# News Release

## Dai-ichi Life Holdings, Inc.

13-1, Yurakucho 1-chome, Chiyoda-ku, Tokyo 100-8411, Japan http://www.dai-ichi-life-hd.com/en/



May 20, 2019

Seiji Inagaki President and Representative Director Dai-ichi Life Holdings, Inc. Code: 8750 (TSE First section)

# Disclosure of European Embedded Value as of March 31, 2019

Dai-ichi Life Holdings, Inc. (hereinafter "Dai-ichi Life Holdings") hereby discloses the European Embedded Value ("EEV") of Dai-ichi Life Group (hereinafter "the Group") as of March 31, 2019.

The Group EEV includes the EEV of the Dai-ichi Life Insurance Company, Limited (hereinafter "Dai-ichi Life"), The Dai-ichi Frontier Life Insurance Co., Ltd (hereinafter "Dai-ichi Frontier Life" or "DFL"), The Neo First Life Insurance Company, Limited (hereinafter "Neo First Life" or "NFL"), Protective Life Corporation (hereinafter "Protective Life") and TAL Dai-ichi Life Australia Pty Limited (hereinafter "TAL") and the EV of Dai-ichi Life Insurance Company of Vietnam, Limited (hereinafter "Dai-ichi Life Vietnam" or "DLVN") calculated using traditional embedded value ("TEV") methodology.

# **Index**

1. 0	Outline	3
1-1	EEV Principles	3
1-2	EEV Methodology	3
2. E	EV as of March 31, 2019	4
2-1	Group EEV	4
2-2	EEV by Company	11
3. M	Iovement Analysis	24
3-1	Movement Analysis of Group EEV	24
3-2	Movement Analysis by Company	28
4. Se	ensitivity Analysis	33
4-1	Sensitivity Analysis of Group EEV	33
4-2	Sensitivity Analysis by Company	36
5. N	ote on Using EV	42
Apper	ndix A: EEV Methodology	43
Apper	ndix B: EEV Assumptions (Dai-ichi Life, DFL, NFL, TAL and DLVN)	48
Apper	ndix C: EEV Methodology and Assumptions of Protective Life	55
Apper	ndix D: Actuarial Opinion	62
Apper	ndix E: Glossary	64

#### 1. Outline

## 1-1 EEV Principles

The EEV Principles and related guidance were published in May 2004 by the CFO Forum, an organization comprising the chief financial officers of Europe's leading life insurers, in order to improve consistency and transparency in embedded value reporting. In October 2005, further guidance on minimum required disclosures of sensitivities and other items was provided by the CFO Forum. In May 2016, the CFO Forum issued amended EEV Principles and guidance, where the disclosure requirements have been amended, allowing flexibility while ensuring that the scope of a company's disclosures are commensurate with the EV results shown and the level of disclosures are sufficient to enable users to understand the methodology and assumptions, key judgements and sensitivities of results to changes in key assumptions.

#### 1-2 EEV Methodology

In the calculation of EEV, the Group has mainly adopted a market-consistent approach. More specifically, the EEV for Dai-ichi Life, Dai-ichi Frontier Life, Neo First Life, TAL and variable annuity (hereinafter "VA") business of Protective Life are calculated based on a market-consistent approach, while the EEV for non-VA businesses of Protective Life is calculated based on a top-down approach.

A market-consistent approach is an approach which values cash flows from both assets and liabilities of a company consistently with comparable financial instruments traded in the market. A number of insurers, mainly in Europe, have implemented similar market-consistent approaches. A top-down approach is an approach which calculates an enterprise value using a discount rate which is determined in accordance with the risk characteristics of a company, business, product or geographic region. Both approaches are permitted under the EEV Principles.

The EV of Dai-ichi Life Vietnam is calculated by using TEV methodology in the Group EEV calculation process.

The Group has fully adopted the EEV Principles, while also taking into account a market-consistent approach, in calculating its EV.

#### 2. EEV as of March 31, 2019

## 2-1 Group EEV

The Group EEV as of March 31, 2019 decreased compared to the end of the previous fiscal year mainly due to (1) a decrease of interest rate and (2) a decrease in unrealized gains on domestic securities. The Group EEV as of March 31, 2019 is as follows:

(billions of yen)

			March 31, 2018	March 31, 2019	Increase (Decrease)
G	rou	p EEV	6,094.1	5,936.5	(157.6)
	C	overed business EEV	6,320.8	6,128.7	(192.1)
		Adjusted net worth	6,723.9	7,127.8	+403.9
		Value of in-force business	(403.0)	(999.1)	(596.0)
	A	djustment related to non-covered business	(226.6)	(192.2)	+34.4

	Year ended March 31, 2018	Year ended March 31, 2019	Increase (Decrease)
Value of new business	190.2	197.4	+7.1

(Note 1)Covered business EEV as of March 31, 2018 and as of March 31, 2019 is calculated as follows: Dai-ichi Life's EEV plus DFL's, NFL's, Protective Life's, TAL's EEV and DLVN's TEV attributable to Dai-ichi Life Holdings' equity stake in Dai-ichi Life, DFL, NFL, Protective Life, TAL and DLVN less Dai-ichi Life's carrying amount of preferred equity of TAL. Dai-ichi Life Holdings held 100.0% of the shares of Dai-ichi Life, DFL, NFL, Protective Life, TAL and DLVN as of March 31, 2018 and as of March 31, 2019 (i.e., including indirect holding of TAL's preferred equity through Dai-ichi Life, which was \(\frac{1}{2}\)21.0 billion as of March 31, 2018, and \(\frac{1}{2}\)20.4 billion as of March 31, 2019).

(Note 2)Adjustment related to non-covered business as of March 31, 2018 and as of March 31, 2019 includes total net assets of non-consolidated Dai-ichi Life Holdings, the unrealized gains (losses) of assets and liabilities of Dai-ichi Life Holdings and deduction of Dai-ichi Life Holdings' carrying amount of equity of Dai-ichi Life, DFL, NFL, Protective Life and TAL and investment in capital of DLVN, which is as follows:

Dai-ichi Life Holdings' carrying amount of equity of the subsidiary insurance companies

		, ,
	March 31, 2018	March 31, 2019
Dai-ichi Life	530.0	480.0
Dai-ichi Frontier Life	181.9	181.9
Neo First Life	18.0	28.0
Protective Life	578.3	578.3
TAL	119.8	159.4
Dai-ichi Life Vietnam	27.9	38.9

DLVN's TEV as of December 31, 2017 and as of December 31, 2018, respectively, in accordance with Protective Life and DLVN's account closing date for the Group's consolidated financial statements. The Group's value of new business for the year ended March 31, 2018 and the year ended March 31, 2019 includes Protective Life and DLVN's value of new business for the year ended December 31, 2017 and the year ended December 31, 2018, respectively.

#### (Reference)

Unrealized gains (losses) which constitute a part of adjusted net worth are expected to be realized as accounting profits in the future, therefore the sum of value of in-force business and unrealized gains (losses) may be considered to represent expected future profits from in-force business.

The breakdown of Group EEV based on this idea is as follows.

(billions of yen)

		March 31, 2018	March 31, 2019	Increase (Decrease)
G	roup EEV	6,094.1	5,936.5	(157.6)
	Total net assets on the balance sheet + Retained earnings in liabilities (Note 1)	1,770.7	1,922.6	+151.9
	Value of in-force business + Unrealized gains (losses) of fixed income assets <sup>(Note 2)</sup>	2,416.2	2,218.5	(197.6)
	Unrealized gains (losses) of assets other than fixed income assets (Note 3)	1,907.1	1,795.2	(111.9)

- (Note1)This item is calculated by deducting the amount of unrealized gains (losses) from sum of the Group's adjusted net worth and adjustment related to non-covered business. It represents accumulated amount of realized profits.
- (Note2)The sum of the Group's value of in-force business, unrealized gains (losses) of fixed income assets of Dai-ichi Life and unrealized gains (losses) of assets of DFL or NFL is reported. It is a component of unrealized profits which is mainly affected by interest rate; the change in the value of in-force business due to interest rate fluctuation is offset by the change in unrealized gains (losses) of fixed income assets.
- (Note 3)The amount of unrealized gains (losses) of assets other than fixed income assets of Dai-chi Life, including equities, un-hedged foreign bonds and real estate, is reported.

#### 2-1-1 Adjusted Net Worth

Adjusted net worth represents the net assets attributed to shareholders and represents the market value of assets in excess of statutory policy reserves (excluding contingency reserve), and other liabilities (excluding reserve for price fluctuations).

In other words, adjusted net worth is calculated by adjusting the total net assets on the balance sheet for the retained earnings in liabilities, general reserve for possible loan losses, unrealized gains/losses in assets/liabilities not accounted for under the mark-to-market methodology, unfunded retirement benefit obligations, and tax effect equivalent of the items above. The methodology for deriving adjusted net worth is described in Appendix A and Appendix C.

Adjusted net worth as of March 31, 2019 increased from the end of previous fiscal year mainly due to an increase in unrealized gains on securities attributable to a decrease of interest rate.

The breakdown of the Group's adjusted net worth is as follows:

	March 31, 2018	March 31, 2019	Increase (Decrease)
Adjusted net worth	6,723.9	7,127.8	+403.9
Total net assets on the balance sheet (Note 1)	1,368.4	1,397.9	+29.5
Retained earnings in liabilities (Note 2)	984.6	1,019.1	+34.4
General reserve for possible loan losses	0.4	0.1	(0.3)
Unrealized gains (losses) on securities and miscellaneous items (Note 3)	6,056.5	6,457.4	+400.9
Unrealized gains (losses) on loans	221.1	211.2	(9.8)
Unrealized gains (losses) on real estate (Note 4)	262.2	321.7	+59.5
Unrealized gains (losses) on liabilities (Note 5)	(9.3)	(4.9)	+4.4
Unfunded retirement benefit obligation (Note 6)	(9.5)	(12.6)	(3.0)
Tax effect equivalent of above items	(2,045.2)	(2,177.9)	(132.7)
Consolidation adjustment regarding Covered business <sup>(Note 7)</sup>	(21.0)	(20.4)	+0.5
Adjustment for deferred tax assets in Protective Life and miscellaneous items (Note 8)	(21.2)	(4.8)	+16.4
Adjustment for intangible assets in TAL and miscellaneous items (Note 9)	(63.0)	(58.9)	+4.1

- (Note 1) The total of valuation and translation adjustments is excluded. An adjustment amount regarding the surplus relief reinsurance for DFL is added to the total net assets.
- (Note 2) The sum of reserve for price fluctuations, contingency reserve, the unallocated portion of reserve for policyholder dividends, and asset valuation reserve is reported.
- (Note 3) For purposes of EEV calculations, domestic listed stocks are recorded at their market value as of the end of the reporting period, whereas for accounting purposes under Japanese GAAP, they are recorded on the balance sheet at their average value during the last month of the reporting period. The difference (the value for purposes of EEV calculations less the value recorded on our balance sheet) (after tax) was \(\frac{1}{2}\)6.0 billion as of March 31, 2018, and \(\frac{1}{2}\)(1.3) billion as of March 31, 2019.
- $(Note\ 4)\ With\ respect\ to\ land,\ the\ difference\ between\ fair\ value\ and\ carrying\ value\ before\ revaluation\ is\ posted.$

#### [Unofficial translation]

- (Note 5) The figure includes the unrealized gains (losses) in subordinated debt that Dai-ichi Life issued.
- (Note 6) The sum of unrecognized gains/losses on plan amendments and unrecognized actuarial differences is reported.
- (Note 7) With respect to the covered business EEV as of March 31, 2018 and as of March 31, 2019, Dai-ichi Life' carrying amount of preferred equity of TAL, which are included in "Total net assets on the balance sheet" and "Unrealized gains (losses) on securities and miscellaneous items", is deducted to offset.
- (Note 8) An adjustment is made for Protective Life's deferred tax assets, non-admitted assets on its statutory balance sheet and for other miscellaneous items.
- (Note 9)An adjustment is made for TAL's intangible assets, including goodwill and value of in-force business.
- (Note 10)All the items from "Total net assets on the balance sheet" to "Tax effect equivalent of above items" display the sum of the figures for Dai-ichi Life, DFL, NFL, Protective Life TAL and DLVN.

