in the period these changes occur.

Note 7 Goodwill and Intangible Assets

Intangible assets include those with definite lives such as distribution networks, fund management contracts, capitalized software and other contractual rights and those with indefinite lives such as the John Hancock brand name and certain fund management contracts. Software intangible assets are amortized on a straight-line basis over their estimated useful lives of three to five years. Distribution networks and other finite life intangible assets are amortized over their estimated useful lives in relation to the associated gross margin from the related business. Indefinite life intangible assets are not amortized but are subject to an impairment test.

The following table outlines the carrying amounts of the goodwill and intangible assets.

	Gross carrying amount	Accumulated amortization	Net carrying amount
As at December 31, 2012			
Goodwill	\$ 3,100	\$ –	\$ 3,100
Indefinite life intangible assets			
Brand	\$ 597	\$ –	\$ 597
Fund management contracts and other	458	–	458
	\$ 1,055	\$ –	\$ 1,055
Finite life intangible assets			
Distribution networks	\$ 638	\$ 119	\$ 519
Software	1,058	755	303
Other intangible assets	229	93	136
	\$ 1,925	\$ 967	\$ 958
Total intangible assets	\$ 2,980	\$ 967	\$ 2,013
Total goodwill and intangible assets	\$ 6,080	\$ 967	\$ 5,113
As at December 31, 2011			
Goodwill	\$ 3,404	\$ –	\$ 3,404
Indefinite life intangible assets			
Brand	\$ 610	\$ –	\$ 610
Fund management contracts and other	464	–	464
	\$ 1,074	\$ –	\$ 1,074
Finite life intangible assets			
Distribution networks	\$ 639	\$ 96	\$ 543
Software	941	678	263
Other intangible assets	245	87	158
	\$ 1,825	\$ 861	\$ 964
Total intangible assets	\$ 2,899	\$ 861	\$ 2,038
Total goodwill and intangible assets	\$ 6,303	\$ 861	\$ 5,442

In the fourth quarter of 2012, the Company updated its 2013 business plan including in-force and new business embedded values. The Company uses these measures in determining the recoverable amount of its businesses in its annual goodwill impairment testing completed during the fourth quarter.

In the third quarter of 2012, as a result of the persistent low interest rates in Canada, the Company updated its goodwill impairment testing for its Canadian Individual Life CGU. This process indicated that the recoverable value of the Canadian Individual Life CGU was below its carrying value, suggesting that the \$355 of goodwill allocated to this CGU might be impaired. The recoverable value was determined as the higher of the estimated fair value less costs to sell or value-in-use, which incorporated the CGU's in-force and new business embedded values using internal forecasts of revenues and expenses. If the carrying value of a CGU's goodwill exceeds its recoverable amount, goodwill is impaired and will be written down by the amount of the deficiency. The testing completed by the Company determined that the goodwill allocated to the Canadian Individual Life CGU was impaired by \$200. The \$200 non-cash impairment charge has been recorded in the Corporate and Other segment (see note 20) and does not affect the Company's ongoing operations.

In the fourth quarter of 2011, the Company updated its 2012 business plan including in-force and new business embedded values. The economic environment, including the persistent low interest rates, reduced the recoverable amounts of the Company's life insurance businesses, principally in the U.S. In particular, these updates resulted in an impairment of the \$665 remaining goodwill allocated to the U.S. Life Insurance business.

The Company has 15 CGUs or groups of CGUs. The carrying value of goodwill for all CGUs with goodwill balances is shown in the table below.

For the year ended December 31, 2012

CGU or Group of CGUs	Balance, January 1	Goodwill impairment	Effect of changes in foreign exchange rates	Balance, December 31
Asia (excluding Hong Kong and Japan)	\$ 132	\$ –	\$ –	\$ 132
Japan Insurance and Wealth	463	–	(60)	403
Canadian Individual Life	355	(200)	–	155
Canadian Affinity Markets	83	–	–	83
Canadian Wealth (excluding Manulife Bank)	750	–	–	750
Canadian Group Benefits and Group Retirement Savings	826	–	–	826
International Group Program	68	–	(1)	67
U.S. Long-Term Care	274	–	(6)	268
U.S. Mutual Funds and Retirement Plan Services	368	–	(8)	360
Corporate and Other	85	–	(29)	56
Total	\$ 3,404	\$ (200)	\$ (104)	\$ 3,100

For the year ended December 31, 2011

Asia (excluding Hong Kong and Japan)	\$ 131	\$ –	\$ 1	\$ 132
Japan Insurance and Wealth	430	–	33	463
Canadian Individual Life	355	–	–	355
Canadian Affinity Markets	83	–	–	83
Canadian Wealth (excluding Manulife Bank)	750	–	–	750
Canadian Group Benefits and Group Retirement Savings	826	–	–	826
International Group Program	67	–	1	68
U.S. Life Insurance	646	(665)	19	–
U.S. Long-Term Care	267	–	7	274
U.S. Mutual Funds and Retirement Plan Services	360	–	8	368
Corporate and Other	75	–	10	85
Total	\$ 3,990	\$ (665)	\$ 79	\$ 3,404

The valuation techniques, significant assumptions and sensitivities applied in the goodwill impairment testing are described below:

Valuation techniques

The recoverable value of each CGU or group of CGUs at December 31, 2012 and 2011 was based on value-in-use for all of the U.S. based CGUs or groups of CGUs and the Canadian Individual Life CGU and fair value less costs to sell for all other CGUs or groups of CGUs.

(i) Income approach (value-in-use)

The Company has used an actuarial appraisal method for the purposes of goodwill testing. Under this approach, an appraisal value is determined from a projection of future distributable earnings derived from both the in-force business and new business expected to be sold in the future, and therefore, reflects the economic value for each CGU's or group of CGUs' profit potential under a set of assumptions. This approach requires assumptions including sales and revenue growth rates, capital requirements, interest rates, equity returns, mortality, morbidity, policyholder behaviour, tax rates and discount rates.

Significant assumptions

Growth

The assumptions used were based on the Company's internal plan and Canadian actuarial valuation basis. To calculate the embedded value, the Company discounted projected earnings from each in-force contract and valued ten years of new business growing at expected plan levels, consistent with the periods used for forecasting long-term businesses such as insurance. In arriving at its projections, the Company considered past experience, economic trends such as interest rates, equity returns and product mix as well as industry and market trends. Where growth rate assumptions for new business cash flows were used in the embedded value calculations, they ranged from zero per cent to 11 per cent (2011 – zero per cent to 10 per cent).

Interest rates

The Company uses a similar methodology for measuring insurance contracts in determining projected expected interest rates based on prevailing market rates at the valuation date.

Tax rates

The tax rates applied to the projections reflected intercompany transfer pricing agreements currently in effect which were assumed to be transferable to another market participant and amounted to 26 per cent and 35 per cent (2011 – 26 per cent and 35 per cent) for the Canadian and U.S. jurisdictions respectively. Tax assumptions are sensitive to changes in tax laws as well as assumptions about the jurisdictions in which profits are earned. It is possible that actual tax rates could differ from those assumed.

Discount rates

The discount rate assumed in determining the value-in-use, for applicable CGUs or groups of CGUs for the Canadian and U.S. jurisdictions, was 10 per cent on an after-tax basis or 14 per cent on a pre-tax basis (2011 – 10 per cent on an after-tax basis and 14 per cent on a pre-tax basis).

(ii) Fair values

Where applicable, the Company determined the fair value of the CGU or group of CGUs using an earnings-based approach which incorporated the forecasted earnings, excluding interest and equity market impacts and normalized new business expenses multiplied by an earnings multiple derived from the observable price-to-earnings multiples of comparable financial institutions. The price-to-earnings multiples used by the Company for testing ranged from 10 to 16 (2011 – 10 to 14).

The key assumptions described above may change as economic and market conditions change.

Going forward, the goodwill testing for 2013 will be based on the economic conditions that exist in 2013, which may result in further lowering the margin of recoverable value in excess of carrying value attributable to the Company's Canadian Individual Life CGU. Any material change in the discount rates, cash flow projections used in the determination of embedded values or reductions in market-based earnings multiples may result in further impairment charges, which could be material.

Finite life intangible assets

The estimated useful lives of the finite life intangible assets range from three to 68 years. Amortization expense was \$142 for the year ended December 31, 2012 (2011 – \$121).

Note 8 Insurance Contract Liabilities and Reinsurance Assets

(a) Insurance contract liabilities and reinsurance assets

Insurance contract liabilities are reported gross of reinsurance ceded and the ceded liabilities are reported separately as a reinsurance asset. Insurance contract liabilities include actuarial liabilities as well as benefits payable, provision for unreported claims and policyholder amounts on deposit. The components of gross and net insurance contract liabilities are shown below.

As at December 31,	2012	2011
Gross actuarial liabilities	\$ 190,589	\$ 180,973
Gross benefits payable and provision for unreported claims	2,412	2,684
Gross policyholder amounts on deposit	6,587	6,709
Gross insurance contract liabilities	\$ 199,588	\$ 190,366
Impact of reinsurance assets	(18,681)	(10,728)
Net insurance contract liabilities	\$ 180,907	\$ 179,638

Net insurance contract liabilities represent the amount which, together with estimated future premiums and net investment income, will be sufficient to pay estimated future benefits, policyholder dividends and refunds, taxes (other than income taxes) and expenses on policies in force.

Net insurance contract liabilities under IFRS retain the existing valuation methodology that was used under prior Canadian generally accepted accounting principles. Net actuarial liabilities are determined using CALM, as required by the Canadian Institute of Actuaries. Liabilities are set equal to the statement of financial position value of the assets required to support them.

The determination of net actuarial liabilities is based on an explicit projection of cash flows using current best estimate assumptions for each material cash flow item and contingency. Investment returns are projected using the current asset portfolios and projected reinvestment strategies.

Each assumption is adjusted by a margin for adverse deviation. For fixed income returns, this margin is established by scenario testing that is generally done on a deterministic basis, testing a range of prescribed and company-developed scenarios. For minimum guarantees on segregated fund products, the margin for adverse deviation for investment returns is done stochastically. For other assumptions, this margin is established by directly adjusting the best estimate assumption.

Cash flows used in the net actuarial valuation adjust the gross policy cash flows to reflect the projected cash flows from ceded reinsurance. The cash flow impact of ceded reinsurance varies depending upon the amount of reinsurance, the structure of the reinsurance treaties, the expected economic benefit from the treaty cash flows and the impact of margins for adverse deviation. The gross actuarial liabilities are determined by discounting the gross policy cash flows using the same discount rate as the net CALM model discount rate.

The reinsurance asset is determined by taking the difference between the gross insurance contract liabilities and the net insurance contract liabilities. The reinsurance asset represents the benefit derived from reinsurance arrangements in force at the date of the Consolidated Statements of Financial Position.

The period used for the projection of cash flows is the policy lifetime for most individual insurance contracts. For other types of contracts a shorter projection period may be used, with the contract generally ending at the first renewal date at or after the balance sheet date where the Company can exercise discretion in renewing its contractual obligations or terms of those obligations. Where the projection period is less than the policy lifetime, actuarial liabilities may be reduced by an allowance for acquisition expenses expected to be recovered from policy cash flows beyond the projection period used for the liabilities. Such allowances are tested for recoverability using assumptions that are consistent with other components of the actuarial valuation.

(b) Composition

The composition of insurance contract liabilities and reinsurance assets by line of business and reporting segment is as follows.

Gross insurance contract liabilities

As at December 31, 2012	Individual insurance		Annuities and pensions	Other insurance contract liabilities ⁽¹⁾	Total, net of reinsurance ceded	Total reinsurance ceded	Total, gross of reinsurance ceded
	Participating	Non-participating					
Asia Division	\$ 17,433	\$ 6,502	\$ 3,608	\$ 1,621	\$ 29,164	\$ 325	\$ 29,489
Canadian Division	9,246	17,549	15,327	8,487	50,609	1,697	52,306
U.S. Division	19,536	31,070	24,972	25,722	101,300	15,344	116,644
Corporate and Other	–	5	88	(259)	(166)	1,315	1,149
Total, net of reinsurance ceded	\$ 46,215	\$ 55,126	\$ 43,995	\$ 35,571	\$ 180,907	\$ 18,681	\$ 199,588
Total reinsurance ceded	386	8,555	8,653	1,087	18,681		
Total, gross of reinsurance ceded	\$ 46,601	\$ 63,681	\$ 52,648	\$ 36,658	\$ 199,588		

As at December 31, 2011

Asia Division	\$ 16,033	\$ 5,270	\$ 3,957	\$ 1,473	\$ 26,733	\$ 306	\$ 27,039
Canadian Division	8,497	15,112	15,951	7,584	47,144	1,185	48,329
U.S. Division	20,257	28,306	32,797	24,071	105,431	7,974	113,405
Corporate and Other	–	178	97	55	330	1,263	1,593
Total, net of reinsurance ceded	\$ 44,787	\$ 48,866	\$ 52,802	\$ 33,183	\$ 179,638	\$ 10,728	\$ 190,366
Total reinsurance ceded	(5)	7,445	2,052	1,236	10,728		
Total, gross of reinsurance ceded	\$ 44,782	\$ 56,311	\$ 54,854	\$ 34,419	\$ 190,366		

⁽¹⁾ Other insurance contract liabilities include group insurance and individual and group health including long-term care insurance.

Separate sub-accounts were established for participating policies in-force at the demutualization of MLI and John Hancock Life Insurance Company. These sub-accounts permit this participating business to be operated as separate “closed blocks” of participating policies. As at December 31, 2012, \$27,950 (2011 – \$27,739) of both assets and insurance contract liabilities related to these closed blocks of participating policies.

(c) Fixed deferred annuity coinsurance transactions

On June 29, 2012, the Company entered into a coinsurance agreement to reinsure 89 per cent of its book value fixed deferred annuity business from John Hancock U.S.A. with an effective date of April 1, 2012. Under the terms of the agreement, the Company will maintain responsibility for servicing of the policies and some of the assets and has retained the remaining exposure. On September 25, 2012, the Company entered into a coinsurance agreement to reinsure 90 per cent of its fixed deferred annuity business from John Hancock Life Insurance Company of New York with an effective date of July 1, 2012. Under the terms of the agreement, the Company will maintain responsibility for servicing of the policies and has retained the remaining exposure.

The transactions were structured such that the Company ceded the actuarial liabilities and transferred related invested assets which included US\$7,178 in cash and other invested assets backing the actuarial liabilities as premiums paid to the reinsurers in exchange for assuming these liabilities. Due to the significant size of these transactions, the premiums ceded are shown separately in the Consolidated Statements of Income. With these transactions, the Company has now reinsured approximately 89 per cent of its book value fixed deferred annuity business. Reinsurance assets representing the benefits of these reinsurance arrangements are not offset against the related insurance contract liabilities and are presented on a gross basis on the Consolidated Statements of Financial Position.

(d) Assets backing insurance contract liabilities, other liabilities and capital

Assets are segmented and matched to liabilities with similar underlying characteristics by product line and major currency. The Company has established target investment strategies and asset mixes for each asset segment supporting insurance contract liabilities which take into account the risk attributes of the liabilities supported by the assets and expectations of market performance. Liabilities with rate and term guarantees are predominantly backed by fixed-rate instruments on a cash flow matching basis for a targeted duration horizon. Longer duration cash flows on these liabilities as well as on adjustable products such as participating life insurance are backed by a broader range of asset classes, including equity and alternative long-duration investments. The Company's equity is invested in a range of debt and equity investments, both public and private.

Changes in the fair value of assets backing net insurance contract liabilities that are not judged by the Company to be other than temporary would have a limited impact on the Company's net income wherever there is an effective matching of the assets and liabilities, as these changes would be substantially offset by corresponding changes in the value of the actuarial liabilities. The fair value of assets backing net insurance contract liabilities as at December 31, 2012, excluding reinsurance assets, was estimated at \$184,943 (2011 – \$183,126).

The fair value of assets backing capital and other liabilities as at December 31, 2012 was estimated at \$306,563 (2011 – \$283,539).

The carrying value of total assets backing net insurance contract liabilities, other liabilities and capital was as follows.

As at December 31, 2012	Individual insurance		Annuities and pensions	Other insurance contract liabilities ⁽¹⁾	Other liabilities ⁽²⁾	Capital ⁽³⁾	Total
	Participating	Non-participating					
Assets							
Bonds	\$ 25,671	\$ 29,356	\$ 24,141	\$ 17,333	\$ 5,742	\$ 17,038	\$ 119,281
Stocks	5,278	3,445	208	301	471	2,292	11,995
Mortgages	4,107	4,566	6,347	3,642	16,058	362	35,082
Private placements	3,133	6,022	6,196	3,656	816	452	20,275
Real estate	2,166	3,321	775	1,880	229	142	8,513
Other	5,860	8,416	6,328	8,759	252,186	9,361	290,910
Total	\$ 46,215	\$ 55,126	\$ 43,995	\$ 35,571	\$ 275,502	\$ 29,647	\$ 486,056

As at December 31, 2011

Assets							
Bonds	\$ 25,242	\$ 25,996	\$ 29,230	\$ 15,775	\$ 4,861	\$ 19,383	\$ 120,487
Stocks	4,433	2,844	204	466	386	1,910	10,243
Mortgages	4,430	4,252	7,707	3,803	14,192	639	35,023
Private placements	2,882	5,351	7,651	3,371	514	525	20,294
Real estate	2,088	2,824	803	1,526	101	124	7,466
Other	5,712	7,599	7,207	8,242	233,303	6,401	268,464
Total	\$ 44,787	\$ 48,866	\$ 52,802	\$ 33,183	\$ 253,357	\$ 28,982	\$ 461,977

⁽¹⁾ Other insurance contract liabilities include group insurance and individual and group health including long-term care insurance.

⁽²⁾ Other liabilities are non-insurance contract liabilities which include segregated funds, bank deposits, long-term debt, deferred tax liabilities, derivatives, investment contracts, non-exempt embedded derivatives and other miscellaneous liabilities.

⁽³⁾ Capital is defined in note 15.

(e) Significant insurance contract liability valuation assumptions

The determination of insurance contract liabilities involves the use of estimates and assumptions. Insurance contract liabilities have two major components: a best estimate amount and a provision for adverse deviation. In conjunction with prudent business practices to manage both business and investment risks, the selection and monitoring of appropriate assumptions are designed to minimize the Company's exposure to measurement uncertainty.

Best estimate assumptions

Best estimate assumptions are made with respect to mortality and morbidity, investment returns, rates of policy termination, operating expenses and certain taxes. Actual experience is monitored to ensure that the assumptions remain appropriate and assumptions are changed as warranted. Assumptions are discussed in more detail in the following table:

Nature of factor and assumption methodology	Risk management
<p>Mortality and morbidity</p> <p>Mortality relates to the occurrence of death. Mortality is a key assumption for life insurance and certain forms of annuities. Mortality assumptions are based on the Company's internal experience as well as past and emerging industry experience. Assumptions are differentiated by sex, underwriting class, policy type and geographic market. Assumptions are made for future mortality improvements.</p> <p>Morbidity relates to the occurrence of accidents and sickness for insured risks. Morbidity is a key assumption for long-term care insurance, disability insurance, critical illness and other forms of individual and group health benefits. Morbidity assumptions are based on the Company's internal experience as well as industry past and emerging experience and are established for each type of morbidity risk and geographic market.</p>	<p>The Company maintains underwriting standards to determine the insurability of applicants. Claim trends are monitored on an ongoing basis. Exposure to large claims is managed by establishing policy retention limits, which vary by market and geographic location. Policies in excess of the limits are reinsured with other companies.</p> <p>Mortality is monitored monthly and the overall 2012 experience was favourable (2011 – favourable) when compared to the Company's assumptions. Morbidity is also monitored monthly and the overall 2012 experience was unfavourable (2011 – unfavourable) when compared to the Company's assumptions, primarily related to poor experience for Long-Term Care.</p>
<p>Investment returns</p> <p>The Company segments assets to support liabilities by business segment and geographic market and establishes 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 on these assets for future years. The investment strategies are based on the target investment policies for each segment and the reinvestment returns are derived from current and projected market rates for fixed income investments and a projected outlook for other alternative long-duration assets.</p> <p>Investment return assumptions include expected future asset credit losses on fixed income investments. Credit losses are projected based on past Company and industry experience as well as specific reviews of the current investment portfolio.</p> <p>Investment return assumptions for each asset class also incorporate expected investment management expenses that are derived from internal cost studies. The costs are attributed to each asset class to develop unitized assumptions per dollar of asset for each asset class.</p>	<p>The Company's policy of closely matching the cash flows of assets with those of the corresponding liabilities is designed to mitigate the Company's exposure to future changes in interest rates. The interest rate risk positions in business segments are monitored on an ongoing basis. Under CALM, the reinvestment rate is developed using interest rate scenario testing and reflects the interest rate risk positions.</p> <p>In 2012, the movement in interest rates adversely (2011 – adversely) impacted the Company's net income. All rates contributed to this adverse impact, including reductions in corporate spreads and risk free rates, and increases in swap spreads.</p> <p>The exposure to credit losses is managed against policies that limit concentrations by issuer, corporate connections, ratings, sectors and geographic regions. On participating policies and some non-participating policies, credit loss experience is passed back to policyholders through the investment return crediting formula. For other policies, the premiums and benefits reflect the Company's assumed level of future credit losses at contract inception or most recent contract adjustment date. The Company holds explicit provisions in actuarial liabilities for credit risk including provisions for adverse deviation.</p> <p>In 2012, credit loss experience on bonds and mortgages was favourable (2011 – favourable) when compared to the Company's assumptions.</p> <p>Stocks, real estate and other alternative long-duration assets are used to support liabilities where investment return experience is passed back to policyholders through dividends or credited investment return adjustments. Stocks, real estate, oil and gas and other alternative long-duration assets are also used to support long-dated obligations in the Company's annuity and pensions businesses and for long-dated insurance obligations on contracts where the investment return risk is borne by the Company.</p> <p>In 2012, investment experience on alternative long-duration assets backing policyholder liabilities was unfavourable (2011 – unfavourable) due to reappraisal losses on oil and gas properties and private equities which were largely offset by reappraisal gains on real estate and timber properties. In 2012, asset returns including origination exceeded valuation requirements.</p>

Nature of factor and assumption methodology		Risk management
Investment returns (continued)		<p>In 2012, investment experience for segregated fund businesses from changes in the market value of funds under management was favourable (2011 – unfavourable) with all markets showing increases in 2012.</p> <p>In 2012, investment expense experience was favourable (2011 – favourable) when compared to the Company's assumptions.</p>
Policyholder behaviour	<p>Policies are terminated through 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 the Company's recent experience adjusted for expected future conditions. Assumptions reflect differences by type of contract within each geographic market.</p>	<p>The Company seeks to design products that minimize financial exposure to lapse, surrender and other policyholder behaviour risk. The Company monitors lapse, surrender and other policyholder behaviour experience.</p> <p>In aggregate, 2012 policyholder behaviour experience was unfavourable (2011 – unfavourable) when compared to the Company's assumptions used in the computation of actuarial liabilities.</p>
Expenses and taxes	<p>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 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 grow.</p> <p>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.</p>	<p>The Company prices its products to cover the expected costs of servicing and maintaining them. In addition, the Company monitors expenses monthly, including comparisons of actual expenses to expense levels allowed for in pricing and valuation.</p> <p>Maintenance expenses for 2012 were unfavourable (2011 – unfavourable) when compared to the Company's assumptions used in the computation of actuarial liabilities.</p> <p>The Company prices its products to cover the expected cost of taxes.</p>
Policyholder dividends, experience rating refunds, and other adjustable policy elements	<p>The best estimate projections for policyholder dividends and experience rating refunds, and other adjustable elements of policy benefits are determined to be consistent with management's expectation of how these elements will be managed should experience emerge consistently with the best estimate assumptions used for mortality and morbidity, investment returns, rates of policy termination, operating expenses and taxes.</p>	<p>The Company monitors policy experience and adjusts policy benefits and other adjustable elements to reflect this experience.</p> <p>Policyholder dividends are reviewed annually for all businesses under a framework of Board-approved policyholder dividend policies.</p>
Foreign currency	<p>Foreign currency risk results from a mismatch of the currency of liabilities and the currency of the assets designated to support these obligations. 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 foreign exchange rates.</p>	<p>The Company generally matches the currency of its assets with the currency of the liabilities they support, with the objective of mitigating the risk of loss arising from currency exchange rates.</p>

The Company's practice is to review actuarial assumptions on an annual basis as part of its review of methods and assumptions (note 8(i)). Where changes are made to assumptions (see section i), the full impact is recognized in income immediately.

(f) Sensitivity of insurance contract liabilities to changes in non-economic assumptions

The sensitivity of after-tax income to changes in non-economic assumptions underlying policy liabilities is shown below, assuming that there is a simultaneous change in the assumption across all business units.

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, changes in business mix, effective tax rates and other market factors, and the general limitations of internal models.

Most participating business is excluded from this analysis because of the ability to pass both favourable and adverse experience to the policyholders through the participating dividend adjustment.

