2015 Embedded Value Report for Manulife's Insurance and Other Wealth Business

(Excludes our Wealth and Asset Management, Bank and Property and Casualty Reinsurance businesses)

Background:

Embedded Value ("EV") is a measure of the present value of shareholders' interests in the expected future distributable earnings on in-force business reflected in the Consolidated Statements of Financial Position of Manulife Financial Corporation (the "Company" or "Manulife"). It does not include any value associated with future new business. The change in EV between reporting periods is used by Manulife's management as a measure of the value created by the Company's operations in the reporting period. New Business Value ("NBV") is the change in EV as a result of sales in the reporting period. EV and NBV are non-GAAP financial measures. A financial measure is considered a non-GAAP measure for Canadian securities law purposes if it is presented other than in accordance with generally accepted accounting principles used for the Company's audited financial statements. Non-GAAP financial measures are not defined terms under GAAP and, therefore, are unlikely to be comparable to similar terms used by other issuers. Therefore, they should not be considered in isolation or as a substitute for any other financial information prepared in accordance with GAAP. For more information on non-GAAP financial measures, including those referred to above, see "Performance and Non-GAAP Measures" in our 2015 management's discussion and analysis.

We use a traditional deterministic discounted cash flow methodology for determining our EV and NBV. This methodology makes implicit allowance for all material sources of risk embedded in our products through the use of a risk-adjusted discount rate. It should be noted that this allowance for risk is approximate and may not correspond with the allowance determined using market consistent techniques.

The calculation of EV and NBV necessarily requires a number of assumptions with respect to future experience. Future experience may vary from that assumed in the calculation, which may materially impact EV and NBV. See "Caution regarding forward-looking statements" below.

Willis Towers Watson Review Opinion on Embedded Value

Manulife and its subsidiaries have prepared EV results for the year ended December 31, 2015. The EV results, together with a description of the methodology and assumptions that have been used, were shown in Manulife's "2015 Embedded Value Report for Manulife's Insurance and Other Wealth Business".

Our scope of work covered:

- a review of methodology and assumptions used to determine the EV results for the year ended 2015, and the NBV for 2015 and the first quarter of 2016, and
- a review of the results of Manulife's calculation of the EV results.

Willis Towers Watson has concluded that:

- the methodology used for the North American and Asian business is consistent with recent industry practice in each respective region as regards traditional embedded value calculations based on discounted values of projected deterministic after-tax cash flows. This methodology makes an overall allowance for risk for the company through the use of risk discount rates which incorporate risk margins which vary by business, together with an explicit allowance for the cost of holding required capital. Willis Towers Watson has not considered how this compares to a capital markets valuation of such risk (so called "market consistent valuation"),
- the economic assumptions used have made allowance for the Company's current and expected future asset mix and investment strategy and are internally consistent, and
- the operating assumptions have been set with appropriate regard to past, current and expected future experience, taking into account the nature of the business.

Willis Towers Watson has performed a number of high-level checks on the results of the calculations, without undertaking detailed checks on the models and processes involved, and has confirmed that no issues have been discovered that have a material impact on the disclosed EV as at December 31, 2015, the NBV for the twelve-month period January 1, 2015 to December 31, 2015, the NBV for the three-month period January 1, 2016 to March 31, 2016, the analysis of movement in EV for the twelve-month period December 31, 2014 to December 31, 2015, or the sensitivity analysis.

Embedded Value Results

Embedded Value Summary

As at December 31, (C$ millions)		2015		2014
Adjusted net worth excluding holding company activities[1]	**$**	**39,957**	$	35,428
Present value of future profits	**$**	**35,652**	$	28,646
Cost of capital		**(15,608)**		(12,678)
Value of in-force business[2]	**$**	**20,044**	$	15,968
Holding company activities				
Carrying value of debt and preferred shares	**$**	**(12,241)**	$	(12,004)
Embedded value	**$**	**47,760**	$	39,392

(1) The adjusted net worth shown above reflects the equity for the Company, adjusted for the items listed under the reconciliation of shareholders' equity to adjusted net worth.