#### 2-1-2 Value of In-force Business

The value of in-force business is the amount of (i) present value of future profits, less (ii) time value of financial options and guarantees, less (iii) cost of holding required capital, less (iv) cost of non-hedgeable risks. Investment cash flows to determine the certainty equivalent present value of future profits for business valued using a market-consistent approach are calculated assuming that investment yields of all assets are equivalent to the risk-free rate. Value of in-force business as of March 31, 2019 decreased from the end of previous fiscal year mainly due to a decrease in interest rates.

The methodology for deriving value of in-force business is described in Appendix A and Appendix C, and the assumptions for the risk-free rates are shown in Appendix B and Appendix C.

The breakdown of the Group's value of in-force business is as follows:

		March 31,	March 31,	Increase
		2018	2019	(Decrease)
Va	alue of in-force business	(403.0)	(999.1)	(596.0)
	Present value of future profits (Note 1)(Note 2)	85.7	(489.0)	(574.8)
	Time value of financial options and guarantees	(137.1)	(127.0)	+10.1
	Cost of holding required capital <sup>(Note 3)</sup>	(139.2)	(149.1)	(9.9)
	Cost of non-hedgeable risks	(212.3)	(233.7)	(21.4)

<sup>(</sup>Note 1) An adjustment regarding the surplus relief reinsurance is made for DFL's EEV calculation.

<sup>(</sup>Note 2) Including the certainty equivalent present value of future profits for business valued using a market-consistent approach and present value of future profits for business valued using a top-down approach and a traditional methodology.

<sup>(</sup>Note 3) Including the frictional cost of capital for business valued using a market-consistent approach and the cost of capital for business valued using a top-down approach and a traditional methodology.

## 2-1-3 Adjustment related to non-covered business

With respect to the business of Dai-ichi Life Holdings and its subsidiaries/affiliated companies (except for subsidiaries categorized in the scope of covered business which are operating life insurance business), the value of their business is included in the Group EEV as "Adjustment related to non-covered business." This item includes total net assets of non-consolidated Dai-ichi Life Holdings and appropriate adjustments.

(billions of yen)

	March 31, 2018	March 31, 2019	Increase (Decrease)
Adjustment related to non-covered business	(226.6)	(192.2)	+34.4
Total net assets on the balance sheet of non-consolidated Dai-ichi Life Holdings	1,209.3	1,257.1	+47.7
Unrealized gains/losses of asset and liabilities of Dai-ichi Life Holdings <sup>(Note 1)</sup>	35.0	17.3	(17.7)
Consolidation adjustment regarding the Group <sup>(Note 2)</sup>	(1,471.0)	(1,466.6)	+4.3

<sup>(</sup>Note 1) With respect to the equity of subsidiaries/affiliated companies of Dai-ichi Life Holdings and debt of Dai-ichi Life Holdings, unrealized gains (losses) have been reflected.

<sup>(</sup>Note2)This item includes the deduction of Dai-ichi Life Holdings' carrying amount of equity of Dai-ichi Life, DFL, NFL, Protective Life and TAL and investment in capital of DLVN.

#### 2-1-4 Value of New Business

The value of new business is the value at the time of sale, after all acquisition-related costs, of new policies (including net increase by conversion) obtained during the reporting period. The value of new business for the fiscal year ended March 31, 2019 increased from the end of previous fiscal year mainly due to increase in the sales volume in the domestic life insurance business. The breakdown of value of new business for the fiscal year ended March 31, 2019 is as follows:

(billions of yen)

		Year ended March 31, 2018	Year ended March 31, 2019	Increase (Decrease)
Va	alue of new business	190.2	197.4	+7.1
	Present value of future profits <sup>(Note 1)</sup>	211.0	222.7	+11.7
	Time value of financial options and guarantees	(1.4)	(1.5)	(0.1)
	Cost of holding required capital (Note 2)	(11.6)	(14.3)	(2.7)
	Cost of non-hedgeable risks	(7.6)	(9.3)	(1.7)

- (Note 1) Including the certainty equivalent present value of future profits for business valued using a market-consistent approach and present value of future profits for business valued using a top-down approach and a traditional methodology.
- (Note 2) Including the frictional cost of capital for business valued using a market-consistent approach and the cost of capital for business valued using a top-down approach and a traditional methodology.
- (Note 3) Group's value of new business for the year ended March 31, 2018 includes Protective Life and DLVN's value of new business for the year ended December 31, 2017. Group's value of new business for the year ended March 31, 2019 includes Protective Life and DLVN's value of new business for the year ended December 31, 2018.

The new business margins (the ratio of the value of new business to the present value of premium income) are as follows:

(billions of yen)

	Year ended March 31, 2018	Year ended March 31, 2019	Increase (Decrease)
Value of new business	190.2	197.4	+7.1
Present Value of Premium Income (Note)	4,427.2	5,219.8	+792.5
New Business Margin	4.30%	3.78%	(0.51) points

(Note) Future premium income (as for Protective Life, based on the statutory accounting) is discounted by the risk-free rate or the risk discount rate used for the value of new business calculation.

## 2-2 EEV by Company

### (1) Dai-ichi Life

	March 31, 2018	March 31, 2019	Increase (Decrease)
EEV (Note 1)	4,887.0	4,550.5	(336.5)
Adjusted net worth	5,878.1	6,059.0	+180.9
Total net assets (Note 2)	696.0	684.1	(11.8)
Retained earnings in liabilities (Note 3)	810.5	832.3	+21.7
General reserve for possible loan losses	0.4	0.0	(0.3)
Unrealized gains (losses) on securities and miscellaneous items (Note 4)	5,911.1	6,107.0	+195.8
Unrealized gains (losses) on loans	221.1	211.2	(9.8)
Unrealized gains (losses) on real estate (Note 5)	262.2	321.7	+59.5
Unrealized gains (losses) on liabilities (Note 6)	(9.3)	(4.9)	+4.4
Unfunded retirement benefit obligation (Note 7)	(9.5)	(12.6)	(3.0)
Tax effect equivalent of above items	(2,004.5)	(2,079.8)	(75.3)
Value of in-force business	(991.0)	(1,508.5)	(517.4)
Certainty equivalent present value of future profits	(675.8)	(1,179.1)	(503.2)
Time value of financial options and guarantees	(99.9)	(103.3)	(3.3)
Cost of holding required capital	(16.9)	(9.6)	+7.3
Cost of non-hedgeable risks	(198.3)	(216.5)	(18.1)

		Year ended March 31, 2018	Year ended March 31, 2019	Increase (Decrease)
V	alue of new business	149.0	139.5	(9.4)
	Certainty equivalent present value of future profits	155.3	146.1	(9.1)
	Time value of financial options and guarantees	(0.8)	(1.1)	(0.3)
	Cost of holding required capital	(0.5)	(0.3)	+0.1
	Cost of non-hedgeable risks	(4.9)	(5.1)	(0.1)

<sup>(</sup>Note 1) Dai-ichi Life's carrying amount of preferred equity of TAL is included in EEV of Dai-ichi Life as of March 31, 2018 and as of March 31, 2019.

<sup>(</sup>Note 2) The total of valuation and translation adjustments is excluded.

<sup>(</sup>Note 3) The sum of reserve for price fluctuations, contingency reserves and the unallocated portion of reserve for policyholder dividends is reported.

<sup>(</sup>Note 4) For purposes of EEV calculations, domestic listed stocks are recorded at their market value as of the end of the reporting period, whereas for accounting purposes, they are recorded on the balance sheet at their average value during the last month of the reporting period. The difference (the value for purposes of EEV calculations less the value recorded on our balance sheet) (after tax) is \(\frac{1}{2}\)6.0 billion as of March 31, 2018, and \(\frac{1}{2}\)(1.3) billion as of March 31, 2019.

 $<sup>(</sup>Note\ 5)\ With\ respect\ to\ land,\ the\ difference\ between\ fair\ value\ and\ carrying\ value\ before\ revaluation\ is\ posted.$ 

 $<sup>(</sup>Note\ 6)\ The\ figure\ includes\ the\ unrealized\ gains\ (losses)\ in\ subordinated\ debt\ that\ Dai\ -ichi\ Life\ issued.$ 

## [Unofficial translation]

(Note 7) The sum of unrecognized gains/losses on plan amendments and unrecognized actuarial differences is reported.

## The new business margins are as follows:

(billions of yen)

	Year ended March 31, 2018	Year ended March 31, 2019	Increase (Decrease)
Value of new business	149.0	139.5	(9.4)
Present Value of Premium Income (Note)	2,133.4	1,888.2	(245.2)
New Business Margin	6.98%	7.39%	+0.40 points

(Note) Future premium income is discounted by the risk-free rate used for the value of new business calculation.

## (2) Dai-ichi Frontier Life

(billions of yen)

	March 31,	March 31,	Increase
	2018	2019	(Decrease)
EEV	401.9	416.8	+14.8
Adjusted net worth	243.9	429.4	+185.4
Total net assets (Note 1)	130.0	150.0	+19.9
Adjustment regarding the surplus relief reinsurance for DFL	(127.0)	(124.1)	+2.9
Retained earnings in liabilities (Note 2)	136.3	151.2	+14.9
General reserve for possible loan losses	0.0	0.0	0.0
Unrealized gains (losses) on securities and miscellaneous items	145.3	350.3	+205.0
Tax effect equivalent of above items	(40.7)	(98.0)	(57.3)
Value of in-force business	157.9	(12.6)	(170.6)
Certainty equivalent present value of future profits	172.7	(3.6)	(176.3)
Present value of future profits excluding the item below	45.6	(127.7)	(173.4)
Adjustment regarding the surplus relief reinsurance	127.0	124.1	(2.9)
Time value of financial options and Guarantees	(8.5)	(2.1)	+6.4
Cost of holding required capital	(1.0)	(0.5)	+0.4
Cost of non-hedgeable risks	(5.1)	(6.3)	(1.1)

		Year ended March 31, 2018	Year ended March 31, 2019	Increase (Decrease)
Va	alue of new business	13.1	3.0	(10.0)
	Certainty equivalent present value of future profits	14.7	5.1	(9.6)
	Time value of financial options and guarantees	0.0	0.0	0.0
	Cost of holding required capital	(0.4)	(0.5)	0.0
	Cost of non-hedgeable risks	(1.2)	(1.6)	(0.3)

 $(Note\ 1)\ The\ total\ of\ valuation\ and\ translation\ adjustments\ is\ excluded.$ 

(Note 2) The sum of the reserve for price fluctuations and contingency reserve is reported.