Sensitivity of insurance contract liabilities to changes in non-economic assumptions

As at December 31,	Decrease in after-tax income	
	2012	2011
Policy related assumptions		
2% adverse change in future mortality rates ^{(1),(3)}		
Products where an increase in rates increases insurance contract liabilities	\$ (200)	\$ (200)
Products where a decrease in rates increases insurance contract liabilities	(300)	(300)
5% adverse change in future morbidity rates ^{(2),(3)}	(1,400)	(1,200)
10% adverse change in future termination rates ⁽³⁾	(1,400)	(1,200)
5% increase in future expense levels	(400)	(300)

⁽¹⁾ 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.

⁽²⁾ 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.

⁽³⁾ The impacts of the sensitivities on long-term care 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.

(g) Provision for adverse deviation assumptions

The assumptions made in establishing insurance contract liabilities reflect expected best estimates of future experience. To recognize the uncertainty in these best estimate assumptions, to allow for possible mis-estimation of and deterioration in experience and to provide a greater degree of assurance that the insurance contract liabilities are adequate to pay future benefits, the Appointed Actuary is required to include a margin in each assumption.

Under Canadian IFRS reporting new business profits are capitalized at issue of a policy decreasing the income that would be recognized at inception of the policy and releasing it into future earnings as the policy is released from risk. Minimum requirements are prescribed by the Canadian Institute of Actuaries for determining margins related to interest rate risk. Specific guidance is also provided for other risks such as market, credit, mortality and morbidity risks. For other risks which are not specifically addressed by the Canadian Institute of Actuaries, a range is provided of five per cent to 20 per cent of the expected experience assumption. The Company uses assumptions within the permissible ranges, with the determination of the level set taking into account the risk profile of the business. On occasion, in specific circumstances for additional prudence, a margin may exceed the high end of the range, which is permissible under the Standards of Practice.

Each margin is reviewed annually for continued appropriateness.

(h) Change in insurance contract liabilities

The change in insurance contract liabilities was a result of the following business activities and changes in actuarial estimates.

	Net actuarial liabilities	Other insurance contract liabilities ⁽¹⁾	Net insurance contract liabilities	Reinsurance asset	Gross insurance contract liabilities
For the year ended December 31, 2012					
Balance, January 1	\$ 170,849	\$ 8,789	\$ 179,638	\$ 10,728	\$ 190,366
New policies	2,550	–	2,550	322	2,872
Normal in-force movement	97	(230)	(133)	7,509	7,376
Changes in methods and assumptions	2,653	33	2,686	365	3,051
Impact of changes in foreign exchange rates	(3,592)	(242)	(3,834)	(243)	(4,077)
Balance, December 31	\$ 172,557	\$ 8,350	\$ 180,907	\$ 18,681	\$ 199,588
For the year ended December 31, 2011					
Balance, January 1	\$ 142,446	\$ 8,034	\$ 150,480	\$ 7,832	\$ 158,312
New policies	2,350	–	2,350	192	2,542
Normal in-force movement	21,284	533	21,817	2,626	24,443
Changes in methods and assumptions	1,545	3	1,548	(91)	1,457
Impact of changes in foreign exchange rates	3,224	219	3,443	169	3,612
Balance, December 31	\$ 170,849	\$ 8,789	\$ 179,638	\$ 10,728	\$ 190,366

⁽¹⁾ Other insurance contract liabilities is comprised of benefits payable and provision for unreported claims and policyholder amounts on deposit.

(i) Actuarial methods and assumptions

A comprehensive review of valuation assumptions and methods is performed annually and is designed to minimize the Company's exposure to uncertainty by managing both asset-related and liability-related risks. This is accomplished by monitoring experience and updating assumptions which represent a best estimate view of future experience, and margins that are appropriate for the risks assumed. 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.

2012

In 2012, the review of actuarial assumptions and methods resulted in an increase in policy liabilities of \$2,686, net of reinsurance. The impact of the changes in actuarial assumptions and methods increased reinsurance assets by \$365. Net of the impacts on participating surplus and non-controlling interests, shareholders' income decreased by \$1,758 post-tax. The impact on net income included \$677 related to updates to the ultimate reinvestment rate.

The following table represents the impact of the 2012 changes in actuarial assumptions and models on policy liabilities and net income attributed to shareholders by the three main drivers.

For the year ended December 31, 2012

Assumption	To policy liabilities	To net income attributed to shareholders
	Increase (decrease)	Increase (decrease)
Related to updates to actuarial standards		
Segregated fund equity calibration	\$ 317	\$ (244)
Largely related to current macro-economic environment		
Updates to ultimate reinvestment rate	\$ 983	\$ (677)
U.S. Variable Annuity GMWB withdrawal and lapse assumptions	722	(469)
Stochastic bond parameter update	595	(427)
Life insurance lapse updates	296	(194)
Other interest rate related impacts	258	(30)
	\$ 2,854	\$ (1,797)
Other annual updates		
Mortality and morbidity updates	\$ (196)	\$ 166
Expense updates	(206)	142
Other lapse updates	144	(134)
Alternative asset modeling refinements and assumption updates	215	(178)
Refinement to corporate spread modeling	(249)	167
Update to Variable Annuity hedge business margin	(179)	126
Other	(14)	(6)
	\$ (485)	\$ 283
Net impact	\$ 2,686	\$ (1,758)

Related to updates to actuarial standards

Updates to actuarial standards related to equity calibration for stochastic models used to value segregated fund liabilities resulted in an increase to policy liabilities of \$317.

Related to changes in the macro-economic environment

Ultimate reinvestment rates were updated to reflect the formulaic impact of the low interest rate environment, and the introduction of a new reinvestment scenario for Canadian liabilities resulting in an increase of \$983 to policy liabilities. Withdrawal and utilization assumptions were strengthened for U.S. Variable Annuity Guaranteed Minimum Withdrawal Benefit business resulting in an increase of \$722 to policy liabilities. Updated bond parameters used in the stochastic valuation of segregated fund business caused an increase in policy liabilities of \$595. Lapse rates for certain U.S. Universal Life products with interest guarantees and for certain Japan term insurance business were updated to reflect emerging policyholder experience resulting in an increase of \$296 to policy liabilities. Policy liabilities for certain participating business in Canada were increased \$258 for updated interest rates.

Other annual updates

Updates to other liability related assumptions were the result of the annual review or monitoring of assumptions and resulted in a \$485 reduction in policy liabilities. Policy liability reductions of \$196 were the result of reductions from morbidity assumptions in Japan and refinement of mortality assumptions in certain U.S. life insurance segments, offset by strengthening of policy liabilities from mortality assumptions for Canadian annuity and segregated fund business. A \$206 reduction in policy liabilities was related to favourable investment expenses, partly offset by an update to letter of credit costs in the U.S. Updates to lapse assumptions for Japan and Canadian insurance products increased policy liabilities by \$144. A \$249 reduction in policy liabilities resulted from the beneficial impact of updates to the modeling of corporate spreads. A \$215 increase in policy liabilities resulted from refinements to the modeling of, and updates to return assumptions, for alternative long-duration asset cash. A \$179 reduction in policy liabilities resulted from updates to valuation margins for segregated fund business that is dynamically hedged. A \$14 reduction in policy liabilities related to refinements in policyholder cash flows included a charge for the provisioning of the anticipated future earnings impact from valuation system conversions, largely offset by the realized benefits from modeling of future tax timing differences.

2011

The 2011 review of the actuarial methods and assumptions underlying policy liabilities produced a net increase in policy liabilities of \$1,515. Net of the impacts on participating surplus and non-controlling interests, this resulted in a decrease in 2011 shareholders' post-tax income of \$1,188.

For the year ended December 31, 2011

Assumption	To policy liabilities	To net income attributed to shareholders
	Increase (decrease)	Increase (decrease)
Related to updates to actuarial standards		
Future mortality improvements	\$ (180)	\$ 97
Largely related to current macro-economic environment		
Ultimate reinvestment rate	\$ 612	\$ (437)
Variable annuity lapse update	571	(409)
Life insurance lapse updates	137	(90)
Other	(27)	41
	\$ 1,293	\$ (895)
Other annual updates		
Mortality updates – U.S. Life older ages	\$ 754	\$ (475)
Other mortality and morbidity updates	(986)	636
Expense updates	141	(85)
Other lapse updates	(159)	97
GMWB commutation rates, alternative asset assumptions	385	(327)
Other	267	(236)
	\$ 402	\$ (390)
Net impact	\$ 1,515	\$ (1,188)

Related to updates to actuarial standards

Updates to actuarial standards permitted mortality and morbidity improvements to be reflected for non-annuity business, resulting in a reduction of \$180 in policy liabilities.

Largely related to current macro-economic environment

Actuarial assumption changes driven by current macro-economic forces resulted in an increase in policy liabilities of \$1,293. Most notable was update to the ultimate reinvestment rate assumption of \$612. Additional updates in this category included updates to lapses for certain variable annuity and segregated fund products of \$571, and lapse and premium persistency assumptions for certain accumulation insurance products of \$137.

Other annual updates

The impact of other updates to methods and assumptions resulted in an increase to policy liabilities of \$402. Mortality and morbidity updates were a decrease in policy liabilities of \$232, with releases from most mortality assumption updates of \$986 largely offset by policy liability increases from updates to U.S. Life older age mortality of \$754. Expense updates resulted in an increase to policy liabilities of \$141 made up primarily of updates to maintenance expenses for U.S. Life and updates to projections of anticipated future costs of letters of credit. Updates to certain assumptions related to alternative long-duration assets and to commutation rates for guaranteed minimum withdrawal business in Canada resulted in an increase in policy liabilities of \$385. Lapse assumptions were updated for certain insurance businesses, with a corresponding policy liability reduction of \$159. Increases in policy liabilities of \$267 included the impact of updates to the modeling of certain payout annuities and refinements to the modeling of guaranteed minimum withdrawal benefit amounts, partly offset by the impact of system conversions in the U.S.

(j) Insurance contracts contractual obligations

Insurance contracts give rise to obligations fixed by agreement. As at December 31, 2012, the Company's contractual obligations and commitments relating to insurance contracts are as follows:

Payments due by period	Less than 1 year	1 to 3 years	3 to 5 years	Over 5 years	Total
Insurance contract liabilities ⁽¹⁾	\$ 6,415	\$ 7,859	\$ 10,017	\$ 454,739	\$ 479,030

⁽¹⁾ Insurance contract liability 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. Cash flows include embedded derivatives measured separately at fair value.

Note 9 Investment Contract Liabilities

Investment contract liabilities are contractual obligations made by the Company that do not contain significant insurance risk and are measured either at fair value or at amortized cost.

Investment contract liabilities measured at fair value

Investment contract liabilities measured at fair value comprise certain investment savings and pension products sold primarily in Hong Kong, Japan, China, Taiwan and U.S. Fixed Products. The carrying value of investment contract liabilities measured at fair value are reflected below.

As at December 31,	2012	2011
Asia	\$ 649	\$ 743
United States	–	5
Investment contract liabilities	\$ 649	\$ 748

The change in investment contract liabilities measured at fair value was a result of the following.

For the years ended December 31,	2012	2011
Balance, January 1	\$ 748	\$ 817
New policies	4	4
Changes in market conditions	–	–
Changes in methods and assumptions	–	(1)
Redemptions, surrenders and maturities	(87)	(91)
Impact of changes in foreign exchange rates	(16)	19
Balance, December 31	\$ 649	\$ 748

For the year ended December 31, 2012, the net gain relating to investment contract liabilities at fair value was nil (2011 – gain of \$1).

Investment contract liabilities measured at amortized cost

Investment contract liabilities measured at amortized cost comprise medium term notes sold in the U.S. and several annuity certain products sold in Canada and the U.S. Annuity certain products considered investment contracts are those that provide guaranteed income payments for a contractually determined period of time and are not contingent on survivorship.

Investment contract liabilities measured at amortized cost are shown below. The fair value associated with these contracts is also shown for comparative purposes.

	2012		2011	
	Amortized cost	Fair value	Amortized cost	Fair value
As at December 31,				
U.S. medium term notes	\$ 386	\$ 415	\$ 463	\$ 495
U.S. annuity certain products	1,140	1,218	1,073	1,005
Canadian annuity certain products	249	276	256	277
Investment contract liabilities	\$ 1,775	\$ 1,909	\$ 1,792	\$ 1,777

The change in investment contract liabilities measured at amortized cost was a result of the following business activities.

	2012	2011
For the years ended December 31,		
Balance, January 1	\$ 1,792	\$ 2,173
New policy deposits	155	269
Interest	84	105
Withdrawals	(225)	(793)
Fees	1	2
Other	1	10
Impact of changes in foreign exchange rates	(33)	26
Balance, December 31	\$ 1,775	\$ 1,792

For the year ended December 31, 2012, the net loss relating to investment contracts measured at amortized cost was \$86 (2011 – \$117).

Medium term notes offer a specified guaranteed fixed or floating rate of return based on external market indices and are comprised of the following contractual terms.

	Issue date	Maturity date	2012	2011
			Carrying value	
As at December 31				
EURIBOR3 + 35bps EUR Medium term notes	June 26, 2002	June 25, 2012	\$ –	\$ 68
5.000% USD Medium term notes	September 24, 2003	September 30, 2013	50	51
4.670% HKD Medium term notes	March 16, 2004	March 17, 2014	32	33
5.250% USD Medium term notes	February 18, 2003	February 25, 2015	304	311
Total carrying value			\$ 386	\$ 463
Fair value			\$ 415	\$ 495

The carrying value of the medium term notes is amortized at the effective interest rates which exactly discount the contractual cash flows to the net carrying amount of the liabilities at the date of issue.

The fair value of the medium term notes is determined using a discounting cash flow approach based on current market interest rates adjusted for the Company's own credit standing.

The carrying value of annuity certain products is amortized at a rate that exactly discounts the projected actual cash flows to the net carrying amount of the liability at the date of issue.

The fair value of annuity certain products is determined by projecting cash flows according to the contract terms and discounting the cash flows at current market rates adjusted for the Company's own credit standing.

Investment contracts contractual obligations

Investment contracts give rise to obligations fixed by agreement. As at December 31, 2012, the Company's contractual obligations and commitments relating to investment contracts are as follows:

	Less than 1 year	1 to 3 years	3 to 5 years	Over 5 years	Total
Payments due by period					
Investment contract liabilities ⁽¹⁾	\$ 280	\$ 749	\$ 358	\$ 3,080	\$ 4,467

⁽¹⁾ Due to the nature of the products, the timing of net cash flows may be before contract maturity. Cash flows are undiscounted.

Note 10 Risk Management

Manulife Financial is a financial institution offering insurance, wealth and asset management products and other financial services, which subjects the Company to a broad range of risks. The Company manages these risks within an enterprise-wide risk management framework. The Company's goal in managing risk is to strategically optimize risk taking and risk management to support long-term

revenue, earnings and capital growth. The Company seeks to achieve this by capitalizing on business opportunities and strategies with appropriate risk/return profiles; ensuring sufficient management expertise is in place to effectively execute strategies, and to identify, understand and manage underlying inherent risks; ensuring strategies and activities align with the Company's corporate and ethical standards and operational capabilities; pursuing opportunities and risks that enhance diversification; and in making all risk taking decisions with analyses of inherent risks, risk controls and mitigations, and risk/return trade-off.

(a) Market risk

Market risk management strategy overview

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

The following table outlines the Company's 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

Market 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 general fund products and surplus segment.

The Company's 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 the Company's 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 the Company 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. In addition, to the extent publicly traded equities are held as AFS, other than temporary impairments that arise will reduce income.

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 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 and 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 and 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, 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 the Company 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

The Company's results are reported in Canadian dollars. A substantial portion of its business is transacted in currencies other than Canadian dollars, mainly U.S. dollars, Hong Kong dollars and Japanese yen. If the Canadian dollar strengthens, reported earnings would decline and the Company's 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, the Company's regulatory capital ratios would be reduced. A weakening of the Canadian dollar against the foreign currencies in which the Company does business would have the opposite effect, and would increase reported Canadian dollar earnings and shareholders' equity, and would potentially increase the Company's regulatory capital ratios.

Market risk management strategies

Product design and pricing strategy

The Company's policies, standards and standards of practice with respect to product design and pricing are designed with the objective of aligning its product offerings with its risk taking philosophy and risk appetite, and in particular, that incremental risk generated from new sales aligns with its strategic risk objectives and risk targets. The specific design features of its product offerings, including level of benefit guarantees, policyholder options, fund offerings and availability restrictions as well as its associated investment strategies help to mitigate the level of underlying risk. The Company regularly reviews and modifies all key features within its product offerings, including premiums and fee charges with a goal of meeting both profit and risk targets. Certain of the Company's 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 Chief Risk Officer or key individuals within Divisional and Corporate Risk Management.

Variable annuity guarantee dynamic hedging strategy

The variable annuity dynamic hedging strategy is designed to hedge the sensitivity of variable annuity guarantee policy liabilities and available capital, to both public equity and bond fund performance 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 the hedge asset portfolio. The economic value of guarantees moves in close tandem with, but not exactly as, the variable annuity guarantee policy liabilities, as it reflects best estimate liabilities and does not include any liability provisions for adverse deviations.

The Company's 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. The Company dynamically rebalances these hedge instruments as market conditions change, in order to maintain the hedged position within established limits. The Company may consider the use of additional hedge instruments opportunistically in the future.

The Company's 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;
- 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 second order 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.

Macro equity risk hedging strategy

The macro equity risk hedging strategy is designed to hedge a portion of the Company's shareholders' earnings sensitivity to public equity market movements arising from the following sources in order to maintain its overall earnings sensitivity to public equity market movements below targeted levels:

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

The Company currently executes its macro equity risk hedging strategy by shorting equity futures and executing currency futures, and rolling them over at maturity. The Company may consider the use of alternative long maturity instruments opportunistically in the future. The notional value of equity futures contracts that were shorted as part of the Company's macro equity risk hedging strategy as at December 31, 2012 was approximately \$7.8 billion.

Asset liability management strategy

The Company's asset liability management strategy is designed to help ensure the market risks embedded in its 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.

Foreign exchange risk management strategy

The Company's foreign exchange risk management strategy is designed to hedge the sensitivity of its 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 year end exchange rates.

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

Sensitivities and risk exposure measures

Caution related to sensitivities

In these consolidated financial statements, the Company has provided sensitivities and risk exposure measures for certain risks. These include the 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 returns and investment activity assumed in the future. 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 the Company's internal models. For these reasons, these 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, the Company cannot provide assurance that the actual impact on net income attributed to shareholders will be as indicated.

Variable annuity and segregated fund guarantees

The table below provides information related to the Company's variable annuities and segregated funds products with guarantees. Under IFRS, the guarantees associated with these products are considered to be embedded derivatives. However, as these guarantees either contain significant insurance risk and/or are closely related to the host contract, the embedded derivatives are not required to be accounted for separately at fair value in the Company's consolidated financial statements. Variable annuity and segregated fund guarantees make up the most material portion of the embedded derivatives exempt from separate measurement at fair value.

Variable annuity products with Guaranteed Minimum Death Benefit ("GMDB") features guarantee the contract holder a minimum payment on death of, depending on the contract features: (a) the total deposits made to the contract adjusted for any partial withdrawals; (b) the total deposits made to the contract adjusted for any partial withdrawals plus a minimum return; or (c) the highest contract fund value on a prior specified anniversary date adjusted for any withdrawals following that specified anniversary date.

Variable annuity products with Guaranteed Minimum Accumulation Benefit ("GMAB") features guarantee the contract holder a minimum payment at the end of a specified term of either, depending on the contract features: (a) the total deposits made to the contract adjusted for any partial withdrawals; or (b) the highest contract fund value on a prior specified anniversary date adjusted for any withdrawals following that specified anniversary date.

Variable annuity products with Guaranteed Minimum Income Benefit ("GMIB") features provide a guaranteed minimum lifetime annuity, which may be elected by the contract holder after a stipulated waiting period (seven to 15 years). The Company ceased selling products with this guarantee in 2004.

Variable annuity products with Guaranteed Minimum Withdrawal Benefit ("GMWB") features provide contract holders a minimum annual withdrawal amount over a specified time period or in some cases for as long as they live or as long as either they or their spouse lives, of a specified percentage of a benefit base, equaling total deposits adjusted for prior withdrawals in excess of specified allowed amounts. In some cases, depending on contract features, the benefit base may be increased at specified dates either (a) to the contract fund value if higher, or (b) by specified amounts in the case where no withdrawals are made by the contract holder.

Variable annuity and segregated fund guarantees

As at December 31,	2012			2011		
	Guarantee value	Fund value	Amount at risk ⁽⁴⁾	Guarantee value	Fund value	Amount at risk ⁽⁴⁾
Guaranteed minimum income benefit ⁽¹⁾	\$ 6,581	\$ 4,958	\$ 1,630	\$ 7,518	\$ 5,358	\$ 2,163
Guaranteed minimum withdrawal benefit	65,481	58,659	7,183	66,655	56,954	9,907
Guaranteed minimum accumulation benefit	20,380	21,468	1,383	23,509	23,030	2,813
Gross living benefits ⁽²⁾	\$ 92,442	\$ 85,085	\$ 10,196	\$ 97,682	\$ 85,342	\$ 14,883
Gross death benefits ⁽³⁾	13,316	10,622	2,206	15,202	11,614	3,232
Total gross of reinsurance and dynamic hedging	\$ 105,758	\$ 95,707	\$ 12,402	\$ 112,884	\$ 96,956	\$ 18,115
Living benefits reinsured	\$ 5,780	\$ 4,358	\$ 1,427	\$ 6,491	\$ 4,622	\$ 1,871
Death benefits reinsured	3,673	3,140	709	4,360	3,430	1,104
Total reinsured	\$ 9,453	\$ 7,498	\$ 2,136	\$ 10,851	\$ 8,052	\$ 2,975
Total, net of reinsurance	\$ 96,305	\$ 88,209	\$ 10,266	\$ 102,033	\$ 88,904	\$ 15,140
Living benefits dynamically hedged	\$ 55,464	\$ 52,585	\$ 4,528	\$ 55,522	\$ 50,550	\$ 6,346
Death benefits dynamically hedged	5,453	3,945	558	5,133	3,461	739
Total dynamically hedged	\$ 60,917	\$ 56,530	\$ 5,086	\$ 60,655	\$ 54,011	\$ 7,085
Living benefits retained	\$ 31,198	\$ 28,142	\$ 4,241	\$ 35,669	\$ 30,170	\$ 6,666
Death benefits retained	4,190	3,537	939	5,709	4,723	1,389
Total, net of reinsurance and dynamic hedging	\$ 35,388	\$ 31,679	\$ 5,180	\$ 41,378	\$ 34,893	\$ 8,055

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

⁽²⁾ Where a policy includes both living and death benefits, the guarantee in excess of the living benefit is included in the death benefit category as outlined in footnote (3).

⁽³⁾ Death benefits include standalone 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 GMDB, the net amount at risk is defined as the current GMDB in excess of the current account balance. For GMIB, the net amount at risk is defined as the excess of the current annuitization income base over the current account value. For all guarantees, the net amount at risk is floored at zero at the single contract level.

The insurance and investment contract liabilities established for these benefits were \$7,948 at December 31, 2012 (2011 – \$10,021). These insurance and investment contract liabilities include the liabilities for both the hedged and the unhedged business. For

unhedged business, insurance and investment contract liabilities were \$2,695 at December 31, 2012 (2011 – \$3,586). The insurance and investment contract liabilities for the hedged block were \$5,253 at December 31, 2012 (2011 – \$6,435). The decrease in the liabilities was primarily due to the favourable impact of improved public equity markets.

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,

Investment category	2012	2011
Equity funds	\$ 32,700	\$ 33,914
Balanced funds	57,236	55,920
Bond funds	10,232	10,524
Money market funds	2,711	3,009
Other fixed interest rate investments	1,378	1,519
Total	\$ 104,257	\$ 104,886

Publicly traded equity performance risk – risk exposure measures

The tables below show the potential impact on net income attributed to shareholders resulting from immediate 10, 20 and 30 per cent changes in market values of publicly traded equities followed by a return to the expected level of growth assumed in the valuation of insurance and investment contract liabilities, including embedded derivatives. The potential impact is shown before and after taking into account the impact of the change in markets on the hedge assets. The potential impact is shown assuming that (a) 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) that the change in value is not completely offset. In 2012 the Company refined its methodology related to the estimated amount that would not be completely offset. The refinement in methodology, assumes that provision for adverse deviation is not offset and that the hedge assets are based on the actual position at the period end. (Previously the methodology assumed that for a 10, 20 and 30 per cent decrease in the market value of equities, the profit from the hedge assets offsets 80, 75 and 70 per cent, respectively, of the loss arising from the change in the policy liabilities associated with the guarantees dynamically hedged. For a 10, 20 and 30 per cent market increase in the market value of equities the loss on the dynamic hedges was assumed to be 120, 125 and 130 per cent of the gain from the dynamically hedged variable annuity guarantee liabilities, respectively.)

While the Company cannot reliably estimate the amount of the change in dynamically hedged variable annuity liabilities that will not be offset by the profit or loss on the dynamic hedge assets, the Company makes certain assumptions for the purposes of estimating the impact on net income attributed to shareholders.