(2) The value of in-force business excludes the Wealth and Asset Management ("WAM"), Manulife Bank of Canada ("Bank") and Property and Casualty ("P&C") Reinsurance businesses.

As at December 31, 2015, Manulife's EV was $47.8 billion, an increase of 21% or $8.4 billion from the EV as at December 31, 2014. EV before acquisitions, currency and capital movements increased by $3.6 billion, primarily due to the interest on the prior year's EV and the EV created by new business, partially offset by the unfavourable impact of changes in operating assumptions and operating experience largely as a result of refinements to the projection of liability cash flows as part of the annual review of actuarial methods and assumptions, and unfavourable investment experience. Acquisitions, currency and capital movements increased EV by $4.8 billion, due to the appreciation of the U.S. dollar, Hong Kong dollar and Japanese yen compared with the Canadian dollar, and the issue of $2.2 billion of common shares, partially offset by the impact of acquisitions and the payment of common shareholder dividends of $1.3 billion.

Embedded Value Movement

For the year ended December 31, (C$ millions)		2015		2014[1]
Embedded value as at January 1	**$**	**39,392**	$	41,705
Impact of restatement[2]		**-**		(7,670)
Current period earnings from WAM, Bank and P&C Reinsurance businesses[3],[4]		**792**		710
Interest on embedded value		**3,384**		2,788
New business value		**955**		697
Changes in investment assumptions and investment experience[5]		**(426)**		524
Changes in operating assumptions and operating experience		**(859)**		(624)
Unallocated overhead expenses[6]		**(295)**		(206)
Embedded value before acquisitions, currency and capital movements	**$**	**42,943**	$	37,924
Impact of acquisitions	**$**	**(2,515)**	$	-
Currency		**6,496**		2,290
Common shareholder dividends		**(1,301)**		(1,029)
Other capital movements[7]		**2,137**		207
Embedded value as at December 31	**$**	**47,760**	$	39,392

(1) Certain 2014 comparative amounts have been reclassified to conform to the 2015 presentation.

(2) EV was restated as at January 1, 2014 due to several refinements to our EV and NBV methods and assumptions.

(3) The value of in-force business excludes WAM, Bank and P&C Reinsurance businesses. As a result, the current period earnings from WAM, Bank and P&C Reinsurance businesses contribute to the total embedded value movement.

(4) P&C Reinsurance business refers to our property and casualty reinsurance business.

(5) Includes changes in the fair value adjustments made for the Company's long-term debt, preferred shares and surplus assets.

(6) Unallocated overhead expenses include both Group unallocated expenses and Asia regional office unallocated expenses.

(7) Includes share issues, option exercises and preferred share dividends. $2.2 billion of common shares were issued in 2015 in exchange for subscription receipts that were issued as part of the financing of the acquisition of the Canadian-based operations of Standard Life.

During 2015 the Company acquired the Canadian-based operations of Standard Life plc ("Standard Life") and acquired New York Life's Retirement Plan Services ("RPS") business. These acquisitions resulted in a decrease in EV of $2.5 billion as EV excludes goodwill and intangibles.

Impact of Acquisitions

For the year ended December 31, 2015 (C$ millions)		Standard Life		New York Life RPS[1]		Total
Acquired EV	$	2,244	$	28	**$**	**2,272**
Purchase consideration		(4,000)		(787)		**(4,787)**
Total impact of acquisitions	$	(1,756)	$	(759)	**$**	**(2,515)**

(1) The impact of the acquisition of New York Life's RPS business included the assumption by New York Life of the Company's in-force participating life insurance closed block through net 60% reinsurance agreements.