## The new business margins are as follows:

	Year ended March 31, 2018	Year ended March 31, 2019	Increase (Decrease)
Value of new business	13.1	3.0	(10.0)
Present Value of Premium Income (Note)	1,366.6	1,773.4	+406.7
New Business Margin	0.96%	0.17%	(0.79) points

<sup>(</sup>Note) Future premium income is discounted by the risk-free rate used for the value of new business calculation.

## (3) Neo First Life

(billions of yen)

	March 31, 2018	March 31, 2019	Increase (Decrease)
EEV	50.7	93.7	+42.9
Adjusted net worth	18.7	20.7	+1.9
Total net assets (Note 1)	18.1	19.5	+1.4
Retained earnings in liabilities (Note 2)	0.6	0.9	+0.3
Unrealized gains (losses) on securities and miscellaneous items	0.0	0.1	+0.1
Value of in-force business	31.9	73.0	+41.0
Certainty equivalent present value of future profits	33.8	76.6	+42.8
Time value of financial options and guarantees	0.0	0.0	0.0
Cost of holding required capital	0.0	0.0	0.0
Cost of non-hedgeable risks	(1.7)	(3.5)	(1.7)

		Year ended March 31, 2018	Year ended March 31, 2019	Increase (Decrease)
Va	alue of new business	3.0	31.8	+28.7
	Certainty equivalent present value of future profits	3.8	33.9	+30.1
	Time value of financial options and guarantees	0.0	0.0	0.0
	Cost of holding required capital	0.0	0.0	0.0
	Cost of non-hedgeable risks	(0.8)	(2.1)	(1.3)

<sup>(</sup>Note 1) The total of valuation and translation adjustments is excluded.

## The new business margins are as follows:

(billions of yen)

	Year ended March 31, 2018	Year ended March 31, 2019	Increase (Decrease)
Value of new business	3.0	31.8	+28.7
Present Value of Premium Income <sup>(Note)</sup>	100.0	649.3	+549.2
New Business Margin	3.06%	4.90%	+1.84 points

(Note) Future premium income is discounted by the risk-free rate used for the value of new business calculation.

<sup>(</sup>Note 2) The sum of the reserve for price fluctuations and contingency reserve is reported.

(Reference) The value of new business based on ultimate unit-costs

For NFL, improvement of operating efficiency is expected in the future with the progress of business expansion because the new business has been operated for only a short period of time. Therefore, based on the projection of new business trend and of operating expenses in the mid-term business plan, unit-costs are assumed to decrease over 7 years; it is expected to reach an ultimate level within 10 years after new business expansion started. In conjunction with this, allowance has been made for the uncertainty in the realization of the projection in the cost of non-hedgeable risks.

Value of new business calculated based on the assumption that the ultimate unit-costs are realized at the time of sale is as follows:

(billions of yen)

		Year ended March 31, 2018	Year ended March 31, 2019	Increase (Decrease)
Value of	new business (based on ultimate unit-costs)	8.6	32.4	+23.7
Certa	inty equivalent present value of future profits	8.8	33.1	+24.3
Time	value of financial options and guarantees	0.0	0.0	0.0
Cost	of holding required capital	0.0	0.0	0.0
Cost	of non-hedgeable risks <sup>(Note)</sup>	0.0	(0.6)	(0.5)

(Note) In the calculation of value of new business based on ultimate unit-costs, a decrease of unit-costs is assumed to realize. Therefore, the cost of non-hedgeable risks which corresponds to uncertainty in the realization of the projection is set to be zero.

The new business margins are as follows:

(billions of yen)

	Year ended March 31, 2018	Year ended March 31, 2019	Increase (Decrease)
Value of new business(based on ultimate unit-costs)	8.6	32.4	+23.7
Present Value of Premium Income (Note)	100.0	649.3	+549.2
New Business Margin(based on ultimate unit-costs)	8.69%	5.00%	(3.69) points

(Note) Future premium income is discounted by the risk-free rate used for the value of new business calculation.

## (4) Protective Life

	December	December	Increase
	31, 2017	31, 2018	(Decrease)
EEV	658.6	662.7	+4.1
Adjusted net worth	442.1	424.1	(17.9)
Total net assets <sup>(Note 1)</sup>	426.2	394.4	(31.8)
Retained earnings in liabilities (Note 2)	37.0	34.5	(2.5)
Adjustment for deferred tax assets and miscellaneous items (Note 3)	(21.2)	(4.8)	+16.4
Value of in-force business	216.5	238.6	+22.1
Present value of future profits <sup>(Note 4)</sup>	348.6	382.7	+34.1
Time value of financial options and guarantees	(28.6)	(21.6)	+7.0
Cost of holding required capital <sup>(Note 5)</sup>	(102.1)	(121.3)	(19.1)
Cost of non-hedgeable risks	(1.2)	(1.0)	+0.1

		Year ended December 31, 2017	Year ended December 31, 2018	Increase (Decrease)
Va	llue of new business	1.2	3.5	+2.2
	Present value of future profits <sup>(Note 4)</sup>	9.2	13.8	+4.6
	Time value of financial options and guarantees	(0.6)	(0.4)	+0.1
	Cost of holding required capital (Note 5)	(7.3)	(9.8)	(2.5)
	Cost of non-hedgeable risks	0.0	0.0	0.0

<sup>(</sup>Note 1) The sum of net assets based on statutory capital and surplus, value of non-life entities and adjustment for holding company's equity.

<sup>(</sup>Note 2) Asset valuation reserve is reported.

<sup>(</sup>Note 3) An adjustment is made for Protective Life's deferred tax assets, non-admitted assets on its statutory accounting and other miscellaneous items.

<sup>(</sup>Note 4) Including the certainty equivalent present value of future profits for business valued using a market-consistent approach and the present value of future profits for business valued using a top-down approach.

<sup>(</sup>Note 5) Including the frictional cost of capital for business valued using a market-consistent approach and the cost of capital for business valued using a top-down approach.

## The new business margins are as follows:

(billions of yen)

	Year ended December 31, 2017	Year ended December 31, 2018	Increase (Decrease)
Value of new business	1.2	3.5	+2.2
Present Value of Premium Income (Note)	527.4	599.7	+72.3
New Business Margin	0.24%	0.59%	+0.35 points

<sup>(</sup>Note) Future premium income (based on the statutory accounting) is discounted by the risk-free rate or the risk discount rate used for the value of new business calculation.

# The breakdowns of value of in-force business and value of new business are as follows:

	December 31, 2017	December 31, 2018	Increase (Decrease)
Value of in-force business	216.5	238.6	+22.1
Non-VA business (Top-down approach)	189.9	225.8	+35.9
Present value of future profits	291.9	345.2	+53.2
Cost of capital	(102.0)	(119.3)	(17.2)
VA business (Market-consistent approach)	26.6	12.7	(13.8)
Certainty equivalent present value of future profits	56.7	37.5	(19.1)
Time value of financial options and guarantees	(28.6)	(21.6)	+7.0
Cost of holding required capital	(0.1)	(2.0)	(1.9)
Cost of non-hedgeable risks	(1.2)	(1.0)	+0.1

(billions of yen)

	Year ended December 31, 2017	Year ended December 31, 2018	Increase (Decrease)
Value of new business	1.2	3.5	+2.2
Non-VA business (Top-down approach)	0.9	3.1	+2.1
Present value of future profits	8.1	12.9	+4.7
Cost of capital	(7.2)	(9.8)	(2.5)
VA business (Market-consistent approach)	0.3	0.4	0.0
Certainty equivalent present value of future profits	1.0	0.9	(0.1)
Time value of financial options and guarantees	(0.6)	(0.4)	+0.1
Cost of holding required capital	0.0	0.0	0.0
Cost of non-hedgeable risks	0.0	0.0	0.0

## The new business margins are as follows:

(billions of yen)

	Year ended December 31, 2017	Year ended December 31, 2018	Increase (Decrease)
Value of new business of non-VA business (Top-down approach)	0.9	3.1	+2.1
Present Value of Premium Income of non-VA business (Note 1) (Top-down approach)	479.3	566.6	+87.2
New Business Margin of non-VA business (Top-down approach)	0.20%	0.55%	+0.35 points
Value of new business of VA business (Market-consistent approach)	0.3	0.4	0.0
Present Value of Premium Income of VA business <sup>(Note 2)</sup> (Market-consistent approach)	48.0	33.1	(14.9)
New Business Margin of VA business (Market-consistent approach)	0.69%	1.29%	+0.59 points

<sup>(</sup>Note 1) Future premium income (based on the statutory accounting) is discounted by the risk discount rate used for the value of new business calculation.

(Note 2) Future premium income (based on the statutory accounting) is discounted by the risk-free rate used for the value of new business calculation.

# (Reference) Protective Life's EEV in US Dollar

## (millions of USD)

	December	December	Increase
	31, 2017	31, 2018	(Decrease)
EEV	5,828	5,971	+142
Adjusted net worth	3,912	3,821	(91)
Total net assets	3,772	3,553	(218)
Retained earnings in liabilities	328	310	(17)
Adjustment for deferred tax assets and miscellaneous items	(188)	(43)	+144
Value of in-force business	1,916	2,150	+233
Present value of future profits	3,085	3,448	+362
Time value of financial options and guarantees	(253)	(194)	+59
Cost of holding required capital	(904)	(1,093)	(189)
Cost of non-hedgeable risks	(11)	(9)	+1

		Year ended December 31, 2017	Year ended December 31, 2018	Increase (Decrease)
Val	lue of new business	11	31	+20
	Present value of future profits	81	124	+43
	Time value of financial options and guarantees	(5)	(3)	+1
	Cost of holding required capital	(64)	(89)	(24)
	Cost of non-hedgeable risks	0	0	0

## (5) TAL

(billions of yen)

	March 31,	March 31,	Increase
	2018	2019	(Decrease)
EEV	282.0	339.9	+57.9
Adjusted net worth	132.9	175.9	+43.0
Total net assets	196.0	234.8	+38.8
Adjustment for intangible assets and miscellaneous items (Note)	(63.0)	(58.9)	+4.1
Value of in-force business	149.1	164.0	+14.8
Certainty equivalent present value of future profits	168.9	180.8	+11.8
Time value of financial options and guarantees	0.0	0.0	0.0
Cost of holding required capital	(14.0)	(10.5)	+3.4
Cost of non-hedgeable risks	(5.8)	(6.2)	(0.4)

		Year ended March 31, 2018	Year ended March 31, 2019	Increase (Decrease)
Value of new business		18.6	10.8	(7.7)
	Certainty equivalent present value of future profits	20.9	12.3	(8.5)
	Time value of financial options and guarantees	0.0	0.0	0.0
	Cost of holding required capital	(1.6)	(0.9)	+0.6
	Cost of non-hedgeable risks	(0.6)	(0.5)	+0.1

(Note1) An adjustment is made for TAL's intangible assets, including goodwill and value of in-force business.