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

As at December 31, 2012	-30%	-20%	-10%	+10%	+20%	+30%
Net impact assuming the change in the value of the hedge assets completely offsets the change in the dynamically hedged variable annuity guarantee liabilities ^{(2),(3)}	\$ (1,210)	\$ (720)	\$ (310)	\$ 200	\$ 290	\$ 240
Impact of assuming the change in value of the dynamic hedge assets does not completely offset the change in the dynamically hedged variable annuity guarantee liabilities ⁽⁴⁾	(710)	(470)	(190)	(10)	(50)	(70)
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 ^{(2),(3),(4)}	\$ (1,920)	\$ (1,190)	\$ (500)	\$ 190	\$ 240	\$ 170

As at December 31, 2011

Net impact assuming the change in the value of the hedge assets completely offsets the change in the dynamically hedged variable annuity guarantee liabilities ^{(2),(3)}	\$ (2,050)	\$ (1,280)	\$ (600)	\$ 500	\$ 910	\$ 1,220
Impact of assuming the change in value of the dynamic hedge assets does not completely offset the change in the dynamically hedged variable annuity guarantee liabilities ⁽⁴⁾	(700)	(460)	(200)	(10)	(20)	(30)
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 ^{(2),(3),(4)}	\$ (2,750)	\$ (1,740)	\$ (800)	\$ 490	\$ 890	\$ 1,190

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

⁽²⁾ The impact to general fund equities is 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 of Canada. The sensitivities assume that the participating policy funds are self-supporting and generate no material impact on net income attributed to shareholders as a result of changes in equity markets.

⁽³⁾ Best estimate liabilities and associated provisions for adverse deviation.

⁽⁴⁾ Represents the impact of re-balancing equity hedges for dynamically hedged variable annuity guarantee liabilities at 5% 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. basis risk, realized volatility and equity, interest rate correlations different from expected among other factors. For presentation purposes, numbers are rounded.

Interest rate and spread risk – risk exposure measures

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 and corporate spreads, relative to the rates assumed in the valuation of insurance and investment contract liabilities, including embedded derivatives.

Policy liabilities are determined by testing a range of future interest rate scenarios, including those prescribed by actuarial standards of practice. These future scenarios are derived from interest rates and spreads at the end of the period. The scenario that produces the highest reserve requirement determines the reserve held at the end of the period and is called the booking scenario. Based on interest rates at December 31, 2012, a 100 basis point decline in interest rates would result in a movement to a different prescribed reinvestment scenario for policy liability valuation in some jurisdictions, which would produce a higher reserve. The potential earnings impact of a 100 basis point decline in interest rates in 2012 includes approximately \$200 related to the impact of the scenario change. This amount would be expected to reduce over time, should risk free rates remain unchanged, as the ultimate reinvestment rate moves toward current risk free rates. Further, as the sensitivity to a 100 basis point decline in interest rates includes the impact of the change in prescribed reinvestment scenarios, the impact of changes to interest rates for less than, or more than, the amounts indicated are unlikely to be linear. For variable annuity guarantee liabilities that are dynamically hedged, it is assumed that interest rate hedges are rebalanced at 20 basis point intervals. The impact does not allow for any potential changes to the ultimate reinvestment rate ("URR") assumptions or other potential impacts to lower interest rate levels.

Potential impact on 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, including embedded derivatives and before the impact of the change in value of AFS fixed income investments^{(1),(2),(3),(4),(5)}

As at December 31,	2012		2011	
	-100bp	+100bp	-100bp	+100bp
General fund products ⁽³⁾	\$ (200)	\$ –	\$ (500)	\$ 350
Variable annuity guarantees ⁽⁴⁾	(200)	200	(500)	350
Total	\$ (400)	\$ 200	\$ (1,000)	\$ 700

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

(2) 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.

(3) The sensitivities assume that the participating insurance and investment contract funds are self-supporting and generate no material impact on net income attributed to shareholders as a result of changes in interest rates.

(4) For variable annuity liabilities that are dynamically hedged, it is assumed that interest rate hedges are rebalanced at 20 basis point intervals.

(5) For general fund adjustable benefit products subject to minimum rate guarantees, the sensitivities are based on the assumption that credited rates will be floored at the minimum.

The decrease in sensitivity from December 31, 2011 was primarily related to risk reduction action taken through the year.

The potential impact on annual net income attributed to shareholders provided in the table above does not include any impact arising from the sale of fixed income assets held in the Company's surplus segment. Changes in the market value of these assets, if realized, may provide a natural economic offset to the interest rate risk arising from the Company's 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 unrealized gains or losses.

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

As at December 31,	2012	2011
Corporate spreads⁽⁴⁾		
Increase 50 basis points	\$ 500	\$ 500
Decrease 50 basis points	(1,000)	(900)
Swap spreads		
Increase 20 basis points	(600)	(600)
Decrease 20 basis points	600	600

(1) See "Caution related to sensitivities" above. Actual results may differ materially from these estimates.

(2) The impact on net income attributed to shareholders assumes no gains or losses are realized on AFS fixed income assets held in the surplus segment and excludes the impact arising from changes in segregated fund bond fund value arising from changes in credit spreads. The sensitivities assume that the participating policy funds are 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 and investment market and activities 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. Sensitivities to 50 basis point change in corporate spreads were estimated at December 31, 2011.

Based on spreads at the end of 2012, a 50 basis point decline in corporate spreads would result in a movement to a different prescribed reinvestment scenario for policy liability valuation in some jurisdictions which would produce a higher reserve. The potential impact of a 50 basis point decline in 2012 includes approximately \$400 related to the impact of the scenario change. This amount would be expected to reduce over time, should risk free rates remain unchanged, as the moving average the ultimate reinvestment rate is based on moves toward current risk free rates. Further, as the sensitivity to a 50 basis point decline in corporate spreads includes the impact of the change in prescribed reinvestment scenarios, the impact of changes to corporate spreads for less than, or more than, the amounts indicated are unlikely to be linear.

Alternative long-duration asset performance risk – risk exposure measures

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 insurance and investment contract liabilities.

Potential impact on net income attributed to shareholders arising from changes in alternative long-duration asset returns^{(1),(2),(3)}

As at December 31,	2012		2011	
	-10%	+10%	-10%	+10%
Real estate, agriculture and timber assets	\$ (900)	\$ 900	\$ (750)	\$ 750
Private equities and other alternative long-duration assets	(800)	700	(550)	550
Alternative long-duration assets	\$ (1,700)	\$ 1,600	\$ (1,300)	\$ 1,300

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

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

(3) The sensitivities assume that the participating policyholder funds are self-supporting and generate no material impact on net income attributed to shareholders as a result of changes in alternative long-duration assets.

The increased sensitivity from December 31, 2011 to December 31, 2012 is primarily related to the fall in interest rates in 2012, (reducing the rate at which funds can reinvest), as well as the impact of changes in methods and assumptions and increase in market value of the alternative long-duration assets over the year.

(b) Foreign currency risk for financial instruments

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, 2012, the Company did not have a material unmatched currency exposure.

(c) Liquidity risk

Liquidity risk is the risk that sufficient funds are not available to meet both expected and unexpected cash and/or collateral demands in a timely and cost effective manner. Under stressed conditions, unexpected cash and collateral demands could arise primarily from an increase in the level of policyholders either systemically terminating policies with cash surrender values or not renewing policies when they mature, deposit withdrawals, the level of borrowers renewing or extending their loans when they mature, derivative settlements and collateral requirements and reinsurance settlements.

The Company's liquidity risk management strategies are designed to ensure that sufficient funds are readily available to meet its financial obligations as they come due. Liquidity risk is mitigated through the Company's holdings of cash or cash equivalents, investment grade marketable securities and its broad access to various funding sources. The Company maintains centralized pools of high quality liquid assets and investment grade marketable securities to support its operations and contingent liquidity demands. Funding is obtained through premiums, deposits, asset securitization, and bank credit and other funding programs.

The Company mitigates liquidity risk by maintaining liquidity levels above minimum internal requirements. Minimum operating liquidity is set above the level of the highest one month's operating cash outflows projected over the next 12 months. Strategic liquidity is established based on immediate and longer term liquidity requirements under stress conditions whereby policyholder liabilities and unencumbered liquid assets are risk-adjusted for their potential for withdrawals and convertibility to cash, respectively. Liquidity is also assessed under multiple market stress scenarios, over various time horizons, whereby liquid assets are adjusted for changes in market value, derivative pledging requirements and expected convertibility to cash. Adjusted assets are compared against adjusted obligations which reflect policy surrenders, contractual obligations, derivative margin requirements and other forecasted cash requirements. In all liquidity measures, pledged assets are not considered as available liquid assets to support obligations.

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

Maturity of financial liabilities^{(1),(2)}

As at December 31, 2012	Less than 1 year	1 to 3 years	3 to 5 years	Over 5 years	Total
Long-term debt	\$ 350	\$ 3,041	\$ 14	\$ 2,047	\$ 5,452
Capital instruments	—	—	—	3,156	3,156
Derivative liabilities	73	262	386	6,485	7,206
Bank deposits	14,997	2,192	1,619	49	18,857

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

⁽²⁾ 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.

(d) 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. Worsening or continued poor economic conditions could result in defaults or downgrades and could lead to increased provisions or impairments related to the Company's general fund invested assets, derivative financial instruments and reinsurance and an increase in provisions for future credit impairments to be included in actuarial liabilities.

The Company's exposure to credit risk is managed through risk management policies and procedures which include a defined credit evaluation and adjudication process, delegated credit approval authorities and established exposure limits by borrower, corporate connection, credit rating, industry and geographic region. The Company measures 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.

The Company also ensures where warranted that loans, including mortgages, private placement and bank loans, are secured by collateral, the nature of which depends on the credit risk of the counterparty.

An allowance for losses on loans is established when a loan becomes impaired. Provisions for loan losses are calculated to reduce the carrying value of the loans to estimated net realizable value. The establishment of such provisions takes into consideration normal historical credit loss levels and future expectations, with an allowance for adverse deviations. In addition, actuarial liabilities include general provisions for credit losses from future asset impairments. Impairments are identified through regular monitoring of all credit related exposures, considering such information as general market conditions, industry and borrower specific credit events and any other relevant trends or conditions. Allowance for losses on reinsurance contracts is established when a reinsurance counterparty becomes unable or unwilling to fulfill its contractual obligations. The allowance for loss is based on current recoverable amounts and ceded actuarial liabilities.

Credit risk associated with derivative counterparties is discussed in note 10(h) and credit risk associated with reinsurance counterparties is discussed in note 10(k).

Credit exposure

The following table outlines the gross carrying amount of financial instruments subject to credit exposure, without taking into account any collateral held or other credit enhancements.

As at December 31,	2012	2011
Bonds		
FVTPL	\$ 100,283	\$ 99,682
AFS	18,998	20,805
Loans		
Mortgages	35,082	35,023
Private placements	20,275	20,294
Policy loans	6,793	6,827
Bank loans	2,142	2,288
Derivative assets	14,707	15,472
Accrued investment income	1,802	1,802
Reinsurance assets	18,681	10,728
Other financial assets	3,458	2,802
Total	\$ 222,221	\$ 215,723

Credit quality

For mortgages and private placements, the Company evaluates credit quality through regular monitoring of credit related exposures, considering both qualitative and quantitative factors in assigning an internal risk rating. These ratings are updated at least annually.

A write-off is recorded when internal risk ratings indicate that a loss represents the most likely outcome. The assets are designated as non-accrual and an allowance is established based on an analysis of the security and repayment sources.

The following table summarizes the recorded investment by credit quality indicator.

As at December 31, 2012	AAA	AA	A	BBB	BB	B & lower	Total
Loans (excluding Manulife Bank of Canada)							
Private placements	\$ 697	\$ 2,633	\$ 5,709	\$ 9,116	\$ 835	\$ 1,285	\$ 20,275
Mortgages	2,301	2,024	3,781	10,749	631	357	19,843
Total	\$ 2,998	\$ 4,657	\$ 9,490	\$ 19,865	\$ 1,466	\$ 1,642	\$ 40,118

As at December 31, 2011

Loans (excluding Manulife Bank of Canada)							
Private placements	\$ 608	\$ 2,436	\$ 5,902	\$ 8,977	\$ 1,178	\$ 1,193	\$ 20,294
Mortgages	2,262	1,802	3,835	12,546	714	419	21,578
Total	\$ 2,870	\$ 4,238	\$ 9,737	\$ 21,523	\$ 1,892	\$ 1,612	\$ 41,872

For loans and mortgages held by Manulife Bank of Canada, the Company assigns an internal risk rating ranging from "1 – little or no risk" to "8 – doubtful". The internal risk ratings are updated at least annually and reflect the credit quality of the lending asset including such factors as original credit score and product characteristics.

Full or partial write-offs of loans are recorded when management believes there is no realistic prospect of full recovery. Write-offs, net of recoveries, are deducted from the allowance for credit losses. All impairments are captured in the allowance for credit losses.

The following table summarizes the recorded investment by credit quality indicator.

As at December 31, 2012	1	2	3	4 & lower	Total
Manulife Bank of Canada					
Mortgages	\$ –	\$ 9,425	\$ 5,718	\$ 96	\$ 15,239
Bank loans	–	398	1,714	30	2,142
Total	\$ –	\$ 9,823	\$ 7,432	\$ 126	\$ 17,381

As at December 31, 2011

Manulife Bank of Canada					
Mortgages	\$ –	\$ 9,766	\$ 3,605	\$ 74	\$ 13,445
Bank loans	–	414	1,840	34	2,288
Total	\$ –	\$ 10,180	\$ 5,445	\$ 108	\$ 15,733

Past due or credit impaired financial assets

The Company provides for credit risk by establishing allowances against the carrying value of impaired loans and recognizing impairment losses on AFS bonds. Impairment losses on AFS bonds are recognized in income when there is objective evidence of impairment. Impairment is considered to have occurred when it is deemed probable that the Company will not be able to collect all amounts due according to the contractual terms of the bond. In addition, the Company reports as an impairment certain declines in the fair value of bonds designated as FVTPL which it deems represent an impairment.

The following table summarizes the carrying value, or impaired value, in the case of impaired bonds, of the Company's financial assets that are considered past due or impaired.

	Past due but not impaired			
	Less than 90 days	90 days and greater	Total	Total impaired
As at December 31, 2012				
Bonds				
FVTPL	\$ 69	\$ –	\$ 69	\$ 156
AFS	4	–	4	15
Loans				
Private placements	102	12	114	83
Mortgages and bank loans	79	27	106	81
Other financial assets	67	43	110	2
Total	\$ 321	\$ 82	\$ 403	\$ 337
As at December 31, 2011				
Bonds				
FVTPL	\$ –	\$ –	\$ –	\$ 166
AFS	1	–	1	43
Loans				
Private placements	117	–	117	182
Mortgages and bank loans	139	67	206	91
Other financial assets	21	56	77	4
Total	\$ 278	\$ 123	\$ 401	\$ 486

The following table summarizes the Company's loans that are considered impaired.

Impaired loans

	Recorded investment ⁽¹⁾	Unpaid principal balance	Related allowance	Average recorded investment ⁽¹⁾	Interest income recognized
As at and for the year ended December 31, 2012					
Private placements	\$ 118	\$ 140	\$ 35	\$ 164	\$ –
Mortgages and bank loans	135	126	54	167	–
Total	\$ 253	\$ 266	\$ 89	\$ 331	\$ –
As at and for the year ended December 31, 2011					
Private placements	\$ 223	\$ 336	\$ 41	\$ 251	\$ –
Mortgages and bank loans	144	143	53	163	–
Total	\$ 367	\$ 479	\$ 94	\$ 414	\$ –

⁽¹⁾ Recorded investment is the carrying amount of the investment after any direct write-offs, but before deducting any related allowance for impairment.

Allowance for loan losses

For the years ended December 31,	2012			2011		
	Mortgages and bank loans	Private placements	Total	Mortgages and bank loans	Private placements	Total
Balance, January 1	\$ 53	\$ 41	\$ 94	\$ 34	\$ 84	\$ 118
Provisions	29	6	35	45	18	63
Recoveries	(12)	(8)	(20)	(21)	(46)	(67)
Write-offs ⁽¹⁾	(16)	(4)	(20)	(5)	(15)	(20)
Balance, December 31	\$ 54	\$ 35	\$ 89	\$ 53	\$ 41	\$ 94

⁽¹⁾ Includes disposals and impact of changes in foreign exchange rates.

(e) Concentration risk

The geographic concentration of the Company's insurance and investment contract liabilities, including embedded derivatives, is shown below. The disclosure is based on the countries in which the business is written.

As at December 31, 2012	Gross liabilities	Reinsurance assets	Net liabilities
United States and Canada	\$ 169,949	\$ (18,585)	\$ 151,364
Asia and other	32,330	(96)	32,234
Total insurance and investment contract liabilities, including embedded derivatives	\$ 202,279	\$ (18,681)	\$ 183,598

As at December 31, 2011			
United States and Canada	\$ 163,819	\$ (10,545)	\$ 153,274
Asia and other	29,327	(183)	29,144
Total insurance and investment contract liabilities, including embedded derivatives	\$ 193,146	\$ (10,728)	\$ 182,418

(f) Securities lending, repurchase and reverse repurchase transactions

The Company engages in securities lending to generate fee income. Collateral, which exceeds the market value of the loaned securities, is retained by the Company until the underlying security has been returned to the Company. The market value of the loaned securities is monitored on a daily basis with additional collateral obtained or refunded as the market value of the underlying loaned securities fluctuates. As at December 31, 2012, the Company had loaned securities (which are included in invested assets) with a market value of \$1,456 (2011 – \$1,274). The Company holds collateral with a current market value that exceeds the value of securities lent in all cases.

The Company engages in repurchase and reverse repurchase transactions to generate fee income and to take possession of securities to cover short positions in similar instruments. As at December 31, 2012, the Company had engaged in reverse repurchase transactions of \$608 (2011 – \$64) which are recorded as a short-term receivable. There were outstanding repurchase agreements of \$641 as at December 31, 2012 (2011 – \$624).

(g) Credit default swaps

The Company replicates exposure to specific issuers by selling credit protection via credit default swaps ("CDSs") in order to complement its cash bond investing. The Company will not write CDS protection in excess of its government bond holdings. A CDS is a derivative instrument representing an agreement between two parties to exchange the credit risk of a single specified entity or an index based on the credit risk of a group of entities (all commonly referred to as the "reference entity" or a portfolio of "reference entities"), in return for a periodic premium. CDS contracts typically have a five year term.

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

As at December 31, 2012	Notional amount ⁽²⁾	Fair value	Weighted average maturity (in years) ⁽³⁾
Single name CDSs⁽¹⁾			
Corporate debt			
AAA	\$ 25	\$ 1	4
AA	85	3	4
A	144	3	4
BBB	10	–	5
Total single name CDSs	\$ 264	\$ 7	4
Total CDS protection sold	\$ 264	\$ 7	4

As at December 31, 2011			
Single name CDSs⁽¹⁾			
Corporate debt			
AAA	\$ 25	\$ 1	5
AA	87	2	5
A	107	1	5
Total single name CDSs	\$ 219	\$ 4	5
Total CDS protection sold	\$ 219	\$ 4	5

⁽¹⁾ The rating agency designations are based on S&P where available followed by Moody's, DBRS, and Fitch. If no rating is available from a rating agency, then an internally developed rating is used.

⁽²⁾ Notional amounts represent the maximum future payments the Company would have to pay its counterparties assuming a default of the underlying credit and zero recovery on the underlying issuer obligation.

⁽³⁾ The weighted average maturity of the credit default swaps is weighted based on notional amounts.

The Company holds no purchased credit protection at December 31, 2012. As at December 31, 2011, the Company held purchased credit protection with a total notional amount of \$32 and fair value of \$(1). As at December 31, 2011, the average credit rating of the counterparties guaranteeing the underlying credit was A+ and the weighted average maturity was 5.5 years.

(h) Derivatives

The Company's point in time exposure to losses related to the credit risk of the counterparty of derivatives transactions is limited to the amount of any net gains that may have accrued with a particular counterparty. Gross derivative counterparty exposure is measured as the total fair value (including accrued interest) of all outstanding contracts in a gain position excluding any offsetting contracts in negative positions and the impact of collateral on hand. The Company seeks to limit the risk of credit losses from derivative counterparties by: establishing a minimum acceptable counterparty credit rating of A- from external rating agencies; entering into master netting arrangements which permit the offsetting of contracts in a loss position in the case of a counterparty default; and entering into Credit Support Annex agreements, whereby collateral must be provided when the exposure exceeds a certain threshold. All contracts are held with counterparties rated A- or higher. As at December 31, 2012, the percentage of the Company's derivative exposure which was with counterparties rated AA- or higher amounted to 19 per cent (2011 – 26 per cent). The Company's exposure to credit risk was mitigated by \$9,249 fair value of collateral held as security as at December 31, 2012 (2011 – \$8,922).

As at December 31, 2012, the largest single counterparty exposure, without taking into account the impact of master netting agreements or the benefit of collateral held, was \$2,922 (2011 – \$3,029). The net exposure to this counterparty, after taking into account master netting agreements and the fair value of collateral held, was nil (2011 – \$7). As at December 31, 2012, the total maximum credit exposure related to derivatives across all counterparties, without taking into account the impact of master netting agreements and the benefit of collateral held, was \$15,216 (2011 – \$15,924). Net exposure across all counterparties, after taking into account master netting agreements and the benefit of fair value of collateral held, was \$23 (2011 – \$293).

(i) Risk concentrations

The Company establishes enterprise-wide investment portfolio level targets and limits with the objective of ensuring that portfolios are diversified across asset classes and individual investment risks. The Company monitors actual investment positions and risk exposures for concentration risk and reports such findings to the Executive Risk Committee and the Risk Committee of the Board of Directors.

As at December 31,	2012	2011
Bonds and private placements rated as investment grade BBB or higher ⁽¹⁾	95%	95%
Government bonds as a per cent of total bonds	48%	47%
Government private placements as a per cent of total private placements	10%	11%
Highest exposure to a single non-government bond and private placement issuer	\$ 777	\$ 723
Largest single issuer as a per cent of the total stock portfolio	2%	1%
Income producing commercial office properties (2012 – 82% of total real estate, 2011 – 82%)	\$ 6,957	\$ 6,127
Largest concentration of mortgages and real estate ⁽²⁾ – Ontario, Canada (2012 – 28%, 2011 – 26%)	\$ 12,070	\$ 11,230

⁽¹⁾ Investment grade bonds and private placements include 29% rated A, 18% rated AA and 29% rated AAA (2011 – 28%, 19% and 30%) based on external ratings where available.

⁽²⁾ Mortgages and real estate are diversified geographically and by property type.

The following table shows the distribution of the bond and private placement portfolio by sector and industry.

Bonds and private placements

As at December 31,	2012		2011	
	Carrying value	% of total	Carrying value	% of total
Government and agency	\$ 58,780	42	\$ 58,904	42
Utilities	21,412	15	20,114	14
Financial	20,505	15	21,161	15
Energy	9,644	7	9,158	6
Consumer (non-cyclical)	7,281	5	6,686	5
Industrial	7,085	5	7,116	5
Securitized	3,801	3	5,734	4
Other	11,048	8	11,908	9
Total	\$ 139,556	100	\$ 140,781	100

(j) Insurance risk

Insurance risk is the risk of loss due to actual experience differing from the experience assumed when a product was designed and priced with respect to mortality and morbidity claims, policyholder behaviour and expenses. A variety of assumptions are made related to the future level of claims, policyholder behaviour, expenses and sales levels when products are designed and priced as well as in the determination of actuarial liabilities. The development of assumptions for future claims is based on Company and industry experience and predictive models; assumptions for policyholder behaviours are based on Company experience and predictive models. Such assumptions require a significant amount of professional judgment and, therefore, actual experience may be materially different than the assumptions made by the Company. Claims may be impacted by the unusual onset of disease or illness, natural disasters, large-

scale manmade disasters and acts of terrorism. Policyholder premium payment patterns, policy renewal, withdrawal and surrender activity is influenced by many factors including market and general economic conditions, and the availability and price of other products in the marketplace.

Manulife Financial manages insurance risk through global policies, standards and best practices with respect to product design, pricing, underwriting and claim adjudication, and a global life underwriting manual. Each business unit has underwriting procedures, including criteria for approval of risks and claims adjudication procedures. The Company has a global retention limit of US\$30 and US\$35, respectively for individual and survivorship life insurance. Lower limits are applied in some markets and jurisdictions. Manulife Financial further reduces exposure to claims concentrations by applying geographical aggregate retention limits for certain covers.

(k) Reinsurance risk

In the normal course of business, the Company limits the amount of loss on any one policy by reinsuring certain levels of risk with other insurers. In addition, the Company accepts reinsurance from other reinsurers. Reinsurance ceded does not discharge the Company's liability as the primary insurer. Failure of reinsurers to honour their obligations could result in losses to the Company; consequently, allowances are established for amounts deemed uncollectible. In order to minimize losses from reinsurer insolvency, the Company monitors the concentration of credit risk both geographically and with any one reinsurer. In addition, the Company selects reinsurers with high credit ratings.