On April 8, 2015, the Company announced a 15-year regional distribution agreement with DBS in Asia. As the agreement became effective on January 1, 2016, it will affect EV and NBV in 2016. In 2015, payments to DBS of $796 million were made which are included in shareholders' equity and adjusted net worth as other assets as at December 31, 2015.

Embedded Value Components by Division

As at December 31, 2015 (C$ millions)	Asia	Canada	U.S.	Corporate and Other	Total
Required capital[1]	$ 3,788	$ 7,621	$ 14,808	$ 129	**$ 26,346**
Allocated surplus[1]	2,966	2,718	5,282	2,645	**13,611**
Adjusted net worth excluding holding company activities[2]	$ 6,754	$ 10,339	$ 20,090	$ 2,774	**$ 39,957**
Present value of future profits	$ 9,969	$ 9,653	$ 15,975	$ 55	**$ 35,652**
Cost of capital	(1,553)	(4,188)	(9,818)	(49)	**(15,608)**
Value of in-force business[3]	$ 8,416	$ 5,465	$ 6,157	$ 6	**$ 20,044**
Embedded value excluding holding company activities	$ 15,170	$ 15,804	$ 26,247	$ 2,780	**$ 60,001**
Holding company activities					
Carrying value of debt and preferred shares					**$ (12,241)**
Total embedded value					**$ 47,760**

(1) Required capital is based on the required capital ratios as outlined in the "Assumptions" section below. The allocated surplus by division is based on our capital ratio operating range for each territory in Asia, Canada and the U.S., with the remainder allocated to Corporate and Other.

(2) The adjusted net worth excluding holding company activities shown above reflects the equity for the Company, adjusted for the items listed under the reconciliation of shareholders' equity to adjusted net worth.

(3) The value of in-force business excludes WAM, Bank and P&C Reinsurance businesses.

Reconciliation of Shareholders' Equity to Adjusted Net Worth

As at December 31, (C$ millions)	2015	2014[1]
Common Shareholders' equity on Consolidated Statements of Financial Position	**$ 38,466**	$ 30,613
Carrying value of debt and preferred shares	**12,241**	12,004
Fair value adjustments[2]	**65**	(473)
Goodwill and intangibles for Insurance and Other Wealth businesses[3]	**(4,100)**	(3,425)
Goodwill and intangibles for WAM, Bank and P&C Reinsurance businesses[4]	**(4,293)**	(1,388)
Impact of differences between IFRS and statutory values of insurance and investment contract liabilities and assets in Asia[5]	**(2,422)**	(1,903)
Adjusted net worth excluding holding company activities	**$ 39,957**	$ 35,428

(1) Certain 2014 comparative amounts have been reclassified to conform to the 2015 presentation.

(2) Fair value adjustments are made for the Company's long-term debt, and preferred shares, which are measured at amortized cost under IFRS reporting and fair value for EV reporting. Adjustments are also made for surplus assets which are measured at amortized cost under IFRS reporting but fair value for EV reporting. The adjustment decreased during 2015 primarily due to the decrease in the fair value of preferred shares.

(3) Goodwill and intangible assets are a component of IFRS adjusted net worth; however, they are excluded from EV. The acquisition of Standard Life contributed $389 million to the year end 2015 goodwill and intangible assets for Insurance and Other Wealth business.

(4) Goodwill and intangible assets are a component of IFRS adjusted net worth; however, they are excluded from EV. The acquisition of New York Life's RPS business and the Standard Life acquisition contributed $2,658 million to the year end 2015 goodwill and intangible assets for WAM, Bank and P&C Reinsurance businesses.

(5) This adjustment represents the difference between adjusted net worth for our Asian business as measured under IFRS for Canadian insurance companies, and adjusted net worth for our Asian business as measured under the relevant local statutory accounting bases. The adjustment increased during 2015 primarily due to the strengthening of the Hong Kong dollar, U.S. dollar and Japanese Yen compared with the Canadian dollar during the period.