(Note2) TAL acquired Suncorp Life & Superannuation Limited on February 28, 2019, and changed its name to Asteron Life & Superannuation Limited (hereinafter "Asteron Life"). The EEV of Asteron Life as of March 31, 2019 has been assumed to be equal to the acquisition price and included in adjusted net worth. Therefore, there was no change in EEV associated with the acquisition when offsetting the payment of the acquisition price.

## The new business margins are as follows:

(billions of yen)

	Year ended March 31, 2018	Year ended March 31, 2019	Increase (Decrease)
Value of new business	18.6	10.8	(7.7)
Present Value of Premium Income (Note)	231.8	207.0	(24.8)
New Business Margin	8.04%	5.24%	(2.80) points

(Note) Future premium income is discounted by the risk-free rate used for the value of new business calculation.

# (Reference) TAL's EEV in Australian Dollar

## (millions of AUD)

	March 31, 2018	March 31, 2019	Increase (Decrease)
EEV	3,453	4,322	+868
Adjusted net worth	1,627	2,237	+609
Total net assets	2,400	2,986	+586
Adjustment for intangible assets and miscellaneous items	(772)	(749)	+23
Value of in-force business	1,826	2,085	+259
Certainty equivalent present value of future profits	2,068	2,299	+230
Time value of financial options and guarantees	0	0	0
Cost of holding required capital	(171)	(133)	+37
Cost of non-hedgeable risks	(71)	(79)	(8)

	Year ended March 31, 2018	Year ended March 31, 2019	Increase (Decrease)
Value of new business	228	138	(90)
Certainty equivalent present value of future profits	255	156	(99)
Time value of financial options and guarantees	0	0	0
Cost of holding required capital	(19)	(11)	+7
Cost of non-hedgeable risks	(7)	(6)	+1

## (6) Dai-ichi Life Vietnam

## (billions of yen)

			December	December	Increase
			31, 2017	31, 2018	(Decrease)
T	EV		61.3	85.3	+24.0
	A	djusted net worth	28.9	39.0	+10.0
	Va	alue of in-force business	32.3	46.3	+13.9
		Present value of future profits	37.3	53.3	+16.0
		Cost of capital	(5.0)	(7.0)	(2.0)

	Year ended December 31, 2017	Year ended December 31, 2018	Increase (Decrease)
Value of new business	5.1	8.7	+3.5
Present value of future profits	6.9	11.3	+4.4
Cost of capital	(1.7)	(2.6)	(0.8)

## The new business margins are as follows:

## (billions of yen)

	Year ended December 31, 2017	Year ended December 31, 2018	Increase (Decrease)
Value of new business	5.1	8.7	+3.5
Present Value of Premium Income (Note)	67.7	102.0	+34.3
New Business Margin	7.68%	8.54%	+0.86 points

(Note) Future premium income is discounted by the discount rate used for the value of new business calculation.

## (Reference) DLVN's TEV in Vietnamese Dong

## (billions of VND)

			December 31, 2017	December 31, 2018	Increase (Decrease)
T	EV		12,262	17,781	+5,518
	A	djusted net worth	5,790	8,126	+2,335
	Va	alue of in-force business	6,472	9,655	+3,182
		Present value of future profits	7,476	11,122	+3,646
		Cost of capital	(1,003)	(1,467)	(463)

	Year ended December 31, 2017	Year ended December 31, 2018	Increase (Decrease)
Value of new business	1,039	1,815	+775
Present value of future profits	1,382	2,357	+974
Cost of capital	(343)	(541)	(198)

## 3. Movement Analysis

## 3-1 Movement Analysis of Group EEV

(billions of yen)

			Covered	Adjustment	-
	Adjusted	Value of	business	related to	Group
	net worth	in-force business	EEV	non-covered business	EEV
Values as of March 31, 2018	6,723.9	(403.0)	6,320.8	(226.6)	6,094.1
(1) Adjustments to the values as of March 31, 2018	(204.6)	(10.6)	(215.2)	92.8	(122.4)
Shareholder dividend	0.0	0.0	0.0	(58.4)	(58.4)
Repurchase of the company's shares	0.0	0.0	0.0	(38.9)	(38.9)
Shareholder dividend from the subsidiary insurance companies	(202.8)	0.0	(202.8)	202.8	0.0
Capital increase	12.5	0.0	12.5	(12.5)	0.0
Foreign exchange variance	(14.3)	(10.6)	(24.9)	0.0	(24.9)
Adjusted values as of March 31, 2018	6,519.2	(413.7)	6,105.5	(133.7)	5,971.7
(2) Value of new business	0.0	197.4	197.4	0.0	197.4
(3) Changes in Protective Life's acquisition business	(58.5)	96.4	37.9	0.0	37.9
(4) Expected existing business contribution (market-consistent approach)	32.4	324.7	357.1	0.0	357.1
Risk-free rate	(8.5)	30.3	21.8	0.0	21.8
In excess of risk-free rate	40.9	294.4	335.3	0.0	335.3
(5) Expected existing business contribution (top-down approach)	11.3	30.1	41.5	0.0	41.5
(6) Expected transfer from VIF to adjusted net worth	(11.6)	11.6	0.0	0.0	0.0
In-force business at beginning of the fiscal year	184.0	(184.0)	0.0	0.0	0.0
New business	(195.7)	195.7	0.0	0.0	0.0
(7) Non-economic experience variances	(26.8)	23.3	(3.4)	0.0	(3.4)
(8) Non-economic assumptions changes	1.3	(66.5)	(65.2)	0.0	(65.2)
(9) Economic variances	608.1	(1,184.4)	(576.2)	0.0	(576.2)
(10) Changes in value of non-covered business	0.0	0.0	0.0	(10.4)	(10.4)
(11) Other variances	4.4	(18.3)	(13.9)	0.0	(13.9)
(12) Adjustments to the values as of March 31, 2019	48.0	0.0	48.0	(48.0)	0.0
Capital increase	48.0	0.0	48.0	(48.0)	0.0
Values as of March 31, 2019	7,127.8	(999.1)	6,128.7	(192.2)	5,936.5

(Note) In the movement analysis of Group EEV, the variance of DLVN's TEV from December 31, 2017 to December 31, 2018 other than foreign exchange variance, value of new business and capital increase is included in "Economic variances".

- (1) Adjustments to the values as of March 31, 2018 This item includes the following breakdowns.
- i. A decrease of net assets as Dai-ichi Life Holdings paid out shareholder dividends during the year ended March 31, 2019.
- ii. A decrease of net assets as Dai-ichi Life Holdings repurchased its own shares during the year ended March 31, 2019.
- iii. Adjustment of shareholder dividend to Dai-ichi Life Holdings by covered business during the year ended March 31, 2019, which does not affect the Group EEV.
- iv. Adjustment of capital increase to Neo First Life and DLVN by Dai-ichi Life Holdings during the 1st half of the year ended March 31, 2019, which does not affect the Group EEV.
- v. The foreign exchange variance of EEVs of Protective Life and TAL and TEV of Dai-ichi Life Vietnam.

### (2) Value of new business

The value of new business represents the value at the time of sale, after all acquisition-related costs, attributable to new business obtained during the fiscal year ended March 31, 2019.

## (3) Changes in Protective Life's acquisition business

Protective Life has acquisition business, life insurance business and individual annuity business. This item includes the increase in the EEV owing to the acquisition through reinsurance substantially all of the individual life and annuity business of Liberty Life Assurance Company of Boston. The acquisition was completed on May 1, 2018.

#### (4) Expected existing business contribution (market-consistent approach)

This item includes the expected existing business contribution of Dai-ichi Life, DFL, NFL, TAL and Protective Life's VA business, including the required capital of VA business, with the following breakdowns.

#### i. Risk-free rate

In calculating the value of in-force business, future expected profits are discounted back using risk-free rates, which is released over time. This item also includes the release of time value of financial options and guarantees, cost of holding required capital and cost of non-hedgeable risks for the fiscal year ended March 31, 2019. Moreover, this item includes the expected return on the assets backing adjusted net worth using risk-free rates.

This item includes the expected profit/loss over time derived from derivative transactions, which Dai-ichi Frontier Life utilizes to reduce minimum guarantee risks of variable annuities.

## ii. In excess of risk-free rate

Rates of future expected returns are assumed to be risk-free rates in calculating EEV. However, the Group expects higher rates of returns on these assets than the risk-free rates. In calculating this item, the Group uses the expected rates of returns described in Appendix B and Appendix C.

This item includes the expected profit/loss from the higher rate of returns than the risk-free rates derived from derivative transactions for reducing minimum guarantee risks of variable annuities by Dai-ichi Frontier Life.

This item also includes the expected profit/loss from derivative transactions for hedging against the VA business of Protective Life.

### (5) Expected existing business contribution (top-down approach)

This item reflects Protective Life's non-VA business including free surplus and required capital of non-VA business.

In calculating the value of in-force business, future expected profits are discounted back using the risk discount rates, which is released over time. This item also includes the release for the fiscal year ended March 31, 2019 of the cost of capital. Moreover, this item includes the expected return on the assets backing adjusted net worth.

(6) Expected transfer from VIF (value of in-force business) to adjusted net worth The total expected profit during the fiscal year ended March 31, 2019 on a statutory accounting basis is transferred to the adjusted net worth. This item includes the profit expected to emerge from business in-force at the beginning of the reporting period and the expected emergence of profits/losses in the adjusted net worth, including the impact of acquisition costs which arise from the new business issued in the period. Note that the transferred amounts do not affect the total amount of Group EEV.

#### (7) Non-economic experience variances

This item represents the difference between (i) the non-economic assumptions, which were used for calculating EEV as of March 31, 2018 and (ii) the actual experience during the fiscal year ended March 31, 2019 corresponding to such assumptions.

## (8) Non-economic assumptions changes

This item quantifies the amount of change attributable to increase/decrease in future profits/losses after March 31, 2019 due to making changes in the non-economic assumptions.

#### (9) Economic variances

This item represents the impact of differences between actual investment returns in the period and the expected investment returns and the impact on the value of in-force business from the change to the end of period economic assumptions.

This item includes the impact of changing the risk discount rate of Protective Life (including the impact of changing the weighting of capital and debt utilized to derive the risk discount rate).

## (10) Changes in value of non-covered business

This item includes earnings of Dai-ichi Life Holdings and its subsidiaries/affiliated companies (excluding earnings from covered business) and changes in unrealized gains (losses) of assets and liabilities of Dai-ichi Life Holdings.

#### (11) Other variances

This item includes the impact of factors other than stated above. The impact of model changes is included in this item.