As at December 31, 2012, the Company had \$18,681 (2011 – \$10,728) of reinsurance assets. Of this, 91 per cent (2011 – 84 per cent) were ceded to reinsurers with Standard and Poor's ratings of A– or above. The Company's exposure to credit risk was mitigated by \$9,123 fair value of collateral held as security as at December 31, 2012 (2011– \$1,972). Net exposure after taking into account offsetting agreements and the benefit of the fair value of collateral held was \$9,558 (2011– \$8,673).

Note 11 Fair Value of Financial Instruments

Financial instruments refer to both on–and off-balance sheet instruments and may be assets or liabilities. These assets or liabilities are contracts that ultimately give rise to a right for one party to receive an asset and an obligation for another party to deliver an asset. Fair values reflect management's best estimates of the amounts at which instruments could be exchanged in a current transaction between willing parties and are generally calculated based on the characteristics of the instrument and the current economic and competitive environment.

The fair values and the basis for determining the fair values of invested assets, derivatives, long-term debt and liabilities for preferred shares and capital instruments are disclosed in notes 4, 5, 12 and 13, respectively.

The fair value of bank deposits is estimated at \$18,951 as at December 31, 2012 (2011 – \$18,100), compared to a carrying value of \$18,857 as at December 31, 2012 (2011 – \$18,010). The fair value of these financial instruments is determined by discounting the contractual cash flows, using market interest rates currently offered for deposits with similar terms and conditions.

The carrying values of accrued investment income, outstanding premiums, miscellaneous assets, policy benefits in the course of settlement, provision for unreported claims, policyholder amounts on deposit and other liabilities approximate their fair values due to their short-term nature.

Financial instruments measured at fair value on the Consolidated Statements of Financial Position

The Company categorizes its fair value measurements according to a three level hierarchy. The hierarchy prioritizes the inputs used by the Company's valuation techniques for determining the fair value of the financial instrument. A level is assigned to each fair value measurement based on the lowest level input significant to the fair value measurement in its entirety. The three levels of the fair value hierarchy are defined as follows:

Level 1 – Fair value measurements that reflect unadjusted, quoted prices in active markets for identical assets and liabilities that the Company has the ability to access at the measurement date. Valuations are based on quoted prices reflecting market transactions involving assets or liabilities identical to those being measured.

Level 2 – Fair value measurements using inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. These include quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in inactive markets, inputs that are observable that are not prices (such as interest rates, credit risks, etc.) and inputs that are derived from or corroborated by observable market data. Most bonds are classified within Level 2. Also, included in the Level 2 category are derivative instruments that are priced using models with observable market inputs, including interest rate swaps, equity swaps, and foreign currency forward contracts.

Level 3 – Fair value measurements using significant non-market observable inputs. These include valuations for assets and liabilities that are derived using data, some or all of which is not market observable, including assumptions about risk. Level 3 securities include less liquid securities such as structured asset-backed securities, commercial mortgage-backed securities ("CMBS") and other securities that have little or no price transparency. Embedded and complex derivative financial instruments are also included in Level 3.

In determining the fair value of its financial instruments, the Company uses observable market data, when available, and minimizes the use of unobservable inputs to the extent possible when determining fair value.

The following tables present the Company's assets and liabilities that are carried at fair value, categorized by level under the fair value hierarchy.

Fair value of financial instruments

As at December 31, 2012	Total fair value	Level 1	Level 2	Level 3
ASSETS				
Cash and short-term securities				
FVTPL	\$ 531	\$ –	\$ 531	\$ –
AFS	8,364	–	8,364	–
Other	4,589	4,589	–	–
Bonds				
FVTPL				
Canadian government & agency	12,929	–	12,533	396
U.S. government & agency	18,361	–	18,181	180
Other government & agency	11,750	–	10,950	800
Corporate	54,024	–	51,930	2,094
Residential mortgage/asset-backed securities	207	–	13	194
Commercial mortgage/asset-backed securities	1,445	–	1,242	203
Other securitized assets	1,567	–	1,432	135
AFS				
Canadian government & agency	3,014	–	2,804	210
U.S. government & agency	8,811	–	8,808	3
Other government & agency	1,866	–	1,797	69
Corporate	4,778	–	4,627	151
Residential mortgage/asset-backed securities	183	–	134	49
Commercial mortgage/asset-backed securities	154	–	114	40
Other securitized assets	192	–	151	41
Stocks				
FVTPL	10,370	10,370	–	–
AFS	1,625	1,625	–	–
Other invested assets⁽¹⁾				
Private stocks FVTPL	4,832	5	–	4,827
Private stocks AFS	116	–	1	115
Derivative assets				
Interest rate contracts	14,327	–	14,255	72
Foreign exchange contracts	358	–	357	1
Equity contracts	15	–	5	10
Credit default swaps	7	–	7	–
Segregated funds net assets⁽²⁾	207,985	190,170	15,603	2,212
Total assets carried at fair value	\$ 372,400	\$ 206,759	\$ 153,839	\$ 11,802
LIABILITIES				
Derivative liabilities				
Interest rate contracts	\$ 6,549	\$ –	\$ 6,513	\$ 36
Foreign exchange contracts	648	–	603	45
Equity contracts	9	–	1	8
Credit default swaps	–	–	–	–
Investment contract liabilities	649	–	649	–
Total liabilities carried at fair value	\$ 7,855	\$ –	\$ 7,766	\$ 89

⁽¹⁾ Only private stocks that are carried at fair value are included.

⁽²⁾ Segregated funds net assets are recorded at fair value. Investment performance related to segregated funds net assets is fully offset by corresponding amounts credited to contract holders whose interest in the segregated funds net assets is recorded by the Company as segregated funds net liabilities.

Fair value of financial instruments

As at December 31, 2011	Total fair value	Level 1	Level 2	Level 3
ASSETS				
Cash and short-term securities				
FVTPL	\$ 568	\$ –	\$ 568	\$ –
AFS	8,473	–	8,473	–
Other	3,772	3,772	–	–
Bonds				
FVTPL				
Canadian government & agency	11,030	–	10,813	217
U.S. government & agency	20,108	–	19,895	213
Other government & agency	10,318	–	9,650	668
Corporate	53,091	–	51,090	2,001
Residential mortgage/asset-backed securities	313	–	17	296
Commercial mortgage/asset-backed securities	3,170	–	2,898	272
Other securitized assets	1,652	–	1,505	147
AFS				
Canadian government & agency	5,517	–	5,380	137
U.S. government & agency	7,904	–	7,902	2
Other government & agency	1,844	–	1,780	64
Corporate	5,017	–	4,738	279
Residential mortgage/asset-backed securities	94	–	13	81
Commercial mortgage/asset-backed securities	240	–	194	46
Other securitized assets	189	–	145	44
Stocks				
FVTPL	8,778	8,778	–	–
AFS	1,465	1,465	–	–
Other invested assets⁽¹⁾				
Private stocks FVTPL	4,062	1	–	4,061
Private stocks AFS	121	–	1	120
Derivative assets				
Interest rate contracts	14,934	–	14,848	86
Foreign exchange contracts	531	–	530	1
Equity contracts	3	–	–	3
Credit default swaps	4	–	–	4
Segregated funds net assets⁽²⁾	195,933	179,578	14,167	2,188
Total assets carried at fair value	\$ 359,131	\$ 193,594	\$ 154,607	\$ 10,930
LIABILITIES				
Derivative liabilities				
Interest rate contracts	\$ 6,824	\$ –	\$ 6,748	\$ 76
Foreign exchange contracts	778	–	739	39
Equity contracts	24	–	–	24
Credit default swaps	1	–	–	1
Investment contract liabilities	748	–	748	–
Total liabilities carried at fair value	\$ 8,375	\$ –	\$ 8,235	\$ 140

⁽¹⁾ Only private stocks that are carried at fair value are included.

⁽²⁾ Segregated funds net assets are recorded at fair value. Investment performance related to segregated funds net assets is fully offset by corresponding amounts credited to contract holders whose interest in the segregated funds net assets is recorded by the Company as segregated funds net liabilities.

Assets and liabilities measured at fair value on the Consolidated Statements of Financial Position using significant unobservable inputs (Level 3)

The tables below provide a fair value roll forward of the financial instruments for which significant unobservable inputs (Level 3) are used in the fair value measurement. The Company classifies the fair values of financial instruments within Level 3 if there are no observable markets for the instruments or, in the absence of active markets, the majority of the inputs used to determine fair value are based on the Company's own assumptions about market participant assumptions. The Company prioritizes the use of market-based inputs over entity-based assumptions in determining Level 3 fair values and, therefore, the gains and losses in the tables below include changes in fair value due partly to observable and unobservable factors.

Roll forward of financial instruments measured at fair value using significant unobservable inputs (Level 3)

The following table presents a roll forward for all financial instruments measured at fair value using significant unobservable inputs (Level 3) for the year ended December 31, 2012.

	Balance as at January 1, 2012	Net realized / unrealized gains (losses) included in:				Transfers		Currency movement	Balance as at December 31, 2012	Change in unrealized gains (losses) on instruments still held ⁽⁴⁾
		Net income ⁽¹⁾	OCI ⁽²⁾	Purchases	Sales	Into Level 3 ⁽³⁾	Out of Level 3 ⁽³⁾			
Bonds										
FVTPL										
Canadian government & agency	\$ 217	\$ (3)	\$ –	\$ 303	\$ –	\$ –	\$ (121)	\$ –	\$ 396	\$ (4)
U.S. government & agency	213	7	–	31	–	–	(68)	(3)	180	7
Other government & agency	668	30	–	204	(41)	–	(55)	(6)	800	31
Corporate	2,001	132	–	527	(231)	72	(315)	(92)	2,094	120
Residential mortgage/ asset-backed securities	296	65	–	–	(160)	4	(4)	(7)	194	103
Commercial mortgage/ asset-backed securities	272	22	–	17	(99)	1	(5)	(5)	203	43
Other securitized assets	147	15	–	–	(23)	–	–	(4)	135	35
	\$ 3,814	\$ 268	\$ –	\$ 1,082	\$ (554)	\$ 77	\$ (568)	\$ (117)	\$ 4,002	\$ 335
AFS										
Canadian government & agency	\$ 137	\$ 26	\$ (15)	\$ 780	\$ (683)	\$ –	\$ (35)	\$ –	\$ 210	\$ –
U.S. government & agency	2	–	–	1	–	–	–	–	3	–
Other government & agency	64	–	1	13	(10)	–	–	1	69	–
Corporate	279	10	(2)	31	(137)	–	(19)	(11)	151	–
Residential mortgage/ asset-backed securities	81	(11)	32	–	(52)	1	(1)	(1)	49	–
Commercial mortgage/ asset-backed securities	46	(3)	6	3	(11)	–	–	(1)	40	–
Other securitized assets	44	(6)	9	–	(5)	–	–	(1)	41	–
	\$ 653	\$ 16	\$ 31	\$ 828	\$ (898)	\$ 1	\$ (55)	\$ (13)	\$ 563	\$ –
Stocks										
AFS	\$ –	\$ –	\$ –	\$ 10	\$ (10)	\$ –	\$ –	\$ –	\$ –	\$ –
Other invested assets										
Private stocks FVTPL	4,061	163	–	1,175	(504)	1	–	(69)	4,827	20
Private stocks AFS	120	(2)	1	2	(4)	–	–	(2)	115	–
	\$ 4,181	\$ 161	\$ 1	\$ 1,187	\$ (518)	\$ 1	\$ –	\$ (71)	\$ 4,942	\$ 20
Net derivatives	\$ (46)	\$ 7	\$ 34	\$ 43	\$ (29)	\$ –	\$ (8)	\$ (7)	\$ (6)	\$ 38
Segregated funds net assets	2,188	99	–	115	(141)	1	(3)	(47)	2,212	68
	\$ 10,790	\$ 551	\$ 66	\$ 3,255	\$ (2,140)	\$ 80	\$ (634)	\$ (255)	\$ 11,713	\$ 461

⁽¹⁾ These amounts are included in investment income on the Consolidated Statements of Income, except for the segregated funds amount which is included in the investment related section of the changes in net assets for segregated funds (note 23).

⁽²⁾ These amounts are included in accumulated other comprehensive income (loss) on the Consolidated Statements of Financial Position.

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

⁽⁴⁾ Amounts relate to these unrealized gains (losses) included in investment income for the year.

The following table presents a roll forward for all financial instruments measured at fair value using significant unobservable inputs (Level 3) for the year ended December 31, 2011.

	Balance as at January 1, 2011	Net realized / unrealized gains (losses) included in:				Transfers			Balance as at December 31, 2011	Change in unrealized gains (losses) on instruments still held ⁽⁴⁾
		Net income ⁽¹⁾	OCI ⁽²⁾	Purchases	Sales	Into Level 3 ⁽³⁾	Out of Level 3 ⁽³⁾	Currency movement		
Bonds										
FVTPL										
Canadian government & agency	\$ 160	\$ 31	\$ –	\$ 35	\$ –	\$ –	\$ (10)	\$ 1	\$ 217	\$ 30
U.S. government & agency	164	26	–	111	(32)	–	(59)	3	213	23
Other government & agency	597	(43)	–	132	(28)	1	–	9	668	(42)
Corporate	1,705	108	–	561	(381)	57	(118)	69	2,001	113
Residential mortgage/ asset-backed securities	360	15	–	–	(91)	5	–	7	296	15
Commercial mortgage/ asset-backed securities	430	(26)	–	–	(142)	2	–	8	272	2
Other securitized assets	160	6	–	–	(32)	15	(5)	3	147	22
	\$ 3,576	\$ 117	\$ –	\$ 839	\$ (706)	\$ 80	\$ (192)	\$ 100	\$ 3,814	\$ 163
AFS										
Canadian government & agency	\$ 34	\$ 47	\$ 14	\$ 495	\$ (468)	\$ 14	\$ –	\$ 1	\$ 137	\$ –
U.S. government & agency	5	–	–	2	–	–	(5)	–	2	–
Other government & agency	60	(2)	(1)	18	(25)	13	–	1	64	–
Corporate	259	(1)	9	71	(89)	46	(26)	10	279	–
Residential mortgage/ asset-backed securities	93	–	2	–	(18)	2	–	2	81	–
Commercial mortgage/ asset-backed securities	72	(4)	(2)	–	(21)	–	–	1	46	–
Other securitized assets	52	(7)	14	–	(2)	1	(15)	1	44	–
	\$ 575	\$ 33	\$ 36	\$ 586	\$ (623)	\$ 76	\$ (46)	\$ 16	\$ 653	\$ –
Other invested assets										
Private stocks FVTPL	\$ 3,282	\$ 182	\$ –	\$ 879	\$ (346)	\$ –	\$ (3)	\$ 67	\$ 4,061	\$ 152
Private stocks AFS	80	1	(21)	57	(1)	–	–	4	120	–
	\$ 3,362	\$ 183	\$ (21)	\$ 936	\$ (347)	\$ –	\$ (3)	\$ 71	\$ 4,181	\$ 152
Net derivatives										
Segregated funds net assets	\$ (2)	\$ (2)	\$ (21)	\$ 13	\$ –	\$ –	\$ (39)	\$ 5	\$ (46)	\$ 8
	2,121	34	–	24	(41)	–	–	50	2,188	44
	\$ 9,632	\$ 365	\$ (6)	\$ 2,398	\$ (1,717)	\$ 156	\$ (280)	\$ 242	\$ 10,790	\$ 367

⁽¹⁾ These amounts are included in investment income on the Consolidated Statements of Income, except for the segregated funds amount which is included in the investment related section of the changes in net assets for segregated funds (note 23).

⁽²⁾ These amounts are included in accumulated other comprehensive income (loss) on the Consolidated Statements of Financial Position.

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

⁽⁴⁾ Amounts relate to these unrealized gains (losses) included in investment income for the year.

The Company may hedge positions with offsetting positions that are classified in a different level. For example, the gains and losses for assets and liabilities in the Level 3 category presented in the tables above may not reflect the effect of offsetting gains and losses on hedging instruments that have been classified by the Company in the Level 1 and Level 2 categories.

The transfers into Level 3 primarily result from securities that were impaired during the year or securities where a lack of observable market data (versus the previous year) resulted in reclassifying assets into Level 3. The transfers from Level 3 primarily result from observable market data now being available from the entire term structure of the bond, thus eliminating the need to extrapolate market data beyond observable points.

Note 12 Long-Term Debt

As at December 31,	2012	2011
3.40% Senior notes (US\$600)	\$ 595	\$ 607
4.90% Senior notes (US\$500)	494	505
4.079% Medium term notes	898	897
4.896% Medium term notes	999	998
7.768% Medium term notes	598	597
5.161% Medium term notes	549	549
5.505% Medium term notes	399	399
4.67% Medium term notes	350	350
4.448% fixed/floating Senior debentures	556	575
Other notes payable	14	26
Total long-term debt⁽¹⁾	\$ 5,452	\$ 5,503
Fair value	\$ 5,899	\$ 5,728

⁽¹⁾ Carrying values have been adjusted for those instruments designated as hedged items in fair value hedge relationships.

The fair value of long-term debt is determined using quoted market prices where available. For debt instruments that do not have quoted prices, the fair value is determined with reference to quoted prices of a debt instrument with similar characteristics or utilizing a model to discount cash flows based on current market interest rates.

The cash amount of interest paid during the year ended December 31, 2012 was \$269 (2011 – \$289). Issue costs are amortized over the term of the debt.

(a) 3.40% Senior notes

On September 17, 2010, MFC issued US\$600 in 3.40% senior notes which mature September 17, 2015 and are redeemable in whole or in part by MFC at any time at the greater of par or the fair value of the debt calculated as the sum of the present values of the remaining scheduled payments of principal and interest to be redeemed discounted from their respective scheduled payment dates at the U.S. Government treasury bond yield plus 30 basis points, in each case together with accrued and unpaid interest.

These US\$ senior notes have been designated as a hedge of the Company's net investment in its U.S. operations to reduce the earnings volatility that would otherwise arise from the translation of the U.S. denominated debt into Canadian dollars.

(b) 4.90% Senior notes

On September 17, 2010, MFC issued US\$500 in 4.90% senior notes which mature September 17, 2020 and are redeemable in whole or in part by MFC at any time at the greater of par or the fair value of the debt calculated as the sum of the present values of the remaining scheduled payments of principal and interest to be redeemed discounted from their respective scheduled payment dates at the U.S. Government treasury bond yield plus 35 basis points, in each case together with accrued and unpaid interest.

These US\$ senior notes have been designated as a hedge of the Company's net investment in its U.S. operations to reduce the earnings volatility that would otherwise arise from the translation of the U.S. denominated debt into Canadian dollars.

(c) 4.079% Medium term notes

On August 20, 2010, MFC issued \$900 in 4.079% medium term notes which mature August 20, 2015 and are redeemable in whole or in part by MFC at any time at the greater of par or the fair value of the debt based on the yield on Government of Canada bonds plus 46 basis points, in each case together with accrued and unpaid interest.

(d) 4.896% Medium term notes

On June 2, 2009, MFC issued \$1,000 in 4.896% medium term notes which mature June 2, 2014 and are redeemable in whole or in part by MFC at any time at the greater of par or the fair value of the debt based on the yield on Government of Canada bonds plus 57.5 basis points, in each case together with accrued and unpaid interest.

(e) 7.768% Medium term notes

On April 8, 2009, MFC issued \$600 in 7.768% medium term notes which mature April 8, 2019 and are redeemable in whole or in part by MFC at any time at the greater of par or the fair value of the debt based on the yield on Government of Canada bonds plus 125 basis points, in each case together with accrued and unpaid interest.

(f) 5.161% Medium term notes

On June 26, 2008, MFC issued \$550 in 5.161% medium term notes which mature June 26, 2015 and are redeemable in whole or in part by MFC at any time at the greater of par or the fair value of the debt based on the yield on Government of Canada bonds plus 36 basis points, in each case together with accrued and unpaid interest.

(g) 5.505% Medium term notes

Also on June 26, 2008, MFC issued \$400 in 5.505% medium term notes which mature on June 26, 2018 and are redeemable in whole or in part by MFC at any time at the greater of par or the fair value of the debt based on the yield on Government of Canada bonds plus 39 basis points, in each case together with accrued and unpaid interest.

(h) 4.67% Medium term notes

On March 28, 2006, MFC issued \$350 in 4.67% medium term notes which mature March 28, 2013 and are redeemable in whole or in part by MFC at any time at the greater of par or the fair value of the debt based on the yield on Government of Canada bonds plus 11 basis points, in each case together with accrued and unpaid interest.

(i) 4.448 % fixed/floating senior debentures

On December 14, 2006, Manulife Finance (Delaware) L.P. ("MFLP"), a wholly owned partnership, issued \$550 of senior debentures which mature on December 15, 2026 and bear interest at the rate of 4.448% per annum, payable semi-annually until December 15, 2016 and thereafter at the 90-day Bankers' Acceptance rate plus 1.50%, payable quarterly.

The senior debentures are redeemable in whole or in part, prior to December 15, 2016 at the greater of par or the fair value of the debt based on the yield on Government of Canada bonds plus 14 basis points and on or after December 15, 2016 at par, in each case together with accrued and unpaid interest. Upon certain tax changes, the senior debentures are redeemable as a whole, at the fair market value, together with accrued and unpaid interest.

(j) Aggregate maturities of long-term debt

As at December 31,	2012	2011
Less than one year	\$ 350	\$ 12
One to two years	999	350
Two to three years	2,042	998
Three to four years	–	2,053
Four to five years	14	–
Greater than five years	2,047	2,090
Total	\$ 5,452	\$ 5,503

Note 13 Liabilities for Preferred Shares and Capital Instruments

As at December 31,	2012	2011
Preferred shares – Class A Shares, Series 1	\$ 344	\$ 344
Manulife Financial Capital Securities – Series A	–	60
Manulife Financial Capital Securities – Series B	–	940
Manulife Financial Capital Trust II Notes – Series 1	995	993
Surplus notes – 7.375% U.S. dollar	470	481
Subordinated debentures – 4.21% fixed/floating Canadian dollar	548	547
Subordinated debentures – 4.165% fixed/floating Canadian dollar	497	–
Subordinated debentures – 5.059% fixed/floating Canadian dollar	647	647
Total	\$ 3,501	\$ 4,012
Fair value	\$ 3,811	\$ 4,077

The fair value of liability instruments is determined using quoted market prices.

The carrying value of the surplus notes reflects an unamortized fair value increment of US\$36 (2011 – US\$39), which arose as a result of the acquisition of John Hancock Financial Services, Inc. The amortization of the fair value adjustment is recorded in interest expense.

The cash amount of interest, including dividends on the Class A, Series 1 preferred shares, paid during the year ended December 31, 2012 was \$228 (2011 – \$238). Issue costs are amortized over the term of the underlying instruments.

Maturity profile of capital instruments

There are no scheduled maturities for any of the outstanding capital instruments within the next five years.

Preferred shares

On June 19, 2003, MFC issued 14 million Class A Shares, Series 1 ("Series 1 Preferred Shares") at a price of \$25.00 per share, for an aggregate amount of \$350. 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.

Manulife Financial Capital Securities

On December 10, 2001, Manulife Financial Capital Trust (the "Trust"), a wholly owned open-end trust, issued 60,000 Manulife Financial Capital Securities ("MaCS") – Series A that entitled holders to receive cash distributions representing an annual yield of 7% and 940,000 MaCS – Series B that entitled holders to receive cash distributions representing an annual yield of 6.70%. On June 30, 2012, the Trust redeemed all of the outstanding \$60 million principal amount of MaCS Series A and all of the outstanding \$940 million principal amount of MaCS Series B at par plus unpaid indicated yield accrued to the date of redemption.

The Trust is consolidated in the Company's consolidated financial statements (see note 18).

Manulife Financial Capital Trust II Notes – Series 1

On July 10, 2009, Manulife Financial Capital Trust II ("Trust II") issued \$1,000 in subordinated notes. The notes mature on December 31, 2108 and interest is payable semi-annually on June 30 and December 31. From July 10, 2009 to December 30, 2019, the rate of interest is 7.405% per annum. On December 31, 2019 and on every fifth anniversary after December 31, 2019 (the "Interest Reset Date"), the rate of interest will be reset to the yield on five year Government of Canada bonds plus 5%.

On or after December 31, 2014, Trust II may redeem the notes, with regulatory approval, in whole or in part, on any day that is not an Interest Reset Date, at the greater of the par or the present value of the debt based on the yield on uncallable Government of Canada bonds plus 1% if the redemption is prior to December 31, 2019, or 2% if the redemption date is after December 31, 2019, in each case together with accrued and unpaid interest. Trust II may redeem the notes, on or after December 31, 2019, with regulatory approval, on an Interest Reset Date at par, together with accrued and unpaid interest.

Trust II is consolidated in the Company's consolidated financial statements (see note 18).

Under certain circumstances, each note will be automatically exchanged, without the consent of the holders, for 40 Class 1 Series 1 MLI preferred shares. The notes constitute Tier I regulatory capital.