Projected After-tax Discounted Distributable Earnings

(C$ millions)	Discounted Amount
December 31, 2015	$ 1,370
2016 – 2020	13,748
2021 – 2025	11,533
2026 – 2030	7,859
2031 – 2035	5,325
2036 and later	7,925
Total	$ 47,760

The December 31, 2015 value represents allocated surplus, net of holding company activities, as of the valuation date. The remaining cash flows are distributable earnings expected to emerge after the valuation date. Distributable earnings for Canada and the U.S. reflect IFRS reserving requirements for Canadian insurance companies and MCCSR required capital. Distributable earnings for Asia reflect local regulatory reserving and capital requirements. The sum of the discounted distributable earnings equals the EV as at December 31, 2015.

New Business Value Results

	New Business Value				APE(1)				New Business Value margin(3)			
(C$ millions)	**2016 Q1**	2015 Q1	**2015**	2014	**2016 Q1**	2015 Q1	**2015**	2014	**2016 Q1**	2015 Q1	**2015**	2014
Canada	**$ 47**	$ 45	**$ 188**	$ 176	**$ 249**	$ 344	**$ 1,185**	$ 782	**19.0%**	13.1%	**15.8%**	22.5%
U.S.	**19**	$ 6	**76**	115	**167**	136	**625**	520	**11.5%**	4.4%	**12.1%**	22.1%
Asia												
Hong Kong	**67**	59	**335**	227	**149**	91	**503**	351	**44.9%**	64.6%	**66.5%**	64.7%
Japan	**96**	40	**255**	103	**361**	254	**1,152**	741	**26.5%**	15.9%	**22.2%**	13.9%
Other Asia	**58**	19	**101**	76	**256**	121	**592**	438	**22.6%**	15.8%	**17.2%**	17.4%
Total(2)	**$ 287**	$ 169	**$ 955**	$ 697	**$ 1,182**	**$ 946**	**$ 4,057**	$ 2,832	**24.3%**	17.9%	**23.5%**	24.6%

(1) Annualized Premium Equivalent ("APE") is calculated as 100% of annualized first year premiums for recurring premium products, and as 10% of single premiums for single premium products and wealth management products. APE displayed here does not include the WAM or Bank businesses.

(2) NBV does not include WAM, Bank and Property and Casualty Reinsurance businesses.

(3) New Business Value ("NBV") margin is calculated as NBV divided by APE and is a non-GAAP measure. Certain comparative amounts have been restated to conform to the current period's methodology.

For the year ended December 31, 2015, Manulife's NBV increased by 37% compared to the NBV for the year ended December 31, 2014. NBV in the first quarter of 2016 increased by 70% compared to NBV in the first quarter of 2015. These increases were driven by strong sales growth across our Asia businesses. Total NBV margins have been stable, with variances by business explained below.

The NBV margin increased in Japan in 2015 compared to 2014 primarily due to higher sales, a more favourable business mix and management actions to improve product margins. The NBV margin decreased in the U.S. as sales transitioned to the new lower risk Performance Long Term Care product. The NBV margin decreased in Canada primarily due to a less favourable business mix in Group Benefits (excluding Group Benefits the NBV margin for Canada was 19.4% in 2015 and 20.7% in 2014).

The NBV margin decreased in Hong Kong in the first quarter of 2016 compared to the first quarter of 2015 primarily due to a change in business mix. The NBV margin in Japan in the first quarter of 2016 increased due to management actions to improve product margins during 2015, a more favourable business mix and higher sales. The NBV margins increased in Other Asia in the first quarter of 2016 primarily due to higher sales. The NBV margin increased in the U.S. in the first quarter of 2016 due to improved product margins. The NBV margin increased in Canada in the first quarter of 2016 primarily due to a more favourable business mix in Group Benefits.

Potential Impact on Embedded Value and New Business Value Arising from Changes in Assumptions

The following table outlines the potential impact on EV at December 31, 2015, and NBV for the year ended December 31, 2015 of changes in the assumptions used for EV and NBV, respectively.