## (12) Adjustments to the values as of March 31, 2019

This item includes the capital increase of TAL and DLVN by Dai-ichi Life Holdings during the 2nd half of the year ended March 31, 2019, which does not affect the Group EEV.

## 3-2 Movement Analysis by Company

## (1) Dai-ichi Life

(billions of yen)

	Adjusted net	Value of in-force	EEV
	worth	business	
Values as of March 31, 2018	5,878.1	(991.0)	4,887.0
Adjustments to the values as of March 31, 2018	(185.8)	0.0	(185.8)
Shareholder dividend <sup>(Note)</sup>	(185.8)	0.0	(185.8)
Adjusted values as of March 31, 2018	5,692.3	(991.0)	4,701.2
Value of new business	0.0	139.5	139.5
Expected existing business contribution (market-consistent approach)	44.3	263.7	308.0
Risk-free rate	(5.4)	16.2	10.7
In excess of risk-free rate	49.8	247.4	297.2
Expected existing business contribution (top-down approach)	0.0	0.0	0.0
Expected transfer from VIF to adjusted net worth	(107.3)	107.3	0.0
In-force at beginning of the fiscal year	46.0	(46.0)	0.0
New business	(153.4)	153.4	0.0
Non-economic experience variances	(16.1)	14.1	(2.0)
Non-economic assumptions changes	0.0	(22.8)	(22.8)
Economic variances	445.9	(1,019.3)	(573.4)
Other variances	0.0	0.0	0.0
Values as of March 31, 2019	6,059.0	(1,508.5)	4,550.5

(Note) Adjusted net worth decreased as Dai-ichi Life paid out shareholder dividends to Dai-ichi Life Holdings during the year ended March 31, 2019.

## (2) Dai-ichi Frontier Life

	Adjusted net worth	Value of in-force business	EEV
Values as of March 31, 2018	243.9	157.9	401.9
Adjustments to the values as of March 31, 2018	0.0	0.0	0.0
Adjusted values as of March 31, 2018	243.9	157.9	401.9
Value of new business	0.0	3.0	3.0
Expected existing business contribution (market-consistent approach)	(4.7)	40.3	35.6
Risk-free rate	(4.0)	5.7	1.7
In excess of risk-free rate	(0.7)	34.5	33.8
Expected existing business contribution (top-down approach)	0.0	0.0	0.0
Expected transfer from VIF to adjusted net worth	29.2	(29.2)	0.0
In-force at beginning of the fiscal year	47.3	(47.3)	0.0
New business	(18.0)	18.0	0.0
Non-economic experience variances	(2.1)	(2.1)	(4.2)
Non-economic assumptions changes	0.9	(5.2)	(4.2)
Economic variances	162.1	(177.3)	(15.2)
Other variances	0.0	0.0	0.0
Values as of March 31, 2019	429.4	(12.6)	416.8

## (3) Neo First Life

(billions of yen)

	Adjusted net worth	Value of in-force business	EEV
Values as of March 31, 2018	18.7	31.9	50.7
Adjustments to the values as of March 31, 2018	9.9	0.0	9.9
Capital increase from Dai-ichi Life Holdings (Note)	9.9	0.0	9.9
Adjusted values as of March 31, 2018	28.7	31.9	60.7
Value of new business	0.0	31.8	31.8
Expected existing business contribution (market-consistent approach)	0.0	0.2	0.1
Risk-free rate	0.0	0.2	0.1
In excess of risk-free rate	0.0	0.0	0.0
Expected existing business contribution (top-down approach)	0.0	0.0	0.0
Expected transfer from VIF to adjusted net worth	(7.7)	7.7	0.0
In-force at beginning of the fiscal year	(1.2)	1.2	0.0
New business	(6.5)	6.5	0.0
Non-economic experience variances	(0.5)	1.0	0.4
Non-economic assumptions changes	0.0	(0.7)	(0.7)
Economic variances	0.3	0.9	1.2
Other variances	0.0	0.0	0.0
Values as of March 31, 2019	20.7	73.0	93.7

(Note) In 2018, Neo First Life has received a capital increase from Dai-ichi Life Holdings. The capital increase which is capital transactions within the group has no impact on the Group EEV.

## (4) Protective Life

(billions of yen)

	Adjusted net	Value of in-force	EEV
Values as of December 31, 2017	worth 442.1	business 216.5	658.6
Adjustments to the values as of December 31, 2017	(23.3)	(3.8)	(27.1)
Shareholder dividend <sup>(Note)</sup>	(14.9)	0.0	(14.9)
Foreign exchange variance	(8.4)	(3.8)	(12.2)
Adjusted values as of December 31, 2017	418.7	212.7	631.4
Value of new business	0.0	3.5	3.5
Changes in Protective Life's acquisition business	(58.5)	96.4	37.9
Expected existing business contribution (market-consistent approach)	(7.8)	17.1	9.3
Risk-free rate	0.3	4.7	5.1
In excess of risk-free rate	(8.1)	12.4	4.2
Expected existing business contribution (top-down approach)	11.3	30.1	41.5
Expected transfer from VIF to adjusted net worth	61.1	(61.1)	0.0
In-force as of January 1, 2018	79.6	(79.6)	0.0
New business	(18.4)	18.4	0.0
Non-economic experience variances	(5.3)	10.6	5.2
Non-economic assumptions changes	0.0	(33.7)	(33.7)
Economic variances	0.1	(9.0)	(8.9)
Other variances	4.4	(28.0)	(23.6)
Values as of December 31, 2018	424.1	238.6	662.7

(Note) Adjusted net worth decreased as Protective Life paid out shareholder dividends to Dai-ichi Life Holdings during the fiscal year ended December 31, 2018.

(5) TAL

			<i>,</i>
	Adjusted	Value of	PPV
	net worth	in-force business	EEV
W.1 C.W. 1 21 2010			202.0
Values as of March 31, 2018	132.9	149.1	282.0
Adjustments to the values as of March 31, 2018	(7.6)	(5.5)	(13.1)
Shareholder dividend <sup>(Note1)</sup>	(2.8)	0.0	(2.8)
Foreign exchange variance	(4.7)	(5.5)	(10.3)
Adjusted values as of March 31, 2018	125.2	143.6	268.9
Value of new business	0.0	10.8	10.8
Expected existing business contribution (market-consistent approach)	0.6	3.2	3.9
Risk-free rate	0.6	3.2	3.9
In excess of risk-free rate	0.0	0.0	0.0
Expected existing business contribution (top-down approach)	0.0	0.0	0.0
Expected transfer from VIF to adjusted net worth	13.0	(13.0)	0.0
In-force at beginning of the fiscal year	12.3	(12.3)	0.0
New business	0.7	(0.7)	0.0
Non-economic experience variances	(2.6)	(0.2)	(2.9)
Non-economic assumptions changes	0.4	(4.0)	(3.6)
Economic variances	(0.3)	13.9	13.5
Other variances	0.0	9.6	9.6
Adjustments to the values as of March 31, 2019 <sup>(Note2)</sup>	39.6	0.0	39.6
Values as of March 31, 2019	175.9	164.0	339.9

<sup>(</sup>Note1) Adjusted net worth decreased as TAL paid out shareholder dividends to Dai-ichi Life Holdings and Dai-ichi Life during the fiscal year ended March 31, 2019.

<sup>(</sup>Note2) In 2018, TAL has received a capital increase from Dai-ichi Life Holdings. The capital increase which is capital transactions within the group has no impact on the Group EEV.

## 4. Sensitivity Analysis

## 4-1 Sensitivity Analysis of Group EEV

The following table shows a sensitivity analysis of Group EEV to changes in assumptions (increase/decrease are shown). Although each figure in the table indicates the sensitivity in response to a change in one parameter, it should be noted that the sum of two or more figures in the table does not indicate the sensitivity to a change in two or more parameters corresponding to such figures.

The sensitivities are calculated based on the assumption that the Group's management actions would remain unaffected by changes in parameters.

(billions of yen)

	Adjusted net worth	Value of in-force business	Covered business EEV	Adjustment related to non-covered business	Group EEV
Values as of Mach 31, 2019	7,127.8	(999.1)	6,128.7	(192.2)	5,936.5
Sensitivity 1: 50bp upward parallel shift in risk-free yield curve	(1,452.2)	+ 1,938.9	+ 486.7	+ 5.4	+ 492.1
Sensitivity 2: 50bp downward parallel shift in risk-free yield curve	+ 1,582.7	(2,182.6)	(599.9)	(5.6)	(605.5)
Sensitivity 3: 10% decline in equity and real estate values	(439.6)	(13.3)	(452.9)	(15.1)	(468.0)
Sensitivity 4: 10% decline in maintenance expenses	0.0	+ 240.6	+ 240.7	0.0	+ 240.7
Sensitivity 5: 10% decline in surrender and lapse rate	0.0	+ 176.8	+ 176.8	0.0	+ 176.8
Sensitivity 6: 5% decline in mortality and morbidity rates for life insurance products	+ 2.6	+ 196.3	+ 199.0	0.0	+ 199.0
Sensitivity 7: 5% decline in mortality and morbidity rates for annuities	(0.1)	(30.7)	(30.8)	0.0	(30.8)
Sensitivity 8: Setting required capital at statutory minimum level	0.0	+ 88.5	+ 88.5	0.0	+ 88.5
Sensitivity 9: 25% increase in implied volatilities of equity and real estate values	+ 2.5	(25.5)	(23.0)	0.0	(23.0)
Sensitivity 10: 25% increase in implied volatilities of swaptions	0.0	(9.4)	(9.4)	0.0	(9.4)

(Note) The sensitivity of DLVN's TEV is not included in the sensitivity analysis of Group EEV.

## Sensitivity analysis of the Group's value of new business

(billions of yen)

	Value of
	new
	business
Values for the year ended March 31, 2019	197.4
Sensitivity 1: 50bp upward parallel shift in risk-free yield curve	+ 18.2
Sensitivity 2: 50bp downward parallel shift in risk-free yield curve	(21.7)
Sensitivity 3: 10% decline in equity and real estate values	0.0
Sensitivity 4: 10% decline in maintenance expenses	+ 10.7
Sensitivity 5: 10% decline in surrender and lapse rate	+ 18.8
Sensitivity 6: 5% decline in mortality and morbidity rates for life insurance products	+ 10.5
Sensitivity 7: 5% decline in mortality and morbidity rates for annuities	+ 0.3
Sensitivity 8: Setting required capital at statutory minimum level	+ 8.0
Sensitivity 9: 25% increase in implied volatilities of equity and real estate values	(0.3)
Sensitivity 10: 25% increase in implied volatilities of swaptions	(0.1)

(Note) The sensitivity of DLVN's value of new business is not included in the sensitivity analysis of the Group's value of new business.

### Sensitivity 1

The item represents the effect on EEV of an upward parallel shift of 50bp in the yield curve of risk-free forward rates. As prices of bonds and loans change, the adjusted net worth changes. Also, as future expected investment yields change, the value of in-force business changes.

The ultimate forward rate used for the extrapolation beyond the last liquid data point of Japanese interest rates is not shifted in this sensitivity. For the business valued using a top-down approach, the item is calculated based on simultaneous upward parallel shift of 50bp in both the investment yields and the risk discount rate.