U.S. dollar surplus notes

On February 25, 1994, John Hancock Mutual Life Insurance Company, now John Hancock Life Insurance Company (U.S.A.), issued US\$450 of 7.375% surplus notes maturing on February 15, 2024. Any payment of interest or principal on the surplus notes requires prior approval from the Commissioner of the Office of Financial and Insurance Regulation of the State of Michigan.

Subordinated debentures 4.21% fixed/floating Canadian dollar

On November 18, 2011, MLI issued \$550 in subordinated fixed/floating debentures, which mature November 18, 2021. The debentures bear interest at a fixed rate of 4.21% per annum, payable semi-annually for five years and thereafter at the 90-day Bankers' Acceptance rate plus 2.65%, payable quarterly. With regulatory approval, MLI may redeem the debentures, in whole or in part, on or after November 18, 2016, at par, together with accrued and unpaid interest. The subordinated debentures form part of the Company's Tier 2B regulatory capital.

Subordinated debentures 4.165% fixed/floating Canadian dollar

On February 17, 2012, MLI issued \$500 in subordinated fixed/floating debentures, which mature June 1, 2022. The debentures bear interest at a fixed rate of 4.165% per annum, payable semi-annually for five years and thereafter at the 90-day Bankers' Acceptance rate plus 2.45%, payable quarterly. With regulatory approval, MLI may redeem the debentures, in whole or in part, on or after June 1, 2017, at par, together with accrued and unpaid interest. The subordinated debentures form part of the Company's Tier 2B regulatory capital.

Subordinated debentures 5.059% fixed/floating Canadian dollar

On December 14, 2006, MFLP issued \$650 of subordinated debentures which mature December 15, 2041. The subordinated debentures bear interest at the rate of 5.059% per annum, payable semi-annually until December 15, 2036 and thereafter at the 90-day Bankers' Acceptance rate plus 1%, payable quarterly.

With regulatory approval, MFLP may redeem the subordinated debentures, in whole or in part, at any time prior to December 15, 2036 at the greater of par or the present value of the debt based on the yield on Government of Canada bonds plus 26.5 basis points or on any interest payment date, on or after December 15, 2036 at par, in each case together with accrued and unpaid interest.

Upon certain tax changes, the subordinated debentures are redeemable as a whole, with regulatory approval, at the fair market value, together with accrued and unpaid interest. The subordinated debentures form part of the Company's Tier 2B regulatory capital.

Note 14 Share Capital

The authorized capital of MFC consists of:

- (a) an unlimited number of common shares without nominal or par value; and
- (b) an unlimited number of Class A, Class B and Class 1 preferred shares without nominal or par value, issuable in series.

Preferred shares

On December 4, 2012, MFC issued 8 million Class 1 Shares Series 11 ("Class 1 Series 11 Preferred Shares") at a price of \$25 per share, for an aggregate amount of \$200. The Class 1 Series 11 Preferred Shares are entitled to non-cumulative preferential cash dividends, payable quarterly, if and when declared, at a per annum rate of 4% until March 19, 2018 after which the dividend rate will be reset every five years at a rate equal to the five year Government of Canada bond yield plus 2.61%. On March 19, 2018 and on March 19 every five years thereafter, the Class 1 Series 11 Preferred Shares will be convertible at the option of the holder into Class 1 Shares Series 12 ("Class 1 Series 12 Preferred Shares"). The Class 1 Series 12 Preferred Shares are entitled to non-cumulative preferential cash dividends, payable quarterly, if and when declared, at a rate equal to the three month Government of Canada Treasury Bill yield plus 2.61%. Subject to regulatory approval, MFC may redeem Class 1 Series 11 Preferred Shares, in whole or in part, at par, on March 19, 2018 and on March 19 every five years thereafter.

On May 24, 2012, MFC issued 10 million Class 1 Shares Series 9 ("Class 1 Series 9 Preferred Shares") at a price of \$25 per share, for an aggregate amount of \$250. The Class 1 Series 9 Preferred Shares are entitled to non-cumulative preferential cash dividends, payable quarterly, if and when declared, at a per annum rate of 4.40% until September 19, 2017 after which the dividend rate will be reset every five years at a rate equal to the five year Government of Canada bond yield plus 2.86%. On September 19, 2017 and on September 19 every five years thereafter, the Class 1 Series 9 Preferred Shares will be convertible at the option of the holder into Class 1 Shares Series 10 ("Class 1 Series 10 Preferred Shares"). The Class 1 Series 10 Preferred Shares are entitled to non-cumulative preferential cash dividends, payable quarterly, if and when declared, at a rate equal to the three month Government of Canada Treasury Bill yield plus 2.86%. Subject to regulatory approval, MFC may redeem Class 1 Series 9 Preferred Shares, in whole or in part, at par, on September 19, 2017 and on September 19 every five years thereafter.

On February 22, 2012, MFC issued 10 million Class 1 Shares Series 7 ("Class 1 Series 7 Preferred Shares") at a price of \$25 per share, for an aggregate amount of \$250. The Class 1 Series 7 Preferred Shares are entitled to non-cumulative preferential cash dividends, payable quarterly, if and when declared, at a per annum rate of 4.60% until March 19, 2017 after which the dividend rate will be reset every five years at a rate equal to the five year Government of Canada bond yield plus 3.13%. On March 19, 2017 and on March 19 every five years thereafter, the Class 1 Series 7 Preferred Shares will be convertible at the option of the holder into Class 1 Shares Series 8 ("Class 1 Series 8 Preferred Shares"). The Class 1 Series 8 Preferred Shares are entitled to non-cumulative preferential cash dividends, payable quarterly, if and when declared, at a rate equal to the three month Government of Canada Treasury Bill yield plus 3.13%. Subject to regulatory approval, MFC may redeem Class 1 Series 7 Preferred Shares, in whole or in part, at par, on March 19, 2017 and on March 19 every five years thereafter.

On December 6, 2011, MFC issued 8 million Class 1 Shares Series 5 ("Class 1 Series 5 Preferred Shares") at a price of \$25 per share, for an aggregate amount of \$200. The Class 1 Series 5 Preferred Shares are entitled to non-cumulative preferential cash dividends, payable quarterly, if and when declared, at a per annum rate of 4.40% until December 19, 2016 after which the dividend rate will be reset every five years at a rate equal to the five year Government of Canada bond yield plus 2.90%. On December 19, 2016 and on December 19 every five years thereafter, the Class 1 Series 5 Preferred Shares will be convertible at the option of the holder into Class 1 Shares Series 6 ("Class 1 Series 6 Preferred Shares"). The Class 1 Series 6 Preferred Shares are entitled to non-cumulative preferential cash dividends, payable quarterly, if and when declared, at a rate equal to the three month Government of Canada Treasury Bill yield plus 2.90%. Subject to regulatory approval, MFC may redeem Class 1 Series 5 Preferred Shares, in whole or in part, at par, on December 19, 2016 and on December 19 every five years thereafter.

On March 11, 2011, MFC issued 8 million Class 1 Shares Series 3 ("Class 1 Series 3 Preferred Shares") at a price of \$25 per share, for an aggregate amount of \$200. The Class 1 Series 3 Preferred Shares are entitled to non-cumulative preferential cash dividends, payable quarterly, if and when declared, at a per annum rate of 4.20% until June 19, 2016, after which the dividend rate will be reset every five years at a rate equal to the five year Government of Canada bond yield plus 1.41%. On June 19, 2016 and on June 19 every five years thereafter, the Class 1 Series 3 Preferred Shares will be convertible at the option of the holder into Class 1 Shares Series 4 ("Class 1 Series 4 Preferred Shares"). The Class 1 Series 4 Preferred Shares are entitled to non-cumulative preferential cash dividends, payable quarterly, if and when declared, at a rate equal to the three month Government of Canada Treasury Bill yield plus 1.41%. Subject to regulatory approval, MFC may redeem Class 1 Series 3 Preferred Shares, in whole or in part, at par, on June 19, 2016 and on June 19 every five years thereafter.

On June 3, 2009, MFC issued 14 million Class 1 Shares Series 1 ("Class 1 Series 1 Preferred Shares") at a price of \$25 per share, for an aggregate amount of \$350. The Class 1 Series 1 Preferred Shares are entitled to non-cumulative preferential cash dividends, payable quarterly, if and when declared, at a per annum rate of 5.6% until September 19, 2014, after which the dividend rate will be reset every five years at a rate equal to the five year Government of Canada bond yield plus 3.23%. On September 19, 2014 and on September 19 every five years thereafter, the Class 1 Series 1 Preferred Shares will be convertible at the option of the holder into Class 1 Shares Series 2 ("Class 1 Series 2 Preferred Shares"). The Class 1 Series 2 Preferred Shares are entitled to non-cumulative preferential cash dividends, payable quarterly, if and when declared, at a rate equal to the three month Government of Canada Treasury Bill yield plus 3.23%. Subject to regulatory approval, MFC may redeem the Class 1 Series 1 Preferred Shares, in whole or in part, at par on September 19, 2014 and on September 19 every five years thereafter.

On March 4, 2009, MFC issued 18 million Class A Shares, Series 4 ("Series 4 Preferred Shares") at a price of \$25 per share, for an aggregate amount of \$450. The Series 4 Preferred Shares are entitled to non-cumulative preferential cash dividends, payable quarterly, if and when declared, at a per annum rate of 6.6% until June 19, 2014, after which the dividend rate will be reset every five years at a rate equal to the five year Government of Canada bond yield plus 4.56%. On June 19, 2014 and on June 19 every five years thereafter, the Series 4 Preferred Shares will be convertible at the option of the holder into Class A Shares, Series 5 ("Series 5 Preferred Shares"). The Series 5 Preferred Shares are entitled to non-cumulative preferential cash dividends, payable quarterly, if and when declared, at a rate equal to the three month Government of Canada Treasury Bill yield plus 4.56%. Subject to regulatory approval, MFC may redeem the Series 4 Preferred Shares, in whole or in part, at par on June 19, 2014 and on June 19 every five years thereafter.

On January 3, 2006, MFC issued 12 million Class A Shares, Series 3 ("Series 3 Preferred Shares") at a price of \$25 per share, for an aggregate amount of \$300. The Series 3 Preferred Shares are non-voting and entitled to non-cumulative preferential cash dividends, payable quarterly, if and when declared, at a per annum rate of 4.50%. With regulatory approval, the Series 3 Preferred Shares may be redeemed by MFC on or after March 19, 2011, in whole or in part, for cash, at declining premiums that range from \$1.00 to nil per share.

On February 18, 2005, MFC issued 14 million Class A Shares, Series 2 ("Series 2 Preferred Shares") at a price of \$25 per share, for an aggregate amount of \$350. The Series 2 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 4.65%. With regulatory approval, the Series 2 Preferred Shares may be redeemed by MFC on or after March 19, 2010, in whole or in part, for cash, at declining premiums that range from \$1.00 to nil per share.

Common shares

On November 30, 2009, MFC issued 132 million common shares at \$19.00 per share. Net cash proceeds, after deducting commissions and fees of the issue, were \$2,413. Net proceeds including tax benefits were \$2,435.

On December 11, 2008, MFC issued 117 million common shares at \$19.40 per share. Net cash proceeds, after deducting commissions and fees of the issue, were \$2,190. Net proceeds including tax benefits were \$2,208.

On May 7, 2009, MFC announced amendments to its dividend reinvestment and share purchase plans. These plans provide registered common shareholders with a means to automatically reinvest the cash dividends paid on their common shares in the purchase of additional common shares. These plans are open to registered shareholders residing in Canada or the United States. MFC has the flexibility to fund the plans through open market purchases and treasury issuances.

	2012		2011	
	Number of shares (in millions)	Amount	Number of shares (in millions)	Amount
For the years ended December 31,				
Common Shares				
Balance, January 1	1,801	\$ 19,560	1,778	\$ 19,254
Issued on exercise of stock options and deferred share units	—	—	—	2
Issued under dividend reinvestment and share purchase plans	27	326	23	304
Total	1,828	\$ 19,886	1,801	\$ 19,560

On February 6, 2013, the Company's Board of Directors approved a quarterly dividend of \$0.13 per share on the common shares of MFC, payable on and after March 19, 2013 to shareholders of record at the close of business on February 20, 2013.

The Board also declared dividends on the following non-cumulative preferred shares, payable on or after March 19, 2013 to shareholders of record at the close of business on February 20, 2013.

- Class A Shares Series 1 – \$0.25625 per share
- Class A Shares Series 2 – \$0.29063 per share
- Class A Shares Series 3 – \$0.28125 per share
- Class A Shares Series 4 – \$0.4125 per share
- Class 1 Shares Series 1 – \$0.35 per share
- Class 1 Shares Series 3 – \$0.2625 per share
- Class 1 Shares Series 5 – \$0.275 per share
- Class 1 Shares Series 7 – \$0.2875 per share
- Class 1 Shares Series 9 – \$0.275 per share
- Class 1 Shares Series 11 – \$0.287671 per share

Note 15 Capital Management

Manulife Financial manages the capital requirements of the Company as a whole as well as at each regulated entity level. Manulife Financial seeks to manage its capital with the objectives of:

- Safeguarding commitments made to policyholders and customers;
- Prudently and effectively deploying the capital invested in the Company;
- Protecting or enhancing the Company's reputation and brand; and
- Maintaining target financial strength ratings.

The Company's 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 its peers. Our internal capital targets are set above regulatory requirements. The Company monitors against these internal targets and initiates actions appropriate to achieving its business objectives.

Annually the Board of Directors reviews and approves the Company's Capital Management Policy. The policy is integrated with the Company's risk and financial frameworks, and the capital management operational oversight is provided by the Capital Committee, consisting of senior finance and risk management and executives and chaired by the Chief Actuary. The committee reviews issues and initiatives that affect the capital position of MFC's subsidiaries and the Company as a whole.

Each quarter, the Audit Committee reviews the Company's capital position. In addition, the Appointed Actuary discusses with the Board of Directors key sensitivities of the Company's capital ratios as assessed in the context of annual capital planning and Dynamic Capital Adequacy Testing (DCAT) analysis.

As part of its annual DCAT, the Company assesses the strength of its capital position under various stress scenarios. The Company's DCAT typically quantifies the financial impact of economic events arising from shocks in public equity and other markets, interest rates and credit, among others. The 2012 DCAT results demonstrate that the Company has sufficient assets to discharge policy liabilities in the various adverse scenarios tested.

The measure of available capital in the table below serves as the foundation of the Company's capital management activities at the consolidated level. For regulatory capital reporting purposes, the numbers are further adjusted for various additions or deductions to capital as mandated by the guidelines issued by OSFI. The Company remains well within regulatory constraints on the composition of capital between equity and other instruments.

Consolidated capital

As at December 31,	2012	2011
Total equity ⁽¹⁾	\$ 26,096	\$ 24,879
Less AOCI (loss) on cash flow hedges	(50)	(91)
Total equity less AOCI (loss) on cash flow hedges	\$ 26,146	\$ 24,970
Liabilities for preferred shares and capital instruments	3,501	4,012
Total capital	\$ 29,647	\$ 28,982

⁽¹⁾ Total equity includes unrealized gains and losses on AFS bonds and AFS equities, net of taxes. Starting in 2009, the current year net unrealized gain or loss on AFS bonds is not part of OSFI regulatory capital. As at December 31, 2012, the gain on AFS bonds, net of taxes, was \$312 (2011 – \$193).

In 2012, the Company's capital increased by \$665 compared to the prior year. The Company issued \$700 of preferred shares (see note 14) and \$500 of subordinated debentures and redeemed \$1,000 of capital notes issued by Manulife Financial Capital Trust (see note 13). Net income of \$1,692 increased capital but was partially offset by dividends paid in cash of \$733. Other changes included an increase of \$262 in unrealized gains on AFS securities and a decrease of \$768 as a result of the impact of the strengthened Canadian dollar.

Note 16 Stock-Based Compensation

Under MFC's Executive Stock Option Plan ("ESOP"), stock options are granted to selected individuals. Options provide the holder with the right to purchase common shares of MFC at an exercise price equal to the higher of the prior day or prior five day average closing market price of common shares on the Toronto Stock Exchange on the date the options were granted. The options vest over a period not exceeding four years and expire not more than 10 years from the grant date. A total of 73,600,000 common shares have been reserved for issuance under the ESOP.

In 2000, MFC granted deferred share units ("DSUs") to certain employees under the ESOP. These DSUs vest over a three year period and each DSU entitles the holder to receive one common share on retirement or termination of employment. When dividends are paid on common shares, holders of DSUs are deemed to receive dividends at the same rate, payable in the form of additional DSUs. The number of these DSUs outstanding was 1.5 million as at December 31, 2012 (2011 – 1.6 million).

In addition, for certain new employees and pursuant to the Company's deferred compensation program, MFC grants DSUs under the ESOP which entitle the holder to receive cash payment equal to the value of the same number of common shares plus credited dividends on retirement or termination of employment. In 2012, the Company granted 21,000 DSUs (2011 – nil) to certain new hires which vest over a maximum period of eight years. In 2012, 16,000 DSUs (2011 – 13,000) were granted to certain employees who elected to defer receipt of all or part of their annual bonus. These DSUs vested immediately. Also, in 2012, 57,000 DSUs (2011 – 49,000) were granted to certain employees to defer payment of all or part of their Restricted Share Units ("RSUs") and/or Performance Share Units ("PSUs"). These DSUs also vested immediately.

The fair values of the 0.2 million DSUs issued in the year were \$13.51 per unit, as at December 31, 2012 (0.2 million issued at \$10.85 per unit on December 31, 2011).

MFC's Global Share Ownership Plan ("GSOP") allows qualifying employees to choose to apply up to five per cent of their annual base earnings toward the purchase of common shares. MFC matches a percentage of the employee's eligible contributions up to a maximum amount. MFC's contributions vest immediately. All contributions are used to purchase common shares in the open market.

Under the Stock Plan for Non-Employee Directors, each eligible director may elect to receive his or her annual director's retainer and fees in DSUs or common shares in lieu of cash. Upon termination of Board service, an eligible director who has elected to receive DSUs will be entitled to receive cash equal to the value of the DSUs accumulated in his or her account or, at his or her direction, an equivalent number of common shares. A total of one million common shares have been reserved for issuance under this plan.

For the years ended December 31,

	2012	2011
	Number of DSUs (in thousands)	
Outstanding, January 1	3,010	3,098
Issued	224	173
Reinvested	124	121
Redeemed	(643)	(382)
Outstanding, December 31	2,715	3,010

Of the DSUs outstanding as at December 31, 2012, 1,472,000 (2011 – 1,580,000) entitle the holder to receive common shares, 625,000 (2011 – 874,000) entitle the holder to receive payment in cash and 618,000 (2011 – 556,000) entitle the holder to receive payment in cash or common shares, at the option of the holder.

MFC previously granted stock options to directors under the Director Equity Incentive Plan ("DEIP"). No stock options were granted under this plan in 2012 or 2011, as a result of a decision made by the Board of Directors in 2004 to permanently discontinue stock option grants to directors. The number of options outstanding under the DEIP was nil as at December 31, 2012 (2011 – 54,000).

For the year ended December 31, 2012, 7.2 million RSUs (2011 – 4.5 million) and 0.8 million PSUs (2011 – 0.6 million) were granted to certain eligible employees under MFC's Restricted Share Unit Plan. The fair values of the RSUs and PSUs granted in the year were \$13.51 per unit, as at December 31, 2012 (2011 – \$10.85 per unit). Each RSU/PSU entitles the recipient to receive payment equal to the market value of one common share, plus credited dividends, at the time of vesting, subject to any performance conditions.

RSUs granted in February 2012 vest on the date that is 34 months from the grant date (December 15, 2014), and the related compensation expense is recognized over this period, except where the employee is eligible to retire prior to a vesting date, in which case the cost is recognized over the period between the grant date and the date on which the employee is eligible to retire. Compensation expense related to RSUs was \$67 for the year ended December 31, 2012 (2011 – \$51).

PSUs granted in February 2012 vest on the date that is 34 months from the grant date (December 15, 2014), subject to performance conditions over the performance period. The related compensation expense is recognized over this period, except where the employee is eligible to retire prior to a vesting date, in which case the cost is recognized over the period between the grant date and the date on which the employee is eligible to retire. Compensation expense related to PSUs was \$5 for the year ended December 31, 2012 (2011 – \$(3)).

	2012		2011	
	Number of options (in millions)	Weighted average exercise price	Number of options (in millions)	Weighted average exercise price
Options outstanding				
For the years ended December 31,				
Outstanding, January 1	35	\$ 24.24	36	\$ 24.68
Granted	6	\$ 12.56	4	\$ 18.90
Expired	(7)	\$ 25.84	(4)	\$ 23.10
Forfeited	(2)	\$ 19.08	(1)	\$ 21.77
Outstanding, December 31	32	\$ 21.93	35	\$ 24.24
Exercisable, December 31	20	\$ 25.93	22	\$ 26.95

	Options outstanding			Options exercisable		
	Number of options (in millions)	Weighted average exercise price	Weighted average remaining contractual life (in years)	Number of options (in millions)	Weighted average exercise price	Weighted average remaining contractual life (in years)
As at December 31, 2012						
\$11.04 – \$19.52	22	\$ 16.29	7.08	9	\$ 17.25	5.65
\$19.53 – \$25.45	2	\$ 23.49	2.51	2	\$ 23.60	2.23
\$25.46 – \$40.38	8	\$ 35.93	3.55	9	\$ 35.93	3.55
Total	32	\$ 21.93	5.85	20	\$ 25.93	4.40

The weighted average fair value of each option granted in 2012 has been estimated at \$2.78 (2011 – \$4.52) using the Black-Scholes option-pricing model. The pricing model uses the following assumptions for these options: risk-free interest rate of 1.5% (2011 – 2.9%), dividend yield of 3.60% (2011 – 3.25%), expected volatility of 32.5% (2011 – 30%) and expected life of 6.7 (2011 – 6.9) years. Expected volatility is estimated by evaluating a number of factors including historical volatility of the share price over multi-year periods.

The stock-based compensation expense recognized is shown in the following table.

For the years ended December 31,	2012	2011
Expense arising from equity-settled stock-based payment transactions	\$ 17	\$ 23
Expense arising from cash-settled stock-based payment transactions	72	48
Total stock-based compensation expense	\$ 89	\$ 71

The carrying amount of the liability relating to the cash-settled awards at December 31, 2012 is \$53 (2011 – \$49) and is included within other liabilities.

Dilutive effect of stock-based compensation awards

For the years ended December 31,	2012	2011
Diluted earnings per common share	\$ 0.88	\$ 0.02
Net income available to common shareholders	\$ 1,624	\$ 44
Weighted average number of common shares (in millions)	1,812	1,786
Dilutive stock-based awards ⁽¹⁾ (in millions)	2	3
Dilutive convertible instruments ⁽²⁾ (in millions)	74	–
Weighted average number of diluted common shares (in millions)	1,888	1,789

⁽¹⁾ The dilutive effect of stock-based awards was calculated using the treasury stock method. This method calculates the number of incremental shares by assuming the outstanding stock-based awards are (i) exercised and (ii) then reduced by the number of shares assumed to be repurchased from the issuance proceeds, using the average market price of MFC common shares for the year. Excluded from the calculation were an average of 35 million (2011 – 36 million) anti-dilutive stock-based awards.

⁽²⁾ The holders of the convertible preferred shares have the right to redeem those instruments for MFC shares prior to the conversion date. The holders of the MaCS Series A and B had the same rights prior to redemption of the MaCS on June 30, 2012. However, these convertible instruments have been excluded from the calculation for the year ended December 31, 2011, as the conversions are anti-dilutive.

Note 17 Employee Future Benefits

The Company maintains pension plans, both defined contribution and defined benefit, and retiree welfare plans for eligible employees and agents. These plans include broad-based pension plans for employees that are typically funded, as well as supplemental non-registered (non-qualified) pension plans for executives and retiree welfare plans, both of which are typically not funded.

The Company has long recognized the financial exposure associated with traditional defined benefit pension plans (i.e., final average pay plans and annuitized cash balance accounts) and retiree welfare plans. As such, the Company has been closing these plans to new members and, in the case of pension plans, has been replacing them with capital accumulation-type retirement plans. Capital accumulation plans include defined benefit cash balance plans, 401(k) plans and defined contribution plans under which the Company's approach is to allocate a fixed percentage of each employee's eligible earnings taking median market practice into account. To the extent that pension benefits delivered through registered or tax qualified pension plans limit the benefit that would otherwise be provided to executives, the Company may sponsor supplemental arrangements, which are for the most part unfunded.

Plan characteristics

Most of the Company's traditional defined benefit pension plans and retiree welfare plans are closed. New employees join cash balance or defined contribution pension programs, depending on the geography of employment, and are not eligible to participate in the retiree welfare plans. Reflecting the shift away from traditional defined benefit pension plans to capital accumulation plans, approximately 2% of plan members continue to accrue final average pay benefits. Traditional defined benefit pension obligations comprise approximately 50% of the Company's global pension obligations, due in large part to the inactive and retired members who no longer accrue defined benefit pensions but have not yet been paid their entire pension entitlements.

All pension arrangements are governed by local pension committees or management but significant plan changes require approval from the Company's Board of Directors.