This includes sensitivities due to specific changes in market prices and interest rate levels projected using internal models as at a specific date. The sensitivities measure the impact of changing one factor at a time and assume that all other factors remain unchanged. For example, the discount rate, public equity return, and alternative long-duration asset ("ALDA") return remain unchanged when we test a 50 basis points ("bps") increase or decrease in fixed income market yields. 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 investment return and future investment activity assumptions; changes in business mix, effective tax rates and other market factors; and the general limitations of our internal models.

The potential impact on EV of changes in assumptions includes impacts due to changes in adjusted net worth, the present value of expected future earnings, and the present value of the cost of holding capital to support the in-force business. The potential impact on NBV of changes in assumptions includes impacts due to changes in the present value of expected future earnings on new business, and the present value of the cost of holding capital to support new business. We reflected a change in reserve assumptions only where the assumptions are set with reference to current market rates. This applies to the change in fixed income market yield in Canada, the U.S. and some Asia territories.

These estimates assume that the performance of the dynamic hedging program for a 50 bps change in fixed income market yields, and a 10% immediate change in public equity and ALDA market values would not completely offset the gain/loss from the dynamically hedged variable annuity guarantee liabilities. They assume that the hedge assets are based on the actual position at the period end, and that equity hedges in the dynamic program are rebalanced at 5% intervals. In addition, we assume that the macro hedge assets are rebalanced in line with market changes. For variable annuity guarantee liabilities that are dynamically hedged, it is assumed that interest rate hedges are rebalanced at 20 basis point intervals.

The sensitivities should only be viewed as directional estimates of the underlying sensitivities for the respective factors based on the changes in assumptions outlined below. Given the nature of these calculations, we cannot provide assurance that the actual impact on EV or NBV will be as indicated.

Potential Impact on Embedded Value Arising from Changes in Assumptions[(1),(2)]

As at December 31, 2015

(C$ millions)	Canada	U.S.	Asia	Corporate and Other	Total
Embedded Value excluding holding company activities	**$ 15,804**	**$ 26,247**	**$ 15,170**	**$ 2,780**	**$ 60,001**
Carrying value of debt and preferred shares					(12,241)
Total Embedded Value					**47,760**
Potential impact on Embedded Value of changes in assumptions:					
100 bps increase in discount rate	$ (1,288)	$ (2,173)	$ (862)	$ (6)	$ (4,329)
100 bps decrease in discount rate	1,520	2,617	1,017	6	5,160
50 bps increase in fixed income market yields for all future years	428	926	432	(235)	1,551
50 bps decrease in fixed income market yields for all future years	(539)	(989)	(888)	257	(2,159)
100 bps increase in public equity and ALDA returns[(3)]	1,097	1,522	534	2	3,155
100 bps decrease in public equity and ALDA returns[(3)]	(1,132)	(1,820)	(527)	(6)	(3,485)
10% immediate increase in public equity and ALDA market values [(3)]	847	2,146	570	(182)	3,381
10% immediate decrease in public equity and ALDA market values[(3)]	(872)	(2,195)	(653)	148	(3,572)
Required surplus – relative 25% increase[(4)]	(1,107)	(2,542)	(399)	(10)	(4,058)

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

(2) The EV sensitivities include impacts from both adjusted net worth, where applicable, and the value of in-force business. The adjusted net worth is affected by the 50 bps changes in fixed income market yields, which causes changes in the fair value of fixed income assets held, and by the 10% immediate increase and decrease in public equity and ALDA market values.

(3) ALDA include commercial real estate, timber and farmland real estate, oil and gas, and private equities.

(4) This shows the impact of increasing required capital levels by a relative 25% above those shown in the assumptions table below. For example, the MCCSR ratio for Canada would be 187.5% compared to a base of 150%.