### • Sensitivity 2

The item represents the effect on EEV of a downward parallel shift of 50bp in the yield curve of risk-free forward rates. The risk-free forward rates are reduced by 50bp without lower limitation of zero. The ultimate forward rate used for the extrapolation beyond the last liquid data point of Japanese interest rates is not shifted for this sensitivity. For the business valued using a top-down approach, the item is calculated based on simultaneous downward parallel shift of 50bp in both the investment yields and the risk discount rate.

## Sensitivity 3

This item represents the effect on EEV of a decline of 10% in equity and real estate values.

### • Sensitivity 4

The item represents the effect on EEV of a decline of 10% in estimated maintenance expenses associated with maintaining in-force business.

### Sensitivity 5

The item represents the effect on EEV of a decline of 10% in surrender and lapse rates.

## • Sensitivity 6

The item represents the effect on EEV of a decline of 5% in mortality and morbidity rates for life and medical insurance products.

### Sensitivity 7

The item represents the effect on EEV of a decline of 5% in mortality and morbidity rates for annuities.

## • Sensitivity 8

The item represents the effect on EEV in the event that required capital was changed to the statutory minimum level in Japan (Dai-ichi Life, DFL and NFL), the United States (Protective Life) and Australia (TAL). As items such as subordinated debt and policy reserves in excess of surrender values are regarded as solvency margin within a certain limit under the Japanese solvency margin framework, the cost of holding required capital is not proportional to the level of capital, and the cost to satisfy the statutory minimum level can be nil.

#### Sensitivity 9

The item represents the effect on EEV of an increase of 25% in the implied volatilities of equity and real estate values.

#### • Sensitivity 10

The item represents the effect on EEV of an increase of 25% in the implied volatilities of swaptions.

# 4-2 Sensitivity Analysis by Company

## (1) Dai-ichi Life

(billions of yen)

	Adjusted net worth	Value of in-force business	EEV
Values as of March 31, 2019	6,059.0	(1,508.5)	4,550.5
Sensitivity 1: 50bp upward parallel shift in risk-free yield curve	(1,271.4)	+ 1,769.4	+ 498.0
Sensitivity 2: 50bp downward parallel shift in risk-free yield curve	+ 1,392.4	(2,004.0)	(611.5)
Sensitivity 3: 10% decline in equity and real estate values	(444.0)	+ 2.1	(441.8)
Sensitivity 4: 10% decline in maintenance expenses	0.0	+ 207.4	+ 207.4
Sensitivity 5: 10% decline in surrender and lapse rate	0.0	+ 133.9	+ 133.9
Sensitivity 6: 5% decline in mortality and morbidity rates for life insurance products	0.0	+ 135.2	+ 135.2
Sensitivity 7: 5% decline in mortality and morbidity rates for annuities	0.0	(22.6)	(22.6)
Sensitivity 8: Setting required capital at statutory minimum level	0.0	+ 8.8	+ 8.8
Sensitivity 9: 25% increase in implied volatilities of equity and real estate values	0.0	(15.0)	(15.0)
Sensitivity 10: 25% increase in implied volatilities of swaptions	0.0	(11.5)	(11.5)

# Sensitivity analysis of Dai-ichi Life's value of new business

	Value of
	new
	business
Values for the year ended March 31, 2019	139.5
Sensitivity 1: 50bp upward parallel shift in risk-free yield curve	+ 10.7
Sensitivity 2: 50bp downward parallel shift in risk-free yield curve	(13.7)
Sensitivity 3: 10% decline in equity and real estate values	+ 0.1
Sensitivity 4: 10% decline in maintenance expenses	+ 6.8
Sensitivity 5: 10% decline in surrender and lapse rate	+ 8.6
Sensitivity 6: 5% decline in mortality and morbidity rates for life insurance products	+ 3.3
Sensitivity 7: 5% decline in mortality and morbidity rates for annuities	+ 0.1
Sensitivity 8: Setting required capital at statutory minimum level	+ 0.2
Sensitivity 9: 25% increase in implied volatilities of equity and real estate values	(0.2)
Sensitivity 10: 25% increase in implied volatilities of swaptions	(0.1)

# (2) Dai-ichi Frontier Life

(billions of yen)

	Adjusted net worth	Value of in-force business	EEV
Values as of March 31, 2019	429.4	(12.6)	416.8
Sensitivity 1: 50bp upward parallel shift in risk-free yield curve	(175.5)	+ 173.0	(2.5)
Sensitivity 2: 50bp downward parallel shift in risk-free yield curve	+ 184.1	(176.6)	+ 7.5
Sensitivity 3: 10% decline in equity and real estate values	(3.3)	(1.7)	(5.1)
Sensitivity 4: 10% decline in maintenance expenses	0.0	+ 5.5	+ 5.5
Sensitivity 5: 10% decline in surrender and lapse rate	0.0	(2.8)	(2.8)
Sensitivity 6: 5% decline in mortality and morbidity rates for life insurance products	0.0	+ 2.6	+ 2.6
Sensitivity 7: 5% decline in mortality and morbidity rates for annuities	0.0	0.0	0.0
Sensitivity 8: Setting required capital at statutory minimum level	0.0	+ 0.2	+ 0.2
Sensitivity 9: 25% increase in implied volatilities of equity and real estate values	0.0	(1.4)	(1.4)
Sensitivity 10: 25% increase in implied volatilities of swaptions	0.0	0.0	0.0

# Sensitivity analysis of Dai-ichi Frontier Life's value of new business

	Value of
	new
	business
Values for the year ended March 31, 2019	3.0
Sensitivity 1: 50bp upward parallel shift in risk-free yield curve	(0.7)
Sensitivity 2: 50bp downward parallel shift in risk-free yield curve	+ 0.5
Sensitivity 3: 10% decline in equity and real estate values	0.0
Sensitivity 4: 10% decline in maintenance expenses	+ 1.4
Sensitivity 5: 10% decline in surrender and lapse rate	(1.7)
Sensitivity 6: 5% decline in mortality and morbidity rates for life insurance products	+ 1.4
Sensitivity 7: 5% decline in mortality and morbidity rates for annuities	0.0
Sensitivity 8: Setting required capital at statutory minimum level	+ 0.3
Sensitivity 9: 25% increase in implied volatilities of equity and real estate values	0.0
Sensitivity 10: 25% increase in implied volatilities of swaptions	0.0

# (3) Neo First Life

(billions of yen)

	Adjusted net worth	Value of in-force business	EEV
Values as of March 31, 2019	20.7	73.0	93.7
Sensitivity 1: 50bp upward parallel shift in risk-free yield curve	(0.5)	+ 6.6	+ 6.0
Sensitivity 2: 50bp downward parallel shift in risk-free yield curve	+ 0.5	(7.0)	(6.5)
Sensitivity 3: 10% decline in equity and real estate values	0.0	0.0	0.0
Sensitivity 4: 10% decline in maintenance expenses	0.0	+ 2.3	+ 2.3
Sensitivity 5: 10% decline in surrender and lapse rate	0.0	+ 10.8	+ 10.8
Sensitivity 6: 5% decline in mortality and morbidity rates for life insurance products	0.0	+ 3.5	+ 3.5
Sensitivity 7: 5% decline in mortality and morbidity rates for annuities	0.0	0.0	0.0
Sensitivity 8: Setting required capital at statutory minimum level	0.0	0.0	0.0
Sensitivity 9: 25% increase in implied volatilities of equity and real estate values	0.0	0.0	0.0
Sensitivity 10: 25% increase in implied volatilities of swaptions	0.0	0.0	0.0

# Sensitivity analysis of Neo First Life's value of new business

· ·	• /
	Value of
	new
	business
Values for the year ended March 31, 2019	31.8
Sensitivity 1: 50bp upward parallel shift in risk-free yield curve	+ 6.4
Sensitivity 2: 50bp downward parallel shift in risk-free yield curve	(6.8)
Sensitivity 3: 10% decline in equity and real estate values	0.0
Sensitivity 4: 10% decline in maintenance expenses	+ 1.3
Sensitivity 5: 10% decline in surrender and lapse rate	+ 7.9
Sensitivity 6: 5% decline in mortality and morbidity rates for life insurance products	+ 1.6
Sensitivity 7: 5% decline in mortality and morbidity rates for annuities	0.0
Sensitivity 8: Setting required capital at statutory minimum level	0.0
Sensitivity 9: 25% increase in implied volatilities of equity and real estate values	0.0
Sensitivity 10: 25% increase in implied volatilities of swaptions	0.0

# (4) Protective Life

	Adjusted net worth	Value of in-force business	EEV
Values as of December 31, 2018	424.1	238.6	662.7
Sensitivity 1: 50bp upward parallel shift in risk-free yield curve	(3.6)	(1.5)	(5.2)
Sensitivity 2: 50bp downward parallel shift in risk-free yield curve	+ 4.7	(4.1)	+ 0.6
Sensitivity 3: 10% decline in equity and real estate values	+ 6.3	(13.6)	(7.2)
Sensitivity 4: 10% decline in maintenance expenses	0.0	+ 19.7	+ 19.7
Sensitivity 5: 10% decline in surrender and lapse rate	0.0	(2.3)	(2.3)
Sensitivity 6: 5% decline in mortality and morbidity rates for life insurance products	0.0	+ 40.8	+ 40.8
Sensitivity 7: 5% decline in mortality and morbidity rates for annuities	0.0	(8.0)	(8.0)
Sensitivity 8: Setting required capital at statutory minimum level	0.0	+ 79.3	+ 79.3
Sensitivity 9: 25% increase in implied volatilities of equity and real estate values	+ 2.5	(9.0)	(6.4)
Sensitivity 10: 25% increase in implied volatilities of swaptions	0.0	+ 2.1	+ 2.1
Sensitivity 11: 50bp upward shift in risk discount rate	0.0	(24.0)	(24.0)
Sensitivity 12: 50bp downward shift in risk discount rate	0.0	+ 25.8	+ 25.8

# Sensitivity analysis of Protective Life's value of new business

(billions of yen)

	Value of new business
Values for the year ended December 31, 2018	3.5
Sensitivity 1: 50bp upward parallel shift in risk-free yield curve	+ 2.5
Sensitivity 2: 50bp downward parallel shift in risk-free yield curve	(2.4)
Sensitivity 3: 10% decline in equity and real estate values	(0.1)
Sensitivity 4: 10% decline in maintenance expenses	+ 0.7
Sensitivity 5: 10% decline in surrender and lapse rate	+ 0.3
Sensitivity 6: 5% decline in mortality and morbidity rates for life insurance products	+ 2.3
Sensitivity 7: 5% decline in mortality and morbidity rates for annuities	+ 0.1
Sensitivity 8: Setting required capital at statutory minimum level	+ 7.4
Sensitivity 9: 25% increase in implied volatilities of equity and real estate values	0.0
Sensitivity 10: 25% increase in implied volatilities of swaptions	0.0
Sensitivity 11: 50bp upward shift in risk discount rate	(1.6)
Sensitivity 12: 50bp downward shift in risk discount rate	+ 2.1

#### • Sensitivity 11

The item represents the effect on EEV of an upward shift of 50bp of the risk discount rate for a top-down approach.