The Company's funding policy for defined benefit pension plans is to make at least the minimum annual contributions required by regulations in the countries in which the plans are offered. Assumptions and methods prescribed for regulatory funding purposes typically differ from those used for accounting purposes. The Company measures its defined benefit obligations and the fair value of plan assets for accounting purposes at December 31st of each year.

The Company has defined benefit pension and/or retiree welfare plan obligations in the U.S., Canada, Japan, U.K., Taiwan and Indonesia. The largest of these are the primary plans for employees in the U.S. and Canada and are considered to be the material plans that are the subject and focus of the disclosures in the balance of this note.

U.S. Plans

The Company operates a qualified cash balance plan that is open to new members, a non-qualified cash balance plan, under which accruals ceased as of December 31, 2011, and a retiree welfare plan that was closed to new members in 2005.

Actuarial valuations to determine the Company's minimum funding contributions for the qualified cash balance plan are required annually. Deficits revealed in the funding valuations must generally be funded over a period of up to seven years. It is expected that there will be no required funding for this plan in 2013. There are no plan assets set aside for the non-qualified pension cash balance plan; these benefits are to be funded as they come due.

The retiree welfare plan subsidizes the cost of life insurance and medical benefits for eligible retirees. The majority of those who retired after 1991 receive a fixed dollar subsidy from the Company based on service. Employees who met certain age and service criteria by 2002 generally receive access to the plan upon retirement but pay the full cost. While assets have been set aside in a qualified trust to pay a portion of future retiree welfare benefits, this funding is optional. The Company also utilizes federal subsidies from the Medicare program to support its retiree welfare commitments.

The qualified pension and retiree welfare plans are governed by the U.S. Benefits Committee, while the non-qualified pension plan is governed by the U.S. Nonqualified Plans Subcommittee.

Canadian Plans

The Company's defined benefit plans in Canada include a registered final average pay pension plan, a non-registered supplemental final average pay pension arrangement and a retiree welfare plan that was closed to new members in 2005. While both pension programs have been closed to new members since 1998, there remain 742 members under the registered plan who continue to accrue final average pay pensions, but without contractual cost of living adjustments.

Actuarial valuations to determine the Company's minimum funding contributions for the registered plan are required at least once every three years, unless prescribed financial thresholds are not met. Deficits revealed in the funding valuation must generally be funded over a period of up to five years. For 2013, the required funding for this plan is expected to be \$21. The supplemental non-registered pension plan is not funded; these benefits are to be funded as they come due.

The retiree welfare plan subsidizes the cost of life insurance, medical and dental benefits for eligible retirees. The Company subsidies will change to a fixed dollar amount for those who retire after April 30, 2013 and will be eliminated for those who retire after 2019. There are no assets set aside for the retiree welfare plan.

The registered pension plan is governed by the Canadian Pension Committee, while the supplemental non-registered arrangement is governed by the Company's Board of Directors. The retiree welfare plan is governed by management.

Risks

In final average pay pension plans and retiree welfare plans, the Company generally bears the material risks which include interest rate, investment, longevity and health care cost inflation risks. In defined contribution plans, these risks are typically borne by the employee. In cash balance plans, the salary increase risk is fully transferred to the employee, while interest rate, investment (where applicable) and longevity risks are partially transferred to the employee. Effective with the adoption of IAS 19 (2011) for 2013, all actuarial and investment gains and losses in defined benefit plans that result from actual experience differing from the assumptions made for the noted risks will be immediately recognized in Other Comprehensive Income.

Material sources of risk to the Company for all plans include:

- A decline in discount rates that increases the defined benefit obligations; and
- Lower than expected rates of mortality.

For funded plans, an additional material source of risk is that investment returns do not move in line with the defined benefit obligations due to interest rate changes.

Further, for retiree welfare plans, an additional material source of risk is that health care cost inflation will be higher than expected.

Historically, the Company has managed risks through plan design and eligibility changes which limited the size and growth of the defined benefit obligations. For funded plans, investment risks are managed through strategies aimed at improving the alignment between movements in the invested assets and movements in the obligations.

In the U.S., delegated committee representatives and management review the financial status of the qualified defined benefit pension plan at least monthly, and steps are taken in accordance with an established dynamic investment policy to de-risk the plan as the funded status improves. The target asset allocation for the plan is currently 59% return-seeking assets and 41% liability-hedging assets.

In Canada, internal committees and management review the financial status of the registered defined benefit pension plan at least quarterly. As at December 31, 2012, the target asset allocation for the plan was 30% return-seeking assets and 70% liability-hedging assets. The Company recently adopted a new target investment policy of 10% return-seeking assets and 90% liability-hedging assets, with the intention to fully transition to the new target by 2017.

Pension and retiree welfare plans

For the years ended December 31,	Pension plans		Retiree welfare plans	
	2012	2011	2012	2011
Changes in defined benefit obligation:				
Ending balance prior year	\$ 3,524	\$ 3,329	\$ 682	\$ 702
Current service cost	33	37	2	3
Past service cost	—	—	—	(38)
Interest cost	149	159	28	33
Plan participants' contributions	1	1	5	5
Actuarial (gains) losses – experience	17	8	(20)	(3)
Actuarial (gains) losses – assumption changes	175	175	(33)	19
Benefits paid	(246)	(242)	(50)	(51)
Impact of changes in foreign exchange rates	(57)	57	(11)	12
Defined benefit obligation, December 31	\$ 3,596	\$ 3,524	\$ 603	\$ 682

For the years ended December 31,	Pension plans		Retiree welfare plans	
	2012	2011	2012	2011
Changes in plan assets:				
Fair value of plan assets, ending balance prior year	\$ 2,611	\$ 2,580	\$ 360	\$ 345
Expected return on plan assets	163	176	22	25
Employer contributions	99	80	34	46
Plan participants' contributions	1	1	5	5
Benefits paid	(246)	(242)	(50)	(51)
Actuarial gains (losses)	190	(26)	19	(18)
Impact of changes in foreign exchange rates	(44)	42	(8)	8
Fair value of plan assets, December 31⁽¹⁾	\$ 2,774	\$ 2,611	\$ 382	\$ 360

⁽¹⁾ The fair value of plan assets does not include the rabbi trust assets that support the non-qualified U.S. retirement plan obligations for certain executives and retired executives in respect of service prior to May 1, 2008. In the event of insolvency of the Company, the rabbi trust assets can be used to satisfy claims of general creditors. At December 31, 2012, assets in the rabbi trust with respect to these defined benefit obligations were \$360 (2011 – \$351) compared to the defined benefit obligations under the merged plan of \$361 (2011 – \$360).

For the years ended December 31,	Pension plans		Retiree welfare plans	
	2012	2011	2012	2011
Deficit (surplus)	\$ 822	\$ 913	\$ 221	\$ 322
Unrecognized net actuarial gains (losses)	(825)	(990)	23	(49)
Unrecognized prior service credit (cost)	—	—	15	19
Effect of asset limit	—	—	—	—
Net defined benefit (asset) liability⁽¹⁾	\$ (3)	\$ (77)	\$ 259	\$ 292

⁽¹⁾ The amounts in the table relate only to the material plans. Upon the adoption of the amendments to IAS 19 in 2013, the net defined benefit liability for all Company pension plans will be increased by \$872, primarily due to the unrecognized net actuarial losses.

Amounts recognized in the Consolidated Statements of Financial Position

For the years ended December 31,	Pension plans		Retiree welfare plans	
	2012	2011	2012	2011
Defined benefit liability	\$ 556	\$ 491	\$ 259	\$ 292
Defined benefit asset	(559)	(568)	—	—
Net defined benefit (asset) liability	\$ (3)	\$ (77)	\$ 259	\$ 292

The following disclosures of experience gains and losses will be built up over time to give a five year history.

As at and for the years ended December 31,	Pension plans			Retiree welfare plans		
	2012	2011	2010	2012	2011	2010
Defined benefit obligation	\$ 3,596	\$ 3,524	\$ 3,329	\$ 603	\$ 682	\$ 702
Fair value of plan assets	2,774	2,611	2,580	382	360	345
Deficit (surplus)	\$ 822	\$ 913	\$ 749	\$ 221	\$ 322	\$ 357
Deficit (surplus) is composed of:						
Funded or partially funded plans	\$ 95	\$ 193	\$ 63	\$ 87	\$ 174	\$ 188
Unfunded plans	727	720	686	134	148	169
	\$ 822	\$ 913	\$ 749	\$ 221	\$ 322	\$ 357
Experience (gain) loss adjustments on defined benefit obligation	\$ 17	\$ 8	\$ 5	\$ (20)	\$ (3)	\$ (14)
Experience (gain) loss adjustment on assets	\$ (190)	\$ 26	\$ (179)	\$ (19)	\$ 18	\$ (17)

Overall, the Company's funded or partially funded defined benefit pension and retiree welfare plans consist of assets of \$3,156 (2011 – \$2,971) and obligations of \$3,338 (2011 – \$3,338). Obligations for unfunded pension plans and retiree welfare benefit plans total \$861 (2011 – \$868).

The weighted average asset allocation for the Company's funded defined benefit pension plans is as follows.

As at December 31,	Actual allocation	
	2012	2011
Equity securities ⁽¹⁾	43%	42%
Debt securities	51%	51%
Real estate	3%	3%
Other	3%	4%
Total	100%	100%

⁽¹⁾ Included are investments in MFC common shares of \$0.2 (2011 – \$0.2).

Net benefit cost

Components of the net benefit cost for the pension plans and retiree welfare plans were as follows.

For the years ended December 31,	Pension plans		Retiree welfare plans	
	2012	2011	2012	2011
Defined benefit current service cost	\$ 33	\$ 37	\$ 2	\$ 3
Defined contribution current service cost	51	48	–	–
Interest cost	149	159	28	33
Expected return on plan assets	(163)	(176)	(22)	(25)
Past service cost	–	–	(4)	(19)
Amortization of actuarial losses	151	64	–	–
Net benefit cost	\$ 221	\$ 132	\$ 4	\$ (8)

Assumptions

The weighted average assumptions used by the Company to determine the defined benefit obligation and net benefit cost for the defined benefit pension plans and retiree welfare plans were as follows.

For the years ended December 31,	Pension plans		Retiree welfare plans	
	2012	2011	2012	2011
To determine the accrued benefit obligation at end of year:				
Discount rate	3.9%	4.5%	4.0%	4.5%
Rate of compensation increase	3.5%	3.4%	2.8%	3.0%
Initial health care cost trend rate ⁽¹⁾	n/a	n/a	8.1%	8.1%
To determine the net benefit cost for the year:				
Discount rate	4.5%	5.0%	4.5%	5.0%
Expected return on plan assets ⁽²⁾	6.6%	7.1%	6.5%	7.3%
Rate of compensation increase	3.4%	3.9%	3.0%	3.3%
Initial health care cost trend rate ⁽¹⁾	n/a	n/a	8.1%	8.1%

⁽¹⁾ The health care cost trend rate used to measure the U.S. based retiree welfare obligation was 8.5% grading to 5.0% for 2028 and years thereafter (2011 – 8.5% grading to 5.0% for 2028) and to measure the net benefit cost was 8.5% grading to 5.0% for 2028 and years thereafter (2011 – 8.5% grading to 5.0% for 2028). In Canada, the rate used to measure the retiree welfare obligation was 6.7% grading to 4.8% for 2026 and years thereafter (2011 – 6.8% grading to 4.8% for 2026) and to measure the net benefit cost was 6.8% grading to 4.8% for 2026 and years thereafter (2011 – 6.8% grading to 4.8% for 2026).

⁽²⁾ The expected return on pension plan assets for U.S. based plans was 7.3% (2011 – 7.8%). Plans based in Canada had an expected return on plan assets of 4.6% (2011 – 5.3%). The expected long-term rate of return is based on the future return expectations in each country for each asset class and on the target asset allocation of the portfolio for each plan.

Assumptions regarding future mortality are based on published statistics and mortality tables. The current life expectancies underlying the values of the obligations in the defined benefit pension and retiree welfare benefit plans are as follows.

As at December 31, 2012	Canada	U.S.
Life expectancy (in years) for those currently age 65		
Males	19.8	20.2
Females	22.1	21.9
Life expectancy (in years) at age 65 for those currently age 45		
Males	21.3	21.6
Females	22.9	22.7

Sensitivity of assumptions

Assumptions adopted can have a significant effect on the obligations and net benefit cost reported for defined benefit pension and retiree welfare benefit plans. The potential impact on the obligations and the annual costs arising from changes in the key assumptions is set out in the following table.

As at December 31, 2012	Pension plans		Retiree welfare plans	
	Obligation	Net benefit cost ⁽¹⁾	Obligation	Net benefit cost
Discount rate:				
Impact of a 1% increase	\$ (356)	\$ (12)	\$ (57)	\$ (1)
Impact of a 1% decrease	425	8	68	–
Rate of compensation increase:				
Impact of a 0.25% increase	2	1	–	–
Impact of a 0.25% decrease	(2)	–	–	–
Health care cost trend rate:				
Impact of a 1% increase	n/a	n/a	22	1
Impact of a 1% decrease	n/a	n/a	(19)	(1)

⁽¹⁾ The amounts reflect the sensitivity of the 2013 net benefit cost determined in accordance with the amendments to IAS 19.

Sensitivity on the cash balance crediting rate has not been provided since expected changes in this assumption do not have a material effect on the Company's consolidated financial statements.

The calculation of the defined benefit obligation is sensitive to the mortality assumptions. As the actuarial estimates of mortality are adjusted in future to reflect expected decreases in mortality, the effect of an increase of one year in life expectancy would be an increase in the defined benefit obligation of \$135.

The sensitivities above assume all other assumptions are held constant. In reality one might expect interrelationships between the assumptions.

Cash flows – contributions

Total cash payments for all employee future benefits, comprised of cash contributed by the Company to funded defined benefit pension and retiree welfare benefit plans, cash payments directly to beneficiaries in respect of unfunded pension and retiree welfare benefit plans, and cash contributed to defined contribution pension plans, were as follows.

For the years ended December 31,	Pension plans		Retiree welfare plans	
	2012	2011	2012	2011
Defined benefit plans	\$ 99	\$ 80	\$ 34	\$ 46
Defined contribution plans	51	48	–	–
Total	\$ 150	\$ 128	\$ 34	\$ 46

The Company's best estimate of expected cash payments for employee future benefits for the year ending December 31, 2013 is \$75 for defined benefit pension plans, \$51 for defined contribution pension plans and \$24 for retiree welfare benefit plans.

Note 18 Consolidated Investments

In its capacities as an investor and as an investment manager, the Company has relationships with various types of entities, some of which are considered SPEs. The Company also has relationships with SPEs used to arrange certain of the Company's financings.

Where the Company is deemed to control an SPE, in accordance with IAS 27 and SIC 12, the SPE is consolidated, with interests of other parties classified as either liabilities or non-controlling interests. The Company is deemed to control an SPE where the Company owns the majority of the SPE's voting interests, or has the power to govern the financial and operating policies of the SPE through other means than voting rights and obtains significant benefits from its activities. The Company receives benefits from its relationships with SPEs in the form of fees and investment returns from investment entities, and in the form of advantageous access to capital markets from financing entities.

The Company assesses the materiality of its relationship with the SPE to determine if it obtains significant benefits from the SPE, which require disclosure. This assessment considers the nature of the relationship with the SPE and the materiality of the relationship to the Company as, among other factors, a percentage of total investments, percentage of total net investment income and percentage of total funds under management. For purposes of assessing materiality and disclosing relationships with SPEs, the Company aggregates similar entities.

(a) Investment entities that are SPEs

Investment SPEs that are consolidated in the Company's general fund

Timber Companies

The Company acts as an investment manager of timberland companies and the Company's general fund and segregated funds invest in many of them. In its capacity as investment manager to the timberland companies, the Company earns investment advisory fees, and in the majority of cases earns forestry management fees and is eligible for performance advisory fees. The Company has determined that many of the timber companies are SPEs.

The Company has determined that as at December 31, 2012 and 2011, it has control over one Timber Company which it manages, Hancock Victoria Plantations ("HVP"), based on ownership of majority voting rights via MFC's general and segregated fund ownership interests.

The consolidation of HVP into the Company's general fund as at December 31, 2012 resulted in an increase in other assets of \$699 (2011 – \$668), an increase in other liabilities of \$501 (2011 – \$491), an increase in non-controlling interests of \$198 (2011 – \$177), and an increase in the Company's net income for the year ended December 31, 2012 of \$52 (2011 – \$13). The Company's maximum exposure to loss as a result of its relationship with HVP is limited to the Company's general fund investment in HVP's capital of \$86 (2011 – \$79).

Hancock Mezzanine Funds

The Company acts as investment manager to a series of four investment funds which invest in mezzanine financing of private companies (collectively, the "Mezzanine Funds"). The Company's general fund and segregated funds invest in the Mezzanine Funds in varying proportions and the Company's general fund coinvests alongside the Mezzanine Funds in the Funds' targeted investments. In its capacity as investment manager to the Mezzanine Funds, the Company earns investment advisory fees. The Company has determined that it has control over the Mezzanine Funds, by virtue of its non-cancelable management contracts with them, and by virtue of its exposure to their investment performance resulting from its general fund and segregated fund investments in them. The Company accounts for other parties' interests in the Mezzanine Funds as liabilities because the Funds have limited lives.

The consolidation of the Mezzanine Funds into the Company's general fund as at December 31, 2012 resulted in an increase in assets of \$165 (2011 – \$218) and an increase in liabilities of \$165 (2011 – \$218).

Liabilities and non-controlling interests recognized as a result of consolidating HVP and the Mezzanine Funds do not represent additional claims on the general assets of the Company; rather, they represent claims against the assets recognized as a result of consolidating these entities. Conversely, the assets recognized as a result of consolidating these entities do not represent additional assets which the Company can use to satisfy claims against its general assets; rather, they can only be used to settle the liabilities recognized as a result of consolidating these entities, and provide returns to the non-controlling interest holders.

Investment SPEs that are not consolidated

Except as noted above, the Company has determined that it does not have control over any investment entities which are SPEs and in which it invests or which it manages.

The following is a discussion of the investment entities with which the Company has significant relationships.

Collateralized debt obligation funds

The Company acts as an investment manager to certain asset-backed investment vehicles, commonly known as collateralized debt obligation funds ("CDOs"). The Company has determined that the CDOs it manages are SPEs. The Company also invests in the debt and/or equity of these CDOs, and in the debt and/or equity of CDOs managed by others. Any net losses of a CDO managed by the Company in excess of the CDO's equity are borne by the debt owners. Owners of securities issued by CDOs that are managed by the Company have no recourse to the Company's assets in the event of default by the CDO. The Company's risk of loss from any CDO that it manages, or in which it invests, or both, is limited to its investment in the CDO, if any. The Company has determined that it does not control any of the CDOs which it both manages and invests in, because its power to govern the financial and operating policies of these CDOs is either restricted or subject to approval by the CDOs' other investors.

The Company's maximum exposure to losses from CDOs managed by the Company is \$8 (2011 – \$9). This consists entirely of investments in equity.

Company-managed CDOs

As at December 31,	2012	2011
Total assets	\$ 406	\$ 644
Total debt ⁽¹⁾	\$ 2,019	\$ 2,448
Total other liabilities	4	5
Total liabilities	\$ 2,023	\$ 2,453
Total equity ⁽²⁾	(1,617)	(1,809)
Total liabilities and equity⁽³⁾	\$ 406	\$ 644

⁽¹⁾ Declines in debt result from the payoff of senior debt obligations as well as settlement of the debt as part of the liquidation or amortization process of the CDOs.

⁽²⁾ Declines in assets reflect the payoff, liquidation or amortization process for certain of the CDOs, and also reflect fair value adjustments to investment securities held in these CDOs. Since the CDOs' assets are carried at fair value and their debt is carried at par, declines in the assets' fair values generate negative equity in the CDOs.

⁽³⁾ Includes the Company's investment in the debt and equity of Company-managed CDOs.

Low-income housing partnerships

The Company has investments that qualify for low-income housing tax credits ("LIH Partnerships"). These investments are primarily made through real estate limited partnerships or limited liability companies. The Company is usually the sole limited partner or investor member and is not the general partner or managing member in any of the LIH Partnerships. The Company has determined that the LIH Partnerships are SPEs. The Company has determined that it does not control any LIH Partnership because the Company does not have power to govern their financial and operating policies. This power is held by each general partner or managing member who has significant exposure to the economics of their LIH Partnerships.

The Company's maximum exposure to losses from its investments in LIH Partnerships is \$321 (2011 – \$400). This consists of \$282 (2011 – \$337) of equity investments, \$31 (2011 – \$48) of mortgages and \$8 (2011 – \$15) of outstanding capital commitments.

LIH Partnerships⁽¹⁾

As at December 31,	2012	2011
Total assets	\$ 1,153	\$ 1,311
Total debt	\$ 688	\$ 765
Total other liabilities	114	158
Total liabilities	\$ 802	\$ 923
Total equity ⁽¹⁾	351	388
Total liabilities and equity⁽²⁾	\$ 1,153	\$ 1,311

⁽¹⁾ Certain data in the table above is reported with a six to twelve month lag due to the delayed availability of financial statements of the LIH Partnerships.

⁽²⁾ Includes the Company's investment in the debt and equity of the LIH Partnerships.

Timber Companies

As mentioned above, the Company acts as a timber investment manager with total timber assets under management of \$11 billion, of which \$8 billion is organized into Timber Companies. The Company's general fund and segregated funds own \$851 and \$1 billion of the capital of these Timber Companies, respectively. In its capacity as investment manager to the Timber Companies, the Company earns investment advisory fees and, in the majority of cases, earns forestry management fees and is eligible for performance advisory fees. The Company has determined that many of the Timber Companies are SPEs. With the exception of HVP, mentioned above, the Company has determined that it does not control any Timber Company it manages because it either does not have the power to govern their financial and operating policies, or does not have exposure to their investment returns, or both.

The maximum exposure of the Company's general fund to losses from unconsolidated Timber Companies is \$753 (2011 – \$405). This consists of \$464 (2011 – \$119) of equity investments, \$271 (2011 – \$259) of debt investments and \$18 (2011 – \$27) of outstanding capital commitments.

Timber Companies

As at December 31,	2012	2011
Total assets	\$ 6,522	\$ 4,907
Total debt	\$ 2,255	\$ 2,124
Total other liabilities	437	401
Total liabilities	\$ 2,692	\$ 2,525
Total equity	3,830	2,382
Total liabilities and equity⁽¹⁾	\$ 6,522	\$ 4,907

⁽¹⁾ Includes the Company's general fund and segregated fund investments in the debt and equity of the Timber Companies.

Other entities

The Company has investment relationships with a variety of other entities ("Other Entities"), which result from its direct investment in their debt and/or equity and which have been assessed for control. This category includes, but is not limited to energy investment partnerships, investment funds organized as limited partnerships and investments in businesses that have undergone debt restructurings and reorganizations. The Company believes that its relationships with these Other Entities are not significant and, accordingly, does not provide any summary financial data for them nor does the Company distinguish here whether each is an SPE or not. The Company's maximum exposure to losses as a result of its involvement with Other Entities is generally limited to amounts invested, which are included on the Company's Consolidated Statements of Financial Position in the appropriate investment categories, but also includes investment amounts committed.

(b) Financing entities that are SPEs

Financing SPEs that are consolidated in the Company's general fund

The Company has determined that it controls each financing entity below. The Company has control over them because the Company predetermined their financial and operating policies and controls any new issuances or redemptions (within contractual limits of relevant agreements) of capital through them, and the Company obtains benefits from them in the form of advantageous access to capital markets. Each is an SPE because its operations are narrowly limited to issuing and servicing the Company's capital.

Manulife Financial Capital Trust

The Trust, an open-end trust, issued \$1,000 of Manulife Financial Capital Securities ("MaCS"). The Trust redeemed the MaCS on June 30, 2012. See note 13. The consolidation of the Trust into the Company's general fund as at December 31, 2012 and 2011 resulted in no quantitative changes to the Company's assets, liabilities or equity.

Manulife Financial Capital Trust II

Trust II, an open-end trust, issued \$1,000 of notes to the capital markets. See note 13. The consolidation of Trust II into the Company's general fund as at December 31, 2012 and 2011 resulted in no quantitative changes to the Company's assets, liabilities or equity.

Manulife Finance (Delaware), L.P.

MFLP issued \$1,200 of debentures. See notes 12 and 13. The consolidation of MFLP into the Company's general fund as at December 31, 2012 resulted in an increase in assets of \$3 (2011 – \$21), and an increase in liabilities of \$3 (2011 – \$21).

Platinum Canadian Mortgage Trust

Platinum Canadian Mortgage Trust ("Platinum Trust") was organized in 2010 by Manulife Bank of Canada to provide financing for the Company's mortgage business by securitizing certain of the Company's Home Equity Lines of Credit and issuing notes. As at December 31, 2012, Platinum Trust has \$1,250 of notes (2011 – \$750) outstanding. Transfers of mortgage loans to Platinum Trust do not qualify as sales, therefore, the transferred mortgages and corresponding secured borrowing liabilities are recorded on the Company's Consolidated Statements of Financial Position. See note 4(i).