The potential impact on EV of changes in fixed income market yields for all future years is proportionately higher in Asia than other divisions primarily due to the impact of changes in fixed income rates on the local reserve basis in Hong Kong. The potential impact on EV of changes in public equity and ALDA returns, and public equity and ALDA market values, is lower in Asia than other divisions primarily due to the lower use of ALDA and the high proportion of participating business.

Potential Impact on New Business Value Arising from Changes in Assumptions[1],[2]

(C$ millions)	Canada	U.S.	Japan	Hong Kong	Other Asia	Total
New Business Value for the period January 1 to December 31, 2015	**$ 188**	**$ 76**	**$ 255**	**$ 335**	**$ 101**	**$ 955**
100 bps increase in discount rate	$ (37)	$ (19)	$ (52)	$ (30)	$ (26)	$ (164)
100 bps decrease in discount rate	45	24	61	35	32	197
50 bps increase in fixed income market yields for all future years	41	15	84	50	8	198
50 bps decrease in fixed income market yields for all future years	(43)	(15)	(83)	(65)	(10)	(216)
100 bps increase in public equity and ALDA return[3]	17	15	16	18	9	75
100 bps decrease in public equity and ALDA return[3]	(17)	(12)	(16)	(19)	(8)	(72)
10% immediate increase in public equity and ALDA market values[3]	9	6	-	1	10	26
10% immediate decrease in public equity and ALDA market values[3]	(13)	(5)	-	(2)	(10)	(30)
Required surplus – relative 25% increase[4]	(26)	(34)	(28)	(10)	(13)	(111)

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

(2) For the purpose of NBV sensitivities, assumption changes have been assumed to occur after the point-of-sale. Therefore, the NBV sensitivity gives an indication of how the NBV written during the year would have been affected by an economic shock occurring after the point-of-sale. NBV sensitivities take into account hedging strategies on new business which are intended to be implemented shortly after sale. Actual changes in NBV due to experience being different from assumed may vary from what is shown above as a result of changes in product mix.

(3) ALDA include commercial real estate, timber and farmland real estate, oil and gas, and private equities.

(4) This shows the impact of increasing required capital levels by a relative 25% above those shown in the assumptions table below. For example, the MCCSR ratio for Canada would be 187.5% compared to a base of 150%.

The potential impact of changes in fixed income market rates for all future years is relatively higher for NBV than EV. This occurs because invested assets partially mitigate exposure to changes in fixed income market yields, and EV has relatively higher invested assets than NBV.

Methodology

The value of in-force business and NBV do not include the Wealth and Asset Management ("WAM"), Bank or Property and Casualty Reinsurance businesses. The adjusted net worth includes all of Manulife's equity, adjusted for the items listed under the reconciliation of shareholders' equity to adjusted net worth.

The value of in-force business has been calculated using the financial position of the Company as at September 30, 2015 projected to December 31, 2015, allowing for the actual change in key elements such as the market value of securities, the contribution of new business and policy experience. As such, management believes that the value is a fair representation of the Company's EV as at December 31, 2015.

The EV is the sum of the adjusted net worth and the value of in-force business. The adjusted net worth is the IFRS shareholders' equity adjusted for goodwill and intangibles, fair value of surplus assets, the carrying value of debt and preferred shares, and local statutory balance sheet, regulatory reserve, and capital for our Asian business[1].

The value of in-force business in Canada and the U.S. is the present value of expected future IFRS earnings on in-force business less the present value of the cost of holding capital to support the in-force business under the Minimum Continuing Capital and Surplus Requirements ("MCCSR") framework. The value of in-force business in Asia reflects local statutory earnings and capital requirements.

NBV is the change in EV as a result of sales in the reporting period. NBV is calculated as the present value of shareholders' interests in the expected future distributable earnings on new business, less the present value of the cost of holding capital as calculated under the MCCSR framework in Canada and the U.S., and the local capital requirements in Asia.

1 In Japan, as a simplification, the fair value of balance sheet assets is reflected in both the local statutory balance sheet and projected local statutory earnings.