# • Sensitivity 12

The item represents the effect on EEV of a downward shift of 50bp of the risk discount rate for a top-down approach.

# (5) TAL

(billions of yen)

	Adjusted net worth	Value of in-force business	EEV
Values as of March 31, 2019	175.9	164.0	339.9
Sensitivity 1: 50bp upward parallel shift in risk-free yield curve	(1.1)	(8.5)	(9.6)
Sensitivity 2: 50bp downward parallel shift in risk-free yield curve	+ 0.8	+ 9.2	+ 10.0
Sensitivity 3: 10% decline in equity and real estate values	0.0	0.0	0.0
Sensitivity 4: 10% decline in maintenance expenses	0.0	+ 5.6	+ 5.6
Sensitivity 5: 10% decline in surrender and lapse rate	0.0	+ 37.2	+ 37.2
Sensitivity 6: 5% decline in mortality and morbidity rates for life insurance products	+ 2.6	+ 13.9	+ 16.6
Sensitivity 7: 5% decline in mortality and morbidity rates for annuities	0.0	0.0	0.0
Sensitivity 8: Setting required capital at statutory minimum level	0.0	0.0	0.0
Sensitivity 9: 25% increase in implied volatilities of equity and real estate values	0.0	0.0	0.0
Sensitivity 10: 25% increase in implied volatilities of swaptions	0.0	0.0	0.0

# Sensitivity analysis of TAL's value of new business

	Value of
	new
	business
Values for the year ended March 31, 2019	10.8
Sensitivity 1: 50bp upward parallel shift in risk-free yield curve	(0.6)
Sensitivity 2: 50bp downward parallel shift in risk-free yield curve	+ 0.7
Sensitivity 3: 10% decline in equity and real estate values	0.0
Sensitivity 4: 10% decline in maintenance expenses	+ 0.4
Sensitivity 5: 10% decline in surrender and lapse rate	+ 3.6
Sensitivity 6: 5% decline in mortality and morbidity rates for life insurance products	+ 1.7
Sensitivity 7: 5% decline in mortality and morbidity rates for annuities	0.0
Sensitivity 8: Setting required capital at statutory minimum level	0.0
Sensitivity 9: 25% increase in implied volatilities of equity and real estate values	0.0
Sensitivity 10: 25% increase in implied volatilities of swaptions	0.0

#### 5. Note on Using EV

In calculating the embedded value of the Group, numerous assumptions (some of which are shown in Appendix B and Appendix C) are required concerning the Group's lines of business with respect to industry performance, business and economic conditions and other factors, many of which are outside the Group's control. Although the assumptions used represent estimates that the Group believe are appropriate for the purpose of embedded value reporting, future operating conditions may significantly differ from those assumed in the calculation of the embedded value. Consequently, the disclosure of embedded value herein should not be regarded as a statement by the Group, Willis Towers Watson or any other entity, that the stream of future after-tax profits discounted to produce the embedded value will be achieved.

#### Appendix A: EEV Methodology

The primary methodology and assumptions adopted by the Group to calculate EEV are market-consistent and in accordance with the EEV Principles and related Guidance issued by the CFO Forum in May 2004 (revised in May 2016).

#### 1. Covered Business

Covered business is a scope of the business which the EV methodology as defined in the EEV principles is applied and the principles require disclosure of the scope of covered business.

The Group defines life insurance business of the subsidiary insurance companies of Dai-ichi Life Holdings (Dai-ichi Life, DFL, NFL, Protective Life, TAL and DLVN and their subsidiaries/affiliated companies) as its covered business in the EEV calculations. Dai-ichi Life Insurance (Cambodia) PLC. is also its life insurance subsidiary, however it is not included in the covered business considering its materiality.

Consolidated subsidiaries/affiliated companies operating life insurance businesses are treated as follows:

- Dai-ichi Life, DFL, NFL and TAL EEV of the company attributable to Dai-ichi Life Holdings' equity stake in each company is calculated and included in the Group EEV. Methodology and assumptions for these companies are described in Appendix B.
- Protective Life
  EEV of the company attributable to Dai-ichi Life Holdings' equity stake in the

company is calculated and included in the Group EEV. EEV for all of its businesses except for the variable annuity business is calculated with a top-down approach. EEV for the variable annuity business is calculated with a market-consistent approach. For asset protection business, net assets based on US-GAAP balance sheet are included in adjusted net worth.

Methodology and assumptions for Protective Life are described in Appendix C.

- DLVN

The company calculated the EV by using TEV and included it in the Group EEV.

EV methodology is not applied to Dai-ichi Life Holdings and its subsidiaries/affiliated companies (except for subsidiary insurance companies as above), which are not included in covered business. Their value is included in Group EEV as "Adjustment related to non-covered business." The Adjustment related to non-covered business includes total net assets of non-consolidated Dai-ichi Life Holdings, the unrealized gains (losses) of assets and liabilities of Dai-ichi Life Holdings and deduction of Dai-ichi Life Holdings' carrying amount of equity of Dai-ichi Life, DFL, NFL, Protective Life, TAL and DLVN.

#### 2. Adjusted Net Worth (Dai-ichi Life, DFL, NFL, TAL and DLVN)

Adjusted net worth is calculated by adjusting the total net assets on the company's balance sheet for the following:

- In order to mark to market, differences in market value and book value of assets have been reflected, specifically differences of bonds held to maturity, policy-reserve-matching bonds, loans, land, building, debt and borrowings etc., after adjusting for tax. For retirement benefits, the sum of unrecognized gains/losses on plan amendments and unrecognized actuarial differences has been used after adjustment for tax.
- Liabilities that are appropriate to be added to the adjusted net worth (contingency reserve, reserve for price fluctuations, unallocated portion of reserve for policyholder dividends, and general reserve for possible loan losses) have been added on an after-tax basis.
- Adjusted net worth of DFL is shown after the adjustment regarding the surplus relief reinsurance.
  - (Note) Under current statutory accounting practices applicable to life insurance companies in Japan, the initial cost is recognized at the time of sale, and the profit is collected gradually over the contract period. Because the ability of an insurance company to recover the initial cost is subject to the future economic environment, DFL reduces the risk of failing to recover the cost by a surplus relief reinsurance. DFL receives commission to cover the initial cost at the time of sale, and the commission is amortized over the contract period. As a result, DFL can reduce the capital cost of new business. For EEV purposes, we reclassify the future cost for reinsurance from VIF to ANW because we consider the reclassification more appropriately expresses VIF and ANW.
- An adjustment is made for TAL's intangible assets, including goodwill and value of in-force business.
- DLVN pays an upfront fee related to an exclusive bancassurance distribution agreement, which is once recorded as assets and hereafter amortized over certain years for accounting purposes. The unamortized upfront fee is included in adjusted net worth and its amortized cost is reflected in the value of new business.

#### 3. Value of in-force business (Dai-ichi Life, DFL, NFL and TAL)

The value of in-force business is calculated as (i) certainty equivalent present value of projected after-tax profits, less (ii) time value of financial options and guarantees, less (iii) cost of holding required capital, less (iv) cost of non-hedgeable risks.

Future profits for each year are estimated based on the assumption that policy reserves are held on a statutory basis in each country.

With regard to reinsurance, both outward and inward reinsurance contracts are reflected.

#### 3-1 Certainty equivalent present value of future profits

The certainty equivalent present value of future profits is the after-tax profits based on the projected cash flows calculated on a deterministic basis, and discounted by the risk-free rate. Investment cash flows are calculated assuming that investment yields of all assets are equivalent to the risk-free rate. The certainty equivalent present value of future profits reflects the intrinsic value of options and guarantees. As described in "2. Adjusted Net Worth (Dai-ichi Life, DFL, NFL and TAL)", the certainty equivalent present value of future profits of DFL is shown after the adjustment regarding the surplus relief reinsurance.

#### 3-2 Time value of financial options and guarantees

The time value of financial options and guarantees is calculated as the difference between (i) the certainty equivalent present value of future profits and (ii) the average of the present value of future after-tax profits calculated by stochastic methods where economic assumptions are consistent with current market prices for traded assets. For NFL, the time value of financial options and guarantees is defined as zero in consideration of products characteristics. For TAL, it is calculated assuming a simple normal distribution, taking into account the limited impact on the results.

Asset allocation is assumed to be the same as the one at the valuation date over the projection periods and any discretion of management in terms of investment strategy is not incorporated.

There are various options in the insurance contracts. The following principal options and guarantees are considered in calculating the time value of financial options and guarantees of the Group using stochastic methods.

#### - Participating policies options

When profits arise, policyholder dividends are paid out. On the other hand, when losses arise, the cost of guarantees is not attributed to policyholders. Such asymmetric nature emerges in the net surplus after distribution of policyholder dividends. The value of this option is calculated in the time value of financial options and guarantees by assuming future policyholder dividends along with future profits by stochastic scenarios.

#### - Minimum guarantees for variable life insurance

When investment performance is good, policyholders will be entitled to the full amount of the account. On the other hand, when investment performance is poor, an insurance company will bear the cost of guarantees attached to variable life insurance policies. The value of this option is calculated in the time value of financial options and guarantees of the Group.

#### - Policyholder behavior

Policyholders have options depending on the movement of financial markets. The cost of selective lapses, such as the lapses based on the "moneyness" in variable annuities or the relation between assumed interest rate and interest rate in saving products, is reflected in the time value of financial options and guarantees of the Group.

#### 3-3 Cost of holding required capital

This is referred to as "frictional cost" in market-consistent methodology. In order to maintain financial soundness, life insurance companies are required to hold additional assets in excess of the statutory liability. The cost of holding required capital is the cost incurred through the payment of taxes on the investment income of the assets backing the required capital and the related investment expenses incurred for the management of the assets.

The EEV Principles define the minimum required capital to be equal to the statutory minimum capital requirement, and if the required capital calculated by an internal model exceeds the statutory requirement, an internal model may be used. Dai-ichi Life, DFL and NFL define required capital as the level required to maintain 400% level of solvency margin ratio. TAL defines required capital as the level required by the regulations in Australia.

The values of required capital as of March 31, 2018 and March 31, 2019 are \(\frac{\pmathbf{\frac{4}}}{1,377.8}\) billion and \(\frac{\pmathbf{\frac{4}}}{1,579.0}\) billion, respectively (free surplus as of March 31, 2018 and March 31, 2019 are \(\frac{\pmathbf{\frac{4}}}{5,346.0}\) billion and \(\frac{\pmathbf{\frac{4}}}{5,548.7}\) billion, respectively; required capital and free surplus include those of Protective Life and DLVN; the adjusted net worth is represented by the sum of required capital and free surplus).

The European Insurance CFO Forum Market Consistent Embedded Value Principles©¹(the "MCEV Principles") state that required capital should be at least the statutory minimum capital level and should include amounts required to meet internal objectives. The Group will continue investigation in reviewing the definition of required capital, taking into account worldwide trends and discussions on economic value based solvency assessment.