The consolidation of Platinum Trust into the Company's general fund as at December 31, 2012 resulted in a decrease in assets of \$2 (2011 – \$3) and a decrease in liabilities of \$2 (2011 – \$3).

John Hancock Global Funding II, Ltd.

John Hancock Global Funding II, Ltd. ("JHGF II"), a Delaware Trust, was organized by John Hancock Life Insurance Company (U.S.A.) ("JHUSA"). JHGF II issued medium term notes to investors worldwide, and used the proceeds to purchase funding agreements issued by JHUSA. The medium term notes were issued through 2005 and mature through 2015. They are not redeemable at the option of the investors. See note 9.

The consolidation of JHGF II into the Company's general fund as at December 31, 2012 resulted in an increase in assets of \$35 (2011 – \$65), an increase in liabilities of \$15 (2011 – \$37) and an increase in equity of \$20 (2011 – \$28).

Note 19 Commitments and Contingencies

(a) Legal proceedings

The Company is regularly involved in legal actions, both as a defendant and as a plaintiff. The legal actions 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 and Asia regularly make inquiries and, from time to time, require the production of information or conduct examinations concerning the Company's compliance with, among other things, insurance laws, securities laws, and laws governing the activities of broker-dealers.

A class action covering Quebec residents only is pending in Quebec against the Company and a proposed class action lawsuit against the Company has been filed in Ontario on behalf of investors in Canada (except for Quebec residents). 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 Company believes that its disclosure satisfied applicable disclosure requirements and intends to vigorously defend itself against any claims based on these allegations. Due to the nature of these proceedings, it is not practicable to provide an estimate of the financial effect of these proceedings, an indication of the uncertainties relating to the amount or timing of any outflow, nor the possibility of any reimbursement.

(b) Investment commitments

In the normal course of business, various investment commitments are outstanding which are not reflected in the consolidated financial statements. There were \$2,965 (2011 – \$3,431) of outstanding investment commitments as at December 31, 2012, of which \$269 (2011 – \$373) mature in 30 days, \$1,151 (2011 – \$1,513) mature in 31 to 365 days and \$1,545 (2011 – \$1,545) mature after one year.

(c) Letters of credit

In the normal course of business, third party relationship banks issue letters of credit on the Company's behalf. The Company's businesses utilize letters of credit for which third parties are the beneficiaries, as well as for affiliate reinsurance transactions between subsidiaries of MFC. As at December 31, 2012, letters of credit for which third parties are beneficiary, in the amount of \$84 (2011 – \$82), were outstanding.

(d) Guarantees

Guarantees regarding Manulife Finance (Delaware), L.P.

MFC has guaranteed the payment of amounts on the \$550 senior debentures due December 15, 2026 and \$650 subordinated debentures due December 15, 2041 issued by MFLP, a wholly owned partnership.

Guarantees regarding The Manufacturers Life Insurance Company

On January 29, 2007, MFC provided a subordinated guarantee of Class A and Class B Shares of MLI and any other class of preferred shares that rank on a parity with Class A Shares or Class B Shares of MLI. On November 18, 2011, MFC provided a subordinated guarantee of the subordinated debentures issued by MLI on November 18, 2011. On February 17, 2012, MFC provided a subordinated guarantee of the \$500 subordinated debentures issued by MLI on February 17, 2012.

The following table sets forth certain condensed consolidating financial information for MFC.

	MFC (Guarantor)	Manulife Finance (Delaware), L.P.	MLI Consolidated	Other Subsidiaries of MFC on a Combined Basis	Consolidating Adjustments	Total Consolidated Amounts
For the year ended December 31, 2012						
Total revenue	\$ 374	\$ 65	\$ 29,157	\$ 2,286	\$ (1,950)	\$ 29,932
Net income (loss) attributed to shareholders	1,736	5	1,782	(167)	(1,620)	1,736

For the year ended December 31, 2011

Total revenue	\$ 328	\$ 60	\$ 49,753	\$ 4,248	\$ (3,406)	\$ 50,983
Net income (loss) attributed to shareholders	129	(6)	256	(182)	(68)	129

As at December 31, 2012

Invested assets	\$ 22	\$ 2	\$ 226,247	\$ 3,657	\$ –	\$ 229,928
Total other assets	31,210	1,613	58,779	9,887	(53,346)	48,143
Segregated funds net assets	–	–	207,985	–	–	207,985
Insurance contract liabilities	–	–	198,671	12,334	(11,417)	199,588
Investment contract liabilities	–	–	2,424	–	–	2,424
Segregated funds net liabilities	–	–	207,985	–	–	207,985
Total other liabilities	5,783	1,463	53,419	440	(11,142)	49,963

As at December 31, 2011

Invested assets	\$ 58	\$ 7	\$ 222,958	\$ 3,497	\$ –	\$ 226,520
Total other assets	29,863	1,631	49,325	9,323	(50,618)	39,524
Segregated funds net assets	–	–	195,933	–	–	195,933
Insurance contract liabilities	–	–	189,359	11,642	(10,635)	190,366
Investment contract liabilities	–	–	2,540	–	–	2,540
Segregated funds net liabilities	–	–	195,933	–	–	195,933
Total other liabilities	5,706	1,491	51,095	507	(10,540)	48,259

Guarantees regarding John Hancock Life Insurance Company (U.S.A.) and John Hancock Life Insurance Company of New York

Details of guarantees regarding certain securities issued or to be issued by JHUSA and John Hancock Life Insurance Company of New York are outlined in note 24.

(e) Pledged assets

In the normal course of business, certain of MFC's subsidiaries pledge their assets in respect of liabilities incurred, strictly for the purpose of providing collateral for the counterparty. In the event of the Company's default, the counterparty is entitled to apply the collateral in order to settle the liability. The pledged assets are returned to the Company if the underlying transaction is terminated or, in the case of derivatives, if the net exposure moves to an asset position due to market value changes.

The amounts pledged were as follows.

As at December 31,	2012		2011	
	Bonds	Other	Bonds	Other
In respect of:				
Derivatives	\$ 2,154	\$ 14	\$ 2,723	\$ 14
Regulatory requirements	229	57	219	58
Real estate	–	174	–	187
Repurchase agreements	629	–	656	–
Non-registered retirement plans in trust	–	380	–	374
Other	2	6	2	–
Total	\$ 3,014	\$ 631	\$ 3,600	\$ 633

(f) Lease obligations

The Company has a number of operating lease obligations, primarily for the use of office space. The future minimum lease payments by year and in aggregate, under non-cancelable operating leases, are presented below.

2013	\$ 135
2014	106
2015	80
2016	42
2017	21
Thereafter	372
Total minimum lease payments	\$ 756

(g) Restrictions on dividends and capital distributions

Dividends and capital distributions are restricted under the ICA. These restrictions apply to both the Company and its primary operating subsidiary MLI. The ICA prohibits the declaration or payment of any dividend on shares of an insurance company if there are reasonable grounds for believing a company does not have adequate capital and adequate and appropriate forms of liquidity or the declaration or the payment of the dividend would cause the company to be in contravention of any regulation made under the ICA respecting the maintenance of adequate capital and adequate and appropriate forms of liquidity, or of any direction made to the Company by the Superintendent. The ICA also requires an insurance company to notify the Superintendent of the declaration of a dividend at least 15 days prior to the date fixed for its payment. Similarly, the ICA prohibits the purchase for cancellation of any shares issued by an insurance company or the redemption of any redeemable shares or other similar capital transactions, if there are reasonable grounds for believing that the company does not have adequate capital and adequate and appropriate forms of liquidity or the payment would cause the company to be in contravention of any regulation made under the ICA respecting the maintenance of adequate capital and adequate and appropriate forms of liquidity, or any direction made to the company by the Superintendent. These latter transactions would require the prior approval of the Superintendent.

The ICA requires Canadian non-operating insurance companies to maintain, at all times, adequate levels of capital which are assessed by comparing capital available to a risk metric in accordance with Capital Regime for Regulated Insurance Holding Companies and Non-Operating Life Companies, issued by OSFI. OSFI expects holding companies to manage their capital in a manner commensurate with the group risk profile and control environment. See note 15.

Regulated subsidiaries of MFC must also maintain minimum levels of capital. Such amounts of capital are based on the local capital regime and the statutory accounting basis in each jurisdiction. The most significant of these are the Minimum Continuing Capital and Surplus Requirements for MFC's Canadian insurance subsidiaries and the Risk Based Capital requirements for MFC's U.S. insurance subsidiaries. The Company maintains capital in excess of the minimum required in all jurisdictions.

There are additional restrictions on shareholder dividend distributions in foreign jurisdictions. In the U.S., MFC's principal U.S. insurance subsidiary JHUSA is domiciled in the state of Michigan. Michigan regulatory approval is required if a shareholder dividend distribution from a Michigan insurance subsidiary would exceed that subsidiary's earned regulatory surplus. Regulatory approval is also required if the distribution (together with other distributions during the previous 12 months) exceeds the greater of the subsidiary's statutory net operating income for the previous year and 10 per cent of its surplus determined at the end of the previous year. The determination must be made in accordance with statutory accounting principles. In addition, Michigan law requires that notification be given to the local insurance commissioner no later than five days following declaration, and at least 10 days prior to payment, of any dividend or distribution.

(h) Participating business

In some territories where the Company maintains participating accounts, there are regulatory restrictions on the amounts of profit that can be transferred to shareholders. Where applicable, these restrictions generally take the form of a fixed percentage of the policyholder dividends. For participating businesses operating as separate "closed blocks", transfers are governed by the terms of MLI's and John Hancock Mutual Life Insurance Company's plans of demutualization.

Note 20 Segmented Information

The Company's reporting segments are Asia, Canadian and U.S. Divisions and the Corporate and Other segment. Each division has profit and loss responsibility and develops products, services and distribution strategies based on the profile of its business and the needs of its market. The significant product and service offerings of each segment are:

Protection (U.S., Asia and Canadian Divisions). Offers a variety of individual life insurance and individual and group long-term care insurance. Products are distributed through multiple distribution channels, including insurance agents, brokers, banks, financial planners and direct marketing.

Wealth Management (U.S., Asia and Canadian Divisions). Offers annuities, pension contracts, and mutual fund products and services. These businesses also offer a variety of retirement products to group benefit plans. Annuity contracts provide non-guaranteed, partially guaranteed and fully guaranteed investment options through general and separate account products. The Canadian Wealth Management business also includes Manulife Bank, which offers a variety of deposit and credit products to Canadian customers. These businesses distribute products through multiple distribution channels, including insurance agents and brokers affiliated with the Company, securities brokerage firms, financial planners, pension plan sponsors, pension plan consultants and banks.

Corporate and Other Segment. Comprised of the Investment Division's external asset management business, earnings on assets backing capital, net of amounts allocated to operating divisions, changes in actuarial methods and assumptions, the property and casualty and run-off reinsurance operations and other non-operating items.

Effective January 1, 2012, the Company combined its U.S. Insurance and U.S. Wealth Management segments into one reportable segment, the U.S. Division. This change was made to better align with the management of the division. Prior periods have been restated to conform to this presentation.

Certain allocation methodologies are employed in the preparation of segmented financial information. Indirect expenses are allocated to business segments using allocation formulas applied on a consistent basis, while capital is apportioned to the Company's business segments using a risk-based methodology. The income statement impact of changes in actuarial methods and assumptions (note 8) and the income statement impact of the goodwill impairment charge (note 7) are reported in the Corporate and Other segment.

By segment As at and for the year ended December 31, 2012	Asia Division	Canadian Division	U.S. Division	Corporate and Other	Total
Revenue					
Premium income					
Life and health insurance	\$ 6,286	\$ 3,056	\$ 5,521	\$ 98	\$ 14,961
Annuities and pensions	1,298	543	1,161	–	3,002
Net premium income prior to FDA coinsurance	\$ 7,584	\$ 3,599	\$ 6,682	\$ 98	\$ 17,963
Premiums ceded relating to FDA coinsurance (note 8)	–	–	(7,229)	–	(7,229)
Net investment income	2,328	3,852	6,615	(953)	11,842
Other revenue	717	2,778	3,637	224	7,356
Total revenue	\$ 10,629	\$ 10,229	\$ 9,705	\$ (631)	\$ 29,932
Contract benefits and expenses					
Life and health insurance	\$ 5,851	\$ 4,710	\$ 8,363	\$ 2,348	\$ 21,272
Annuities and pensions	375	1,089	(4,993)	–	(3,529)
Net benefits and claims	\$ 6,226	\$ 5,799	\$ 3,370	\$ 2,348	\$ 17,743
Interest expense	69	374	66	458	967
Goodwill impairment	–	–	–	200	200
Other expenses	2,181	3,067	3,825	780	9,853
Total contract benefits and expenses	\$ 8,476	\$ 9,240	\$ 7,261	\$ 3,786	\$ 28,763
Income (loss) before income taxes	\$ 2,153	\$ 989	\$ 2,444	\$ (4,417)	\$ 1,169
Income tax recovery (expense)	(94)	21	(533)	1,129	523
Net income (loss)	\$ 2,059	\$ 1,010	\$ 1,911	\$ (3,288)	\$ 1,692
Less net income (loss) attributed to:					
Participating policyholders	56	(159)	–	–	(103)
Non-controlling interests	34	–	–	25	59
Net income (loss) attributed to shareholders	\$ 1,969	\$ 1,169	\$ 1,911	\$ (3,313)	\$ 1,736
Total assets	\$ 63,256	\$ 130,190	\$ 271,477	\$ 21,133	\$ 486,056

By segment As at and for the year ended December 31, 2011	Asia Division	Canadian Division	U.S. Division	Corporate and Other	Total
Revenue					
Premium income					
Life and health insurance	\$ 4,994	\$ 3,164	\$ 5,662	\$ 366	\$ 14,186
Annuities and pensions	840	730	1,748	–	3,318
Net premium income	\$ 5,834	\$ 3,894	\$ 7,410	\$ 366	\$ 17,504
Net investment income	1,705	6,055	17,428	1,049	26,237
Other revenue	889	1,993	3,577	783	7,242
Total revenue	\$ 8,428	\$ 11,942	\$ 28,415	\$ 2,198	\$ 50,983
Contract benefits and expenses					
Life and health insurance	\$ 4,816	\$ 4,349	\$ 15,000	\$ 2,150	\$ 26,315
Annuities and pensions	1,630	3,087	8,757	–	13,474
Net benefits and claims	\$ 6,446	\$ 7,436	\$ 23,757	\$ 2,150	\$ 39,789
Interest expense	70	383	105	691	1,249
Goodwill impairment	–	–	–	665	665
Other expenses	1,873	2,909	3,768	582	9,132
Total contract benefits and expenses	\$ 8,389	\$ 10,728	\$ 27,630	\$ 4,088	\$ 50,835
Income (loss) before income taxes	\$ 39	\$ 1,214	\$ 785	\$ (1,890)	\$ 148
Income tax recovery (expense)	(120)	(148)	(164)	529	97
Net income (loss)	\$ (81)	\$ 1,066	\$ 621	\$ (1,361)	\$ 245
Less net income (loss) attributed to:					
Participating policyholders	(50)	139	–	–	89
Non-controlling interests	17	–	–	10	27
Net income (loss) attributed to shareholders	\$ (48)	\$ 927	\$ 621	\$ (1,371)	\$ 129
Total assets	\$ 60,315	\$ 119,608	\$ 258,137	\$ 23,917	\$ 461,977

The results of the Company's business segments differ from geographic segmentation primarily as a consequence of segmenting the results of the Company's Corporate and Other segment into the different geographic segments to which its businesses pertain.

By geographic location For the year ended December 31, 2012	Asia	Canada	United States	Other	Total
Revenue					
Premium income					
Life and health insurance	\$ 6,341	\$ 2,590	\$ 5,528	\$ 502	\$ 14,961
Annuities and pensions	1,298	543	1,161	–	3,002
Net premium income prior to FDA coinsurance	\$ 7,639	\$ 3,133	\$ 6,689	\$ 502	\$ 17,963
Premiums ceded relating to FDA coinsurance (note 8)	–	–	(7,229)	–	(7,229)
Net investment income	1,655	3,783	6,336	68	11,842
Other revenue	750	2,786	3,814	6	7,356
Total revenue	\$ 10,044	\$ 9,702	\$ 9,610	\$ 576	\$ 29,932

For the year ended December 31, 2011

Revenue					
Premium income					
Life and health insurance	\$ 5,041	\$ 2,721	\$ 5,890	\$ 534	\$ 14,186
Annuities and pensions	840	730	1,748	–	3,318
Net premium income	\$ 5,881	\$ 3,451	\$ 7,638	\$ 534	\$ 17,504
Net investment income	2,152	6,223	17,765	97	26,237
Other revenue	968	2,039	4,127	108	7,242
Total revenue	\$ 9,001	\$ 11,713	\$ 29,530	\$ 739	\$ 50,983

Note 21 Related Parties

(a) Transactions with related parties

A number of the entities as disclosed in note 22 transacted with the Company during the reporting year in transactions made in the normal course of business. All related party transactions have taken place at terms that would exist in arm's length transactions.

(b) Compensation of key management personnel

Key management personnel of the Company are those that have the authority and responsibility for planning, directing and controlling the activities of the Company. Directors (both executive and non-executive) and senior management are considered key personnel. Accordingly, the summary of compensation of key management personnel is as follows.

For the years ended December 31,	2012	2011
Short-term employee benefits	\$ 23	\$ 19
Post-employment benefits	2	2
Share-based payments	23	20
Termination benefits	1	—
Other long-term benefits	2	1
Total	\$ 51	\$ 42

Note 22 Subsidiaries

The following is a list of the directly and indirectly held major operating subsidiaries of Manulife Financial Corporation.

As at December 31, 2012	Ownership Percentage	Address	Description
The Manufacturers Life Insurance Company	100	Toronto, Canada	Leading Canadian-based financial services company that offers a diverse range of financial protection products and wealth management services
Manulife Holdings (Alberta) Limited	100	Calgary, Canada	Holding company
John Hancock Financial Corporation	100	Wilmington, Delaware, U.S.A.	Holding company
The Manufacturers Investment Corporation	100	Michigan, U.S.A.	Holding company
John Hancock Life Insurance Company (U.S.A.)	100	Michigan, U.S.A.	U.S. life insurance company licensed in all states, except New York
John Hancock Subsidiaries LLC	100	Wilmington, Delaware, U.S.A.	Holding company
John Hancock Financial Network, Inc.	100	Boston, Massachusetts, U.S.A.	Financial services distribution organization
The Berkeley Financial Group, LLC	100	Boston, Massachusetts, U.S.A.	Holding company
John Hancock Advisers, LLC	100	Boston, Massachusetts, U.S.A.	Investment advisor
John Hancock Funds, LLC	100	Boston, Massachusetts, U.S.A.	U.S. broker-dealer
Hancock Natural Resource Group, Inc.	100	Boston, Massachusetts, U.S.A.	Manager of globally diversified timberland and agricultural portfolios for public and corporate pension plans, high net-worth individuals, foundations and endowments
John Hancock Life Insurance Company of New York	100	New York, U.S.A.	U.S. life insurance company licensed in New York
John Hancock Investment Management Services, LLC	100	Boston, Massachusetts, U.S.A.	Investment advisor
John Hancock Life & Health Insurance Company	100	Boston, Massachusetts, U.S.A.	U.S. life insurance company licensed in all states
John Hancock Distributors LLC	100	Delaware, U.S.A.	U.S. broker-dealer
John Hancock Insurance Agency, Inc.	100	Delaware, U.S.A.	U.S. insurance agency
Manulife Reinsurance Limited	100	Hamilton, Bermuda	Provides life and financial reinsurance primarily to affiliated MFC companies
Manulife Reinsurance (Bermuda) Limited	100	Hamilton, Bermuda	Provides full risk annuity and life financial reinsurance primarily to affiliated MFC companies
Manulife Bank of Canada	100	Waterloo, Canada	Provides integrated banking products and service options not available from an insurance company
Manulife Canada Ltd.	100	Waterloo, Canada	Canadian life insurance, accident and sickness insurance company
FNA Financial Inc.	100	Toronto, Canada	Holding company
Manulife Asset Management Limited	100	Toronto, Canada	Investment counseling, portfolio and mutual fund management in Canada
First North American Insurance Company	100	Toronto, Canada	Canadian property and casualty insurance company
NAL Resources Management Limited	100	Calgary, Canada	Management company for oil and gas properties

As at December 31, 2012	Ownership Percentage	Address	Description
Manulife Securities Investment Services Inc.	100	Burlington, Canada	Mutual fund dealer for Canadian operations
Manulife Holdings (Bermuda) Limited	100	Hamilton, Bermuda	Holding company
Manufacturers P&C Limited	100	St. Michael, Barbados	Provides property, casualty and financial reinsurance
Manulife Financial Asia Limited	100	Hong Kong, China	Holding company
Manulife (Cambodia) PLC	100	Phnom Penh, Cambodia	Cambodian life insurance company
Manufacturers Life Reinsurance Limited	100	St. Michael, Barbados	Provides life and financial reinsurance
Manulife (Vietnam) Limited	100	Ho Chi Minh City, Vietnam	Vietnamese life insurance company
Manulife Asset Management (Vietnam) Company Ltd.	100	Ho Chi Minh City, Vietnam	Vietnamese fund management company
Manulife International Holdings Limited	100	Hong Kong, China	Holding company
Manulife (International) Limited	100	Hong Kong, China	Life insurance company serving Hong Kong and Taiwan
Manulife-Sinochem Life Insurance Co. Ltd.	51	Shanghai, China	Chinese life insurance company
Manulife Asset Management International Holdings Limited	100	St. Michael, Barbados	Holding company
Manulife Asset Management (Hong Kong) Limited	100	Hong Kong, China	Hong Kong investment management and advisory company marketing mutual funds
Manulife Asset Management (Taiwan) Co., Ltd.	100	Taipei, Taiwan	Asset management company
Manulife Life Insurance Company	100	Tokyo, Japan	Japanese life insurance company
Manulife Asset Management (Japan) Limited	100	Tokyo, Japan	Japanese investment management and advisory company
Manulife Investments Japan Limited	100	Tokyo, Japan	Investment management, securities offering and private placement
Manulife Insurance (Thailand) Public Company Limited	95.1	Bangkok, Thailand	Thai life insurance company
Manulife Asset Management (Thailand) Company Limited	95.1	Bangkok, Thailand	Investment management
Manulife Holdings Berhad	59.4	Kuala Lumpur, Malaysia	Holding company
Manulife Insurance Berhad	59.4	Kuala Lumpur, Malaysia	Malaysian life insurance company
Manulife Asset Management Services Berhad	59.4	Kuala Lumpur, Malaysia	Asset management company
Manulife (Singapore) Pte. Ltd.	100	Singapore	Singaporean life insurance company
Manulife Asset Management (Singapore) Pte. Ltd.	100	Singapore	Asset management company
The Manufacturers Life Insurance Co. (Phils.), Inc.	100	Manila, Philippines	Filipino life insurance company
PT Asuransi Jiwa Manulife Indonesia	100	Jakarta, Indonesia	Indonesian life insurance company
PT Manulife Aset Manajemen Indonesia	100	Jakarta, Indonesia	Indonesian investment management and advisory company marketing mutual funds
Manulife Asset Management (Europe) Holdings Limited	100	London, England	Holding company
Manulife Asset Management (Europe) Limited	100	London, England	Investment management company for Manulife Financial's international funds
EIS Services (Bermuda) Limited	100	Hamilton, Bermuda	Investment holding company
Berkshire Insurance Services Inc.	100	Toronto, Canada	Investment holding company
JH Investments (Delaware) LLC	100	Boston, Massachusetts, U.S.A.	Investment holding company
Manulife Securities Incorporated	100	Burlington, Canada	Investment dealer
Manulife Asset Management (North America) Limited	100	Toronto, Canada	Investment advisor
Regional Power Inc.	83.5	Mississauga, Canada	Developer and operator of hydro-electric power projects
John Hancock Reassurance Company Ltd.	100	Hamilton, Bermuda	Provides annuity, life and long-term care reinsurance primarily to affiliated MFC companies

Note 23 Segregated Funds

Net Assets

As at December 31,	2012	2011
Investments, at market value		
Cash and short-term securities	\$ 2,075	\$ 1,888
Bonds	1,088	1,000
Stocks and mutual funds	202,751	190,926
Other investments	2,379	2,430
Accrued investment income	77	75
Other liabilities, net	(219)	(261)
Total segregated funds net assets	\$ 208,151	\$ 196,058
Composition of segregated fund net assets		
Held by policyholders	\$ 207,985	\$ 195,933
Held by the Company	166	125
Total segregated funds net assets	\$ 208,151	\$ 196,058

Changes in Net Assets

For the years ended December 31,	2012	2011
Net policyholder cash flow		
Deposits from policyholders	\$ 22,993	\$ 21,689
Net transfers to general fund	(718)	(299)
Payments to policyholders	(24,546)	(21,740)
	\$ (2,271)	\$ (350)
Investment related		
Interest and dividends	\$ 6,049	\$ 5,176
Net realized and unrealized investment gains (losses)	16,976	(8,379)
	\$ 23,025	\$ (3,203)
Other		
Management and administration fees	\$ (3,492)	\$ (3,367)
Impact of changes in foreign exchange rates	(5,169)	3,858
	\$ (8,661)	\$ 491
Net additions (deductions)	\$ 12,093	\$ (3,062)
Segregated funds net assets, beginning of year	196,058	199,120
Segregated funds net assets, end of year	\$ 208,151	\$ 196,058

Note 24 Information Provided in Connection with Investments in Deferred Annuity Contracts and *SignatureNotes* Issued or Assumed by John Hancock Life Insurance Company (U.S.A.) and Fixed Investments in Deferred Annuity Contracts to be Issued by John Hancock Life Insurance Company of New York

The following condensed consolidating financial information, presented in accordance with IFRS, and the related disclosure have been included in these consolidated financial statements with respect to JHUSA and John Hancock Life Insurance Company of New York ("JHNY") in compliance with Regulation S-X and Rule 12h-5 of the United States Securities and Exchange Commission (the "Commission"). These financial statements are incorporated by reference in the registration statements of MFC and its subsidiaries that are described below and which relate to MFC's guarantee of certain securities to be issued by its subsidiaries.