Investment assumptions are consistent with product pricing, updated to reflect market assumptions consistent with the market environment in the quarter the business was sold. Best estimate fixed income yields are updated quarterly, and long-term expected yields for ALDA are typically reviewed during the annual review of actuarial methods and assumptions.

Assumptions

The principal economic assumptions used in the EV calculation as at December 31, 2015, and the NBV calculation for the year ended December 31, 2015 were:

Principal Economic Assumptions as at December 31, 2015

Territory	Canada	U.S.	Japan	Hong Kong
Required capital	**150% MCCSR**	**150% MCCSR**	**400% solvency margin**	**150% solvency margin**
Discount rate	**7.5%**	**8.25%**	**5.75%**	**10.0%**
Public equity return	**8.9%**	**9.8%**	**6.0%**	**11.5%**
Jurisdictional income tax rate(1)	**26.75%**	**35.0%**	**28.85%**	**16.5%**
Reinvestment assumption for 10-year government bonds:				
Immediate	**1.45%**	**2.28%**	**0.27%**	**1.54%**
10 years in future	**2.82%**	**3.14%**	**1.80%**	**2.46%**
20 years in future	**3.71%**	**3.96%**	**2.49%**	**3.04%**
30 years in future	**4.19%**	**4.34%**	**2.93%**	**3.37%**

(1) For Hong Kong, individual insurance products are taxed on a premium tax basis due to a Company election under Hong Kong tax regulations.

Assumption	Additional information
Required Capital:	The capital ratios in jurisdictions not included in the table above are as follows: Mainland China — 100% of required minimum solvency margin Indonesia — 120% of regulatory risk-based capital requirement Malaysia — 160% of regulatory capital adequacy ratio The Philippines — 125% of regulatory risk-based capital requirement Singapore — 200% of regulatory capital adequacy ratio Vietnam — 100% of requirement minimum solvency margin
Discount rate:	A risk-adjusted discount rate is used which is based on the risk profile of the business and makes an allowance for all material sources of risk embedded in our products, the risk that actual experience in future years differs from that assumed, and for the economic cost of capital. The discount rate is set based on our target equity/debt structure, which assumes that 25% of the capital is in the form of debt.
Public equity returns:	The equity return assumptions are based on long-term historical observed experience. The public equity return assumptions in Asia excluding Hong Kong and Japan vary between 9.0% and 11.0%.
Risk free interest rates:	The risk free interest rates are based on forward interest rates implied by the equilibrium risk-free market curve at December 31, 2015. The rates transition to the long-term risk free interest rates over a 60 year period. The long term risk free interest rates were developed in accordance with Canadian actuarial standards of practice.
Expenses	Expenses are allocated to acquisition of new business and maintenance of in-force business and are derived based on internal cost studies. Expenses are then projected into the future with an allowance for inflation. Where certain expenses were identified as being non-recurring and distinct in nature these expenses were excluded from the analysis. An allowance has been made for planned expense savings as a result of the Company's efficiency and effectiveness ("E&E") initiative. The present value of the future expense savings associated with the business covered in our EV disclosure contributed $600 million to our EV. This includes the savings from our E&E program to be achieved in future years, and not allocated to future new business or businesses not covered in the EV. Unallocated Group office and Asia regional office expenses are charged to EV as incurred.
Exchange rates:	The foreign exchange rate used for the translation of EV results at December 31, 2014 and 2015 are the respective year-end

Assumption	Additional information
	statements of financial position rates. The foreign exchange rates used for translation of the NBV results each quarter are the respective quarterly statements of income rates.
Other assumptions:	Other operating assumptions such as mortality, morbidity, lapses and expenses are consistent with best estimate assumptions used in the valuation of insurance and investment contract liabilities as at December 31, 2015 on an IFRS basis. Local statutory earnings in Asia are calculated using assumptions as required under the local reserving bases.