JHUSA sells deferred annuity contracts that feature a market value adjustment and are registered with the Commission. The deferred annuity contracts contain variable investment options and fixed investment period options. The fixed investment period options enable the participant to invest fixed amounts of money for fixed terms at fixed interest rates, subject to a market value adjustment if the participant desires to terminate a fixed investment period before its maturity date. The annuity contract provides for the market value adjustment to keep the parties whole with respect to the fixed interest bargain for the entire fixed investment period. These fixed investment period options that contain a market value adjustment feature are referred to as "MVAs".

JHUSA may also sell medium-term notes to retail investors under its *SignatureNotes* program and JHNY may also sell MVAs.

Effective December 31, 2009, John Hancock Variable Life Insurance Company (the "Variable Company") and John Hancock Life Insurance Company (the "Life Company") merged with and into JHUSA. In connection with the mergers, JHUSA assumed the Variable Company's rights and obligations with respect to the MVAs issued by the Variable Company and the Life Company's rights and obligations with respect to the *SignatureNotes* issued by the Life Company.

MFC fully and unconditionally guaranteed the payment obligations of JHUSA and JHNY under the MVAs and of JHUSA under the *SignatureNotes* (including the MVAs and *SignatureNotes* assumed by JHUSA in the merger), and such MVAs and the *SignatureNotes*

were registered with the Commission. The *SignatureNotes* and MVAs assumed or issued by JHUSA and the MVAs issued by JHNY are collectively referred to in this note as the "Guaranteed Securities". Each of JHUSA and JHNY is, and each of the Variable Company and the Life Company was, a wholly owned subsidiary of MFC.

MFC's guarantees of the Guaranteed Securities are unsecured obligations of MFC, and are subordinated in right of payment to the prior payment in full of all other obligations of MFC, except for other guarantees or obligations of MFC which by their terms are designated as ranking equally in right of payment with or subordinate to MFC's guarantees of the Guaranteed Securities.

The laws of the State of New York govern MFC's guarantees of the *SignatureNotes* issued or assumed by JHUSA and the MVAs issued by JHNY and the laws of the Commonwealth of Massachusetts govern MFC's guarantees of the MVAs issued or assumed by JHUSA. MFC has consented to the jurisdiction of the courts of New York and Massachusetts. However, because a substantial portion of MFC's assets are located outside the United States, the assets of MFC located in the United States may not be sufficient to satisfy a judgment given by a federal or state court in the United States to enforce the subordinate guarantees. In general, the federal laws of Canada and the laws of the Province of Ontario, where MFC's principal executive offices are located, permit an action to be brought in Ontario to enforce such a judgment provided that such judgment is subsisting and unsatisfied for a fixed sum of money and not void or voidable in the United States and a Canadian court will render a judgment against MFC in a certain dollar amount, expressed in Canadian dollars, subject to customary qualifications regarding fraud, violations of public policy, laws limiting the enforcement of creditor's rights and applicable statutes of limitations on judgments. There is currently no public policy in effect in the Province of Ontario that would support avoiding the recognition and enforcement in Ontario of a judgment of a New York or Massachusetts court on MFC's guarantees of the *SignatureNotes* issued or assumed by JHUSA or the MVAs issued by JHNY or a Massachusetts court on guarantees of the MVAs issued or assumed by JHUSA.

MFC is a holding company. The assets of MFC consist primarily of the outstanding capital stock of its subsidiaries and investments in other international subsidiaries. MFC's cash flows primarily consist of dividends and interest payments from its operating subsidiaries, offset by expenses and shareholder dividends and stock repurchases for MFC. As a holding company, MFC's ability to meet its cash requirements, including, but not limited to, paying any amounts due under its guarantees, substantially depends upon dividends from its operating subsidiaries.

These subsidiaries are subject to certain regulatory restrictions under laws in Canada, the United States and certain other countries, which may limit their ability to pay dividends or make contributions or loans to MFC. For example, some of MFC's subsidiaries are subject to restrictions prescribed by the ICA on their ability to declare and pay dividends. The restrictions related to dividends imposed by the ICA are described in note 19(g).

In the United States, insurance laws in Michigan, New York, Massachusetts and Vermont, the jurisdictions in which certain U.S. insurance company subsidiaries of MFC are domiciled, impose general limitations on the payment of dividends and other upstream distributions or loans by these insurance subsidiaries. These limitations are also described in note 19(g).

In Asia, the insurance laws of the jurisdictions in which MFC operates either provide for specific restrictions on the payment of dividends or other distributions or loans by subsidiaries or impose solvency or other financial tests, which could affect the ability of subsidiaries to pay dividends in certain circumstances.

There can be no assurance that any current or future regulatory restrictions in Canada, the United States or Asia will not impair MFC's ability to meet its cash requirements, including, but not limited to, paying any amounts due under its guarantee.

The following condensed consolidating financial information, presented in accordance with IFRS, reflects the effects of the mergers and is provided in compliance with Regulation S-X and in accordance with Rule 12h-5 of the Commission.

Condensed Consolidating Statement of Financial Position

As at December 31, 2012	Manulife Financial Corporation (Guarantor)	John Hancock Life Insurance Company (U.S.A.) (Issuer)	John Hancock Life Insurance Company of New York (Issuer)	Other Subsidiaries	Consolidation Adjustments	Consolidated Manulife Financial Corporation
Assets						
Invested assets	\$ 22	\$ 87,557	\$ 8,505	\$ 134,390	\$ (546)	\$ 229,928
Investments in unconsolidated subsidiaries	30,806	3,998	1	11,423	(46,228)	–
Reinsurance assets	–	29,320	2,848	3,937	(17,424)	18,681
Other assets	404	21,270	1,084	27,079	(20,375)	29,462
Segregated funds net assets	–	127,717	7,638	74,701	(2,071)	207,985
Total assets	\$ 31,232	\$ 269,862	\$ 20,076	\$ 251,530	\$ (86,644)	\$ 486,056
Liabilities and equity						
Insurance contract liabilities	\$ –	\$ 107,585	\$ 6,980	\$ 103,077	\$ (18,054)	\$ 199,588
Investment contract liabilities	–	1,417	111	1,284	(388)	2,424
Other liabilities	557	20,709	3,574	33,664	(17,494)	41,010
Long-term debt	4,882	–	–	614	(44)	5,452
Liabilities for preferred shares and capital instruments	344	1,008	–	4,359	(2,210)	3,501
Segregated funds net liabilities	–	127,717	7,638	74,701	(2,071)	207,985
Shareholders' equity	25,449	11,426	1,773	33,304	(46,503)	25,449
Participating policyholders' equity	–	–	–	146	–	146
Non-controlling interest in subsidiaries	–	–	–	381	120	501
Total liabilities and equity	\$ 31,232	\$ 269,862	\$ 20,076	\$ 251,530	\$ (86,644)	\$ 486,056

Condensed Consolidating Statement of Financial Position

As at December 31, 2011	Manulife Financial Corporation (Guarantor)	John Hancock Life Insurance Company (U.S.A.) (Issuer)	John Hancock Life Insurance Company of New York (Issuer)	Other Subsidiaries	Consolidation Adjustments	Consolidated Manulife Financial Corporation
Assets						
Invested assets	\$ 58	\$ 90,391	\$ 10,240	\$ 126,327	\$ (496)	\$ 226,520
Investments in unconsolidated subsidiaries	29,472	3,794	1	11,132	(44,399)	–
Reinsurance assets	–	22,376	1,156	3,479	(16,283)	10,728
Other assets	391	21,852	1,038	25,103	(19,588)	28,796
Segregated funds net assets	–	120,623	7,159	70,086	(1,935)	195,933
Total assets	\$ 29,921	\$ 259,036	\$ 19,594	\$ 236,127	\$ (82,701)	\$ 461,977
Liabilities and equity						
Insurance contract liabilities	\$ –	\$ 105,815	\$ 7,135	\$ 94,199	\$ (16,783)	\$ 190,366
Investment contract liabilities	–	1,442	83	1,465	(450)	2,540
Other liabilities	460	19,225	3,642	32,051	(16,634)	38,744
Long-term debt	4,902	–	–	688	(87)	5,503
Liabilities for preferred shares and capital instruments	344	1,031	–	5,004	(2,367)	4,012
Segregated funds net liabilities	–	120,623	7,159	70,086	(1,935)	195,933
Shareholders' equity	24,215	10,900	1,575	32,057	(44,532)	24,215
Participating policyholders' equity	–	–	–	249	–	249
Non-controlling interest in subsidiaries	–	–	–	328	87	415
Total liabilities and equity	\$ 29,921	\$ 259,036	\$ 19,594	\$ 236,127	\$ (82,701)	\$ 461,977

Condensed Consolidating Statement of Income

	Manulife Financial Corporation (Guarantor)	John Hancock Life Insurance Company (U.S.A.) (Issuer)	John Hancock Life Insurance Company of New York (Issuer)	Other Subsidiaries	Consolidation Adjustments	Consolidated Manulife Financial Corporation
For the year ended December 31, 2012						
Revenue						
Net premium income	\$ –	\$ (679)	\$ (1,423)	\$ 12,836	\$ –	\$ 10,734
Net investment income (loss)	371	5,286	674	6,908	(1,397)	11,842
Net other revenue	3	1,681	136	7,632	(2,096)	7,356
Total revenue	\$ 374	\$ 6,288	\$ (613)	\$ 27,376	\$ (3,493)	\$ 29,932
Contract benefits and expenses						
Net benefits and claims	\$ –	\$ 3,219	\$ (1,074)	\$ 16,409	\$ (811)	\$ 17,743
Commissions, investment and general expenses	18	2,771	164	7,963	(1,362)	9,554
Goodwill impairment	–	–	–	200	–	200
Other expenses	303	169	12	2,102	(1,320)	1,266
Total contract benefits and expenses	\$ 321	\$ 6,159	\$ (898)	\$ 26,674	\$ (3,493)	\$ 28,763
(Loss) income before income taxes	\$ 53	\$ 129	\$ 285	\$ 702	\$ –	\$ 1,169
Income tax (expense) recovery	(14)	344	(79)	272	–	523
(Loss) income after income taxes	\$ 39	\$ 473	\$ 206	\$ 974	\$ –	\$ 1,692
Equity in net income (loss) of unconsolidated subsidiaries	1,697	189	–	662	(2,548)	–
Net income (loss)	\$ 1,736	\$ 662	\$ 206	\$ 1,636	\$ (2,548)	\$ 1,692
Net income (loss) attributed to:						
Non-controlling interest in subsidiaries	\$ –	\$ –	\$ –	\$ 31	\$ 28	\$ 59
Participating policyholders	–	(47)	44	(146)	46	(103)
Shareholders	1,736	709	162	1,751	(2,622)	1,736
	\$ 1,736	\$ 662	\$ 206	\$ 1,636	\$ (2,548)	\$ 1,692

Condensed Consolidating Statement of Income

	Manulife Financial Corporation (Guarantor)	John Hancock Life Insurance Company (U.S.A.) (Issuer)	John Hancock Life Insurance Company of New York (Issuer)	Other Subsidiaries	Consolidation Adjustments	Consolidated Manulife Financial Corporation
For the year ended December 31, 2011						
Revenue						
Net premium income	\$ –	\$ 5,466	\$ 351	\$ 11,687	\$ –	\$ 17,504
Net investment income (loss)	332	14,944	1,489	10,757	(1,285)	26,237
Net other revenue	(4)	1,883	129	11,499	(6,265)	7,242
Total revenue	\$ 328	\$ 22,293	\$ 1,969	\$ 33,943	\$ (7,550)	\$ 50,983
Contract benefits and expenses						
Net benefits and claims	\$ –	\$ 19,454	\$ 1,532	\$ 23,639	\$ (4,836)	\$ 39,789
Commissions, investment and general expenses	18	2,765	169	7,410	(1,487)	8,875
Goodwill impairment	–	665	–	–	–	665
Other expenses	320	404	16	1,993	(1,227)	1,506
Total contract benefits and expenses	\$ 338	\$ 23,288	\$ 1,717	\$ 33,042	\$ (7,550)	\$ 50,835
(Loss) income before income taxes	\$ (10)	\$ (995)	\$ 252	\$ 901	\$ –	\$ 148
Income tax (expense) recovery	(2)	256	(86)	(71)	–	97
(Loss) income after income taxes	\$ (12)	\$ (739)	\$ 166	\$ 830	\$ –	\$ 245
Equity in net income (loss) of unconsolidated subsidiaries	141	248	–	(491)	102	–
Net income (loss)	\$ 129	\$ (491)	\$ 166	\$ 339	\$ 102	\$ 245
Net income (loss) attributed to:						
Non-controlling interest in subsidiaries	\$ –	\$ –	\$ –	\$ 23	\$ 4	\$ 27
Participating policyholders	–	17	5	100	(33)	89
Shareholders	129	(508)	161	216	131	129
	\$ 129	\$ (491)	\$ 166	\$ 339	\$ 102	\$ 245

Consolidating Statement of Cash Flows

	Manulife Financial Corporation (Guarantor)	John Hancock Life Insurance Company (U.S.A.) (Issuer)	John Hancock Life Insurance Company of New York (Issuer)	Other Subsidiaries	Consolidation Adjustments	Consolidated Manulife Financial Corporation
For the year ended December 31, 2012						
Operating activities						
Net income (loss)	\$ 1,736	\$ 662	\$ 206	\$ 1,636	\$ (2,548)	\$ 1,692
Adjustments for non-cash items in net income (loss):						
Equity in net income of unconsolidated subsidiaries	(1,697)	(189)	—	(662)	2,548	—
Increase in insurance contract liabilities	—	6,455	56	6,931	—	13,442
Increase in investment contract liabilities	—	42	4	41	—	87
(Increase) decrease in reinsurance assets, net of premiums ceded relating to FDA coinsurance (note 8)	—	(2,207)	45	1,326	—	(836)
Amortization of premium/discount on invested assets	—	11	26	(10)	—	27
Other amortization	(2)	84	1	307	—	390
Net realized and unrealized (gains) losses including impairments	(20)	(614)	(68)	(1,558)	—	(2,260)
Deferred income tax expense (recovery)	14	(886)	(34)	(598)	—	(1,504)
Stock option expense	—	3	—	14	—	17
Goodwill impairment	—	—	—	200	—	200
Net income adjusted for non-cash items	\$ 31	\$ 3,361	\$ 236	\$ 7,627	\$ —	\$ 11,255
Dividends from unconsolidated subsidiary	854	—	—	—	(854)	—
Changes in policy related and operating receivables and payables	11	(1,084)	(1,910)	2,808	—	(175)
Cash provided by (used in) operating activities	\$ 896	\$ 2,277	\$ (1,674)	\$ 10,435	\$ (854)	\$ 11,080
Investing activities						
Purchases and mortgage advances	\$ —	\$ (20,070)	\$ (4,614)	\$ (57,689)	\$ —	\$ (82,373)
Disposals and repayments	—	18,803	6,512	46,235	—	71,550
Changes in investment broker net receivables and payables	—	(32)	(4)	(135)	—	(171)
Investment in common shares of subsidiaries	(686)	—	—	—	686	—
Capital contribution to subsidiaries	(293)	(113)	—	—	406	—
Return of capital from unconsolidated subsidiaries	—	39	—	—	(39)	—
Notes receivables from affiliates	—	—	—	45	(45)	—
Notes receivables from parent	—	—	—	(72)	72	—
Notes receivables from subsidiaries	24	7	—	(129)	98	—
Cash (used in) provided by investing activities	\$ (955)	\$ (1,366)	\$ 1,894	\$ (11,745)	\$ 1,178	\$ (10,994)
Financing activities						
(Decrease) increase in repurchase agreements and securities sold but not yet purchased	\$ —	\$ (177)	\$ —	\$ 191	\$ —	\$ 14
Issue of capital instruments, net	—	—	—	497	—	497
Repayment of capital instruments	—	—	—	(1,000)	—	(1,000)
Net (redemption) increase of investment contract liabilities	—	(36)	25	(143)	—	(154)
Funds redeemed, net	—	(2)	—	(9)	—	(11)
Secured borrowings from securitization transactions	—	—	—	500	—	500
Changes in bank deposits, net	—	—	—	880	—	880
Shareholder dividends paid in cash	(733)	—	—	—	—	(733)
(Distribution to) contribution from non-controlling interest	—	(6)	—	35	—	29
Common shares issued, net	—	—	—	686	(686)	—
Preferred shares issued, net	684	—	—	—	—	684
Dividends paid to parent	—	—	—	(854)	854	—
Capital contributions by parent	—	—	—	406	(406)	—
Return of capital to parent	—	—	—	(39)	39	—
Notes payable to affiliates	—	(45)	—	—	45	—
Notes payable to parent	—	129	—	(31)	(98)	—
Notes payable to subsidiaries	72	—	—	—	(72)	—
Cash provided by (used in) financing activities	\$ 23	\$ (137)	\$ 25	\$ 1,119	\$ (324)	\$ 706
Cash and short-term securities						
Increase (decrease) during the year	\$ (36)	\$ 774	\$ 245	\$ (191)	\$ —	\$ 792
Effect of foreign exchange rate changes on cash and short-term securities	—	(65)	(5)	(151)	—	(221)
Balance, January 1	58	3,038	230	8,954	—	12,280
Balance, December 31	\$ 22	\$ 3,747	\$ 470	\$ 8,612	\$ —	\$ 12,851
Cash and short-term securities						
Beginning of year						
Gross cash and short-term securities	\$ 58	\$ 3,363	\$ 255	\$ 9,137	\$ —	\$ 12,813
Net payments in transit, included in other liabilities	—	(325)	(25)	(183)	—	(533)
Net cash and short-term securities, January 1	\$ 58	\$ 3,038	\$ 230	\$ 8,954	\$ —	\$ 12,280
End of year						
Gross cash and short-term securities	\$ 22	\$ 4,122	\$ 492	\$ 8,848	\$ —	\$ 13,484
Net payments in transit, included in other liabilities	—	(375)	(22)	(236)	—	(633)
Net cash and short-term securities, December 31	\$ 22	\$ 3,747	\$ 470	\$ 8,612	\$ —	\$ 12,851
Supplemental disclosures on cash flow information:						
Interest paid	\$ 307	\$ 172	\$ 4	\$ 1,205	\$ (628)	\$ 1,060
Interest received	\$ —	\$ 4,115	\$ 447	\$ 4,178	\$ (1)	\$ 8,739
Income taxes paid	\$ —	\$ —	\$ 151	\$ 318	\$ —	\$ 469

Consolidating Statement of Cash Flows

	Manulife Financial Corporation (Guarantor)	John Hancock Life Insurance Company (U.S.A.) (Issuer)	John Hancock Life Insurance Company of New York (Issuer)	Other Subsidiaries	Consolidation Adjustments	Consolidated Manulife Financial Corporation
For the year ended December 31, 2011						
Operating activities						
Net income (loss)	\$ 129	\$ (491)	\$ 166	\$ 339	\$ 102	\$ 245
Adjustments for non-cash items in net income (loss):						
Equity in net income of unconsolidated subsidiaries	(141)	(248)	—	491	(102)	—
Increase in insurance contract liabilities	—	17,113	482	10,339	—	27,934
(Decrease) increase in investment contract liabilities	—	(488)	—	552	—	64
(Increase) decrease in reinsurance assets	—	(6,301)	(298)	4,747	—	(1,852)
Amortization of premium/discount on invested assets	—	30	52	(57)	—	25
Other amortization	(1)	82	1	263	—	345
Net realized and unrealized gains including impairments	—	(10,151)	(874)	(5,734)	—	(16,759)
Deferred income tax expense (recovery)	—	264	18	(492)	—	(210)
Stock option expense	—	6	—	17	—	23
Goodwill impairment	—	665	—	—	—	665
Net (loss) income adjusted for non-cash items	\$ (13)	\$ 481	\$ (453)	\$ 10,465	\$ —	\$ 10,480
Dividends from unconsolidated subsidiaries	1,400	37	—	—	(1,437)	—
Changes in policy related and operating receivables and payables	—	3,386	547	(3,545)	—	388
Cash provided by (used in) operating activities	\$1,387	\$ 3,904	\$ 94	\$ 6,920	\$ (1,437)	\$ 10,868
Investing activities						
Purchases and mortgage advances	\$ —	\$ (27,725)	\$ (6,344)	\$ (48,761)	\$ —	\$ (82,830)
Disposals and repayments	—	24,651	6,004	41,196	—	71,851
Changes in investment broker net receivables and payables	—	28	3	191	—	222
Notes receivables from affiliates	—	—	—	(203)	203	—
Notes receivables from parent	—	—	—	406	(406)	—
Notes receivables from subsidiaries	28	10	—	—	(38)	—
Capital contribution to unconsolidated subsidiary	(281)	(109)	—	—	390	—
Return of capital from unconsolidated subsidiaries	—	133	—	—	(133)	—
Investment in common shares of subsidiaries	(391)	—	—	—	391	—
Cash (used in) provided by investing activities	\$ (644)	\$ (3,012)	\$ (337)	\$ (7,171)	\$ 407	\$ (10,757)
Financing activities						
Increase (decrease) in repurchase agreements and securities sold but not yet purchased	\$ —	\$ 120	\$ —	\$ (54)	\$ —	\$ 66
Repayment of long-term debt	—	—	—	(396)	—	(396)
Issue of capital instruments, net	—	—	—	547	—	547
Repayment of capital instruments	—	—	—	(550)	—	(550)
Net increase (redemption) of investment contract liabilities	—	83	43	(694)	—	(568)
Funds (redeemed) borrowed, net	—	(6)	—	50	—	44
Secured borrowings from securitization transactions	—	—	—	250	—	250
Changes in bank deposits, net	—	—	—	1,603	—	1,603
Shareholder dividends paid in cash	(716)	—	—	(1)	—	(717)
Distribution to non-controlling interest	—	—	—	(17)	—	(17)
Common shares issued, net	7	—	—	386	(391)	2
Preferred shares issued, net	391	—	—	—	—	391
Dividends paid to parent	—	—	—	(1,437)	1,437	—
Return of capital to parent	—	—	—	(133)	133	—
Capital contributions by parent	—	—	—	390	(390)	—
Notes payable to affiliates	—	203	—	—	(203)	—
Notes payable to parent	—	—	—	(38)	38	—
Notes payable to subsidiaries	(406)	—	—	—	406	—
Cash (used in) provided by financing activities	\$ (724)	\$ 400	\$ 43	\$ (94)	\$ 1,030	\$ 655
Cash and short-term securities						
Increase (decrease) during the year	\$ 19	\$ 1,292	\$ (200)	\$ (345)	\$ —	\$ 766
Effect of foreign exchange rate changes on cash and short-term securities	—	38	9	145	—	192
Balance, January 1	39	1,708	421	9,154	—	11,322
Balance, December 31	\$ 58	\$ 3,038	\$ 230	\$ 8,954	\$ —	\$ 12,280
Cash and short-term securities						
Beginning of year						
Gross cash and short-term securities	\$ 39	\$ 2,063	\$ 443	\$ 9,304	\$ —	\$ 11,849
Net payments in transit, included in other liabilities	—	(355)	(22)	(150)	—	(527)
Net cash and short-term securities, January 1	\$ 39	\$ 1,708	\$ 421	\$ 9,154	\$ —	\$ 11,322
End of year						
Gross cash and short-term securities	\$ 58	\$ 3,363	\$ 255	\$ 9,137	\$ —	\$ 12,813
Net payments in transit, included in other liabilities	—	(325)	(25)	(183)	—	(533)
Net cash and short-term securities, December 31	\$ 58	\$ 3,038	\$ 230	\$ 8,954	\$ —	\$ 12,280
Supplemental disclosures on cash flow information:						
Interest paid	\$ 321	\$ 92	\$ 3	\$ 1,286	\$ (649)	\$ 1,053
Interest received	\$ —	\$ 3,999	\$ 446	\$ 3,989	\$ (39)	\$ 8,395
(Tax refunds received) income taxes paid	\$ (10)	\$ (313)	\$ 71	\$ 507	\$ —	\$ 255

Note 25 Comparatives

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