The principal economic assumptions used in the EV calculation as at December 31, 2014, and the NBV for the year ended December 31, 2014 were:

Principal Economic Assumptions as at December 31, 2014

	Canada	U.S.	Japan	Hong Kong
Capital ratio	150% MCCSR	150% MCCSR	400% solvency margin	150% solvency margin
Discount rate	7.5%	8.25%	5.75%	10.0%
Equity return	8.9%	9.8%	6.0%	11.5%
Income tax rate[(1)]	26.5%	35.0%	30.78%	16.5%
Reinvestment assumption for 10-year government bonds				
Immediate	1.86%	2.17%	0.32%	1.85%
10 years in future	2.74%	2.83%	1.89%	2.83%
20 years in future	3.09%	3.61%	1.93%	2.86%
30 years in future	3.81%	4.09%	2.61%	3.28%

(1) For Hong Kong, individual insurance products are taxed on a premium tax basis due to a Company election under Hong Kong tax regulations.

The principal economic assumptions used in the NBV calculation for the quarter ended March 31, 2016 were the same as at December 31, 2015 except as noted below:

Principal Economic Assumptions for the quarter ended March 31, 2016

	Canada	U.S.	Japan	Hong Kong
Reinvestment assumption for 10-year government bonds				
Immediate	1.31%	1.78%	(0.05)%	1.26%
10 years in future	2.71%	2.73%	0.89%	2.39%
20 years in future	3.64%	3.72%	2.09%	2.97%
30 years in future	4.14%	4.18%	2.66%	3.32%

Caution regarding forward-looking statements

This report contains forward-looking statements which are made pursuant to the “safe harbor” provisions of Canadian provincial securities laws and the U.S. Private Securities Litigation Reform Act of 1995. Such statements include, but are not limited to projections and statements regarding future experience.

Although we believe that the expectations reflected in such forward-looking statements are reasonable, such statements involve risks and uncertainties, and undue reliance should not be placed on such statements.

Certain material factors or assumptions are applied in making forward-looking statements, including the assumptions described in this report, and actual results may differ materially from those expressed or implied in such statements.

Important factors that could cause actual results to differ materially from expectations include but are not limited to: general business and economic conditions (including but not limited to the performance, volatility and correlation of equity markets, interest rates, credit and swap spreads, currency rates, investment losses and defaults, market liquidity and creditworthiness of guarantors, reinsurers and counterparties); changes in laws and regulations; changes in accounting standards applicable in any of the territories in which we operate; changes in regulatory capital requirements in any of the territories in which we operate; our ability to execute strategic plans and changes to strategic plans; downgrades in our insurance subsidiaries financial strength or credit ratings; our ability to maintain our reputation; the establishment of provisions against future tax assets; the accuracy of estimates relating to morbidity, mortality and policyholder behaviour; the accuracy of other estimates used in applying accounting policies actuarial methods, and EV and NBV methods; our ability to implement effective hedging strategies and unforeseen consequences arising from such strategies; our ability to source appropriate assets to back our long-dated liabilities; level of competition and consolidation; unforeseen liabilities or asset impairments arising from acquisitions and dispositions of businesses; our liquidity, including the availability of financing to satisfy existing financial liabilities on expected maturity dates when required; obligations to pledge additional collateral; the availability of letters of credit to provide capital management flexibility; accuracy of information received from counterparties and the ability of counterparties to meet their obligations; the availability, affordability and adequacy of reinsurance; legal and regulatory proceedings, including tax audits, tax litigation or similar proceedings; our ability to attract and retain key executives, employees and agents; the appropriate use and interpretation of complex models or deficiencies in models used; political, legal, operational and other risks; acquisitions and our ability to complete acquisitions including the availability of equity and debt financing for this purpose; the disruption of or changes to key elements of the Company's or public infrastructure systems; environmental concerns; and our ability to protect our intellectual property and exposure to claims of infringement.

We do not undertake to update any forward-looking statements, except as required by law.