\_

<sup>&</sup>lt;sup>1</sup> Copyright © Stichting CFO Forum Foundation 2008

#### 3-4 Cost of non-hedgeable risks

EEV Principles define the EV to be the present value of distributable profits attributable to shareholders arising from assets allocated to the covered business, calculated taking into account all the risks of the covered business including non-hedgeable risks.

The uncertainty around the return on most risks can be diversified away. Thus, for some risks such as mortality, no further allowance is required, provided the best estimate assumptions are set to provide the mean expected financial outcome to shareholders.

There are some non-hedgeable risks where the existing best estimate experience assumptions do not reflect the mean expected financial outcome to shareholders. A typical example is operational risk. When profits arise, the company pays tax. On the other hand, when losses arise, tax cannot be negative. In such cases, carrying losses on a tax accounting basis are collectable in most cases. However, there is a risk of uncollectibility within the deferrable period, which has also been included in this cost of non-hedgeable risks. And for risk-free rates beyond the last liquid data point, there is a risk of uncertainty due to the low liquidity, which has also been included.

The Group quantified non-hedgeable risks by a simplified model.

#### 4. Value of new business (Dai-ichi Life, DFL, NFL and TAL)

The value of new business for the fiscal year ended March 31, 2019 is the value of new policies issued during the twelve months period, and is calculated by the same method as the value of in-force business. The value of new business is generally calculated based on economic and non-economic assumptions as of the end of the fiscal year. However, for DFL, the value of new business is calculated separately for the new business acquired during the 1st and the 2nd half of the fiscal year, based on economic and non-economic assumptions as of the end of each period. Additionally, the value of new business for some products of DFL on which the economic assumptions have significant impact is calculated based on the economic assumptions as of the end of the month of contract issue. The value of new business is the value at the time of sale of new policies. The profit during the first year of acquisition of new business is calculated based on the same assumptions as described above.

In addition to the new policies, net increases in conversions and addition of riders have been included in the value of new business, while renewal of policies is not included. With regard to the corporate insurance written by Dai-ichi Life, such as group insurance, corporate pension and workers compensation insurance, the increase of the proportion underwritten by an insurance company in a group scheme, the increase of members in a group scheme and the increase of the sum insured by members in a group scheme are included in the value of new business.

# Appendix B: Principal EEV Assumptions (Dai-ichi Life, DFL, NFL, TAL and DLVN)

#### 1. Economic assumptions and discount rate

#### (1) Risk-free rate (Dai-ichi Life, DFL, NFL and TAL)

Issues such as appropriate reference rates for risk-free rates and extrapolation beyond the last liquid data point are discussed broadly in the context of Solvency II or the Insurance Capital Standard (ICS) being developed by the International Association of Insurance Supervisors. With regard to extrapolation method, term structures of interest rates for various currencies are set based on a method using ultimate forward rates<sup>2</sup> in the technical specifications for ICS field testing.

#### i. Reference interest rate

For the certainty equivalent calculation, the Japanese Government Bond (JGB) for Japanese yen and swap rates for foreign currencies are used as reference rates, taking into account each company's asset portfolio and the market liquidity.

#### ii. Extrapolation method for Japanese Yen

For Japanese yen risk-free rates (forward rates), an ultimate forward rate is set at 3.5% and the last liquid data point is set at the 30th year. Beyond the 30th year, we extrapolate the yield curve to the ultimate forward rate over a convergence period of 30 years by using the Smith-Wilson method. These parameters are set based on the developing ICS discussions.

#### iii. Extrapolation method for foreign currencies

For foreign currencies, the forward rates in the 31st year and beyond are assumed to be equal to those in the 30th year.

48

<sup>&</sup>lt;sup>2</sup> ICS field testing technical specification used the word "long term forward rate".

The table below shows, for selected terms, the risk-free rates (spot rates) which are used in the calculations.

	JGB	JGB rate		swap rate	
Term	March 31,	March 31,	March 31,	March 31,	
	2018	2019	2018	2019	
1 Year	-0.134%	-0.178%	2.136%	1.733%	
2 Year	-0.137%	-0.183%	2.237%	1.632%	
3 Year	-0.118%	-0.195%	2.347%	1.621%	
4 Year	-0.118%	-0.211%	2.454%	1.640%	
5 Year	-0.108%	-0.202%	2.538%	1.704%	
10 Year	0.043%	-0.081%	2.866%	2.060%	
15 Year	0.293%	0.165%	3.063%	2.305%	
20 Year	0.542%	0.358%	3.127%	2.420%	
25 Year	0.709%	0.492%	3.126%	2.459%	
30 Year	0.778%	0.538%	3.086%	2.431%	
35 Year	0.950%	0.715%	3.051%	2.401%	
40 Year	1.194%	0.981%	3.025%	2.378%	
45 Year	1.423%	1.231%	3.004%	2.361%	
50 Year	1.620%	1.446%	2.988%	2.347%	

(Source: Ministry of Finance Japan and Bloomberg, after interpolation/extrapolation)

# (2) Discount rate (DLVN)

In the TEV calculation for Dai-ichi Life Vietnam, discount rates are used. The discount rates are as follows:

	December 31, 2017	December 31, 2018
Discount rate	12.5%	11.0%

(3) Principal dynamic assumption (Dai-ichi Life, DFL, NFL and TAL) In the EEV calculation for Dai-ichi Life and DFL, dynamic assumptions are used. For NFL and TAL, dynamic assumptions are not used.

#### i. Interest rate model

As an interest rate model, the Group has adopted a single-factor Hull-White model, in which interest rates associated with Japanese yen, U.S. dollars, Euro, Australian dollars and New Zealand dollar are calculated. The model has been adjusted to be in line with a risk-neutral approach in which Japanese yen is set as a base currency, and correlations between the interest rates have been also taken into account. The interest rate model has been calibrated consistently with the market environment as of each reporting date, and parameters used are estimated from the yield curve and implied volatilities of interest rate swaptions with various maturities. 5,000 scenarios are used in calculating time value of financial options and guarantees through stochastic method.

These scenarios have been generated by Willis Towers Watson.

For implied volatilities of interest rate swaptions, the Group has adopted volatilities derived from the "Normal Model" due to limited availability of Black Model volatilities under current market environment with negative interest rate in Japan and Euro area.

Interest rate swaptions

		March 31, 2018				March 3	1, 2019		
Option	Swap	JPY	USD	EUR	AUD	JPY	USD	EUR	AUD
Term	Term	31 1	ОББ	LOK	пов	31 1	СББ	LOK	пов
5 Year	5 Year	21.4bp	27.1%	62.8bp	20.1%	20.7bp	29.8%	47.9bp	26.3%
5 Year	7 Year	22.8bp	26.5%	62.5bp	19.4%	21.8bp	28.6%	48.2bp	25.0%
5 Year	10 Year	25.2bp	25.8%	61.7bp	18.8%	23.6bp	24.7%	48.5bp	23.6%
7 Year	5 Year	24.6bp	25.9%	64.3bp	18.6%	24.2bp	27.8%	51.8bp	24.0%
7 Year	7 Year	25.9bp	25.6%	63.8bp	18.0%	25.0bp	27.4%	51.7bp	23.2%
7 Year	10 Year	27.4bp	25.0%	62.9bp	24.9%	25.9bp	26.8%	51.3bp	22.1%
10 Year	5 Year	28.0bp	24.2%	63.7bp	17.4%	28.0bp	25.5%	54.5bp	22.2%
10 Year	7 Year	29.2bp	24.2%	63.3bp	17.3%	28.8bp	25.8%	54.2bp	21.5%
10 Year	10 Year	30.3bp	23.2%	62.4bp	16.2%	29.1bp	25.2%	53.6bp	20.5%

(Source: Bloomberg)

#### ii. Implied volatilities of equities and currencies

Volatilities of traditional equity indices and currencies are calibrated based on implied volatilities of relevant options traded in the market. Implied volatilities used to calibrate the scenarios are as follows:

**Stock Options** 

C	Underlying Option		Vola	tility
Currency Asset		Term	March 31, 2018	March 31, 2019
		3 Year	18.5%	17.8%
JPY	Nikkei 225	4 Year	18.5%	17.9%
		5 Year	18.6%	17.9%
		3 Year	18.6%	17.4%
USD S&P 500	S&P 500	4 Year	19.2%	18.0%
		5 Year	19.9%	18.5%
		3 Year	16.2%	15.4%
EUR	EuroStoxx 50	4 Year	16.4%	15.7%
		5 Year	16.6%	15.8%

(Source: Willis Towers Watson analysis of Markit data)

#### **Currency Options**

G	Option	Volatility		
Currency	Term	March 31, 2018	March 31, 2019	
USD	10 Year	10.7%	10.8%	
EUR	10 Year	11.0%	11.0%	
AUD	5 Year	13.4%	12.9%	

(Source: Bloomberg)

#### iii. Volatilities of real estate and other asset classes

Market-consistent implied volatilities have not been observed with regard to real estate. Therefore, the volatility of real estate has been derived by multiplying the historical volatility ratio (89.8%) of Tokyo Stock Exchange REIT index to Nikkei 225 (Nikkei stock average) by the implied volatility of Japanese equity.

In addition, REIT and emerging equity/bond markets are modeled as an asset class in stochastic calculation for variable type products. Volatilities of those asset classes have been derived in the same manner.

#### iv. Correlations

In addition to implied volatilities described above, Dai-ichi Life and DFL have calculated implied volatilities reflecting its asset portfolio and correlation factors. The share of each asset is assumed to be unchanged over the projection periods.

With regard to correlation factors, market-consistent data from exotic options with sufficient liquidity have not been observed in the market. Therefore, we estimated correlation factors based on historical market data. Specifically, the monthly data for 10 years to most recent have been used. The following table shows correlation factors between major variables.

	Short Term Rate /JPY	Short Term Rate /USD	Short Term Rate /EUR	Ex- change Rate /USD	Ex- change Rate /EUR	Stock Index /JPY	Stock Index /USD	Stock Index /EUR	REIT Index /TSE REIT Index
Short Term Rate /JPY	1.00	0.32	0.36	0.35	0.27	0.38	0.17	0.21	-0.11
Short Term Rate /USD	0.32	1.00	0.56	0.49	0.45	0.51	0.32	0.29	0.17
Short Term Rate /EUR	0.36	0.56	1.00	0.23	0.60	0.36	0.37	0.39	0.15
Exchange Rate /USD	0.35	0.49	0.23	1.00	0.63	0.64	0.18	0.27	0.24
Exchange Rate /EUR	0.27	0.45	0.60	0.63	1.00	0.63	0.51	0.44	0.31
Stock Index /JPY	0.38	0.51	0.36	0.64	0.63	1.00	0.63	0.63	0.50
Stock Index /USD	0.17	0.32	0.37	0.18	0.51	0.63	1.00	0.75	0.34
Stock Index /EUR	0.21	0.29	0.39	0.27	0.44	0.63	0.75	1.00	0.22
REIT Index /TSE REIT Index	-0.11	0.17	0.15	0.24	0.31	0.50	0.34	0.22	1.00

(Source: Ministry of Finance Japan and Bloomberg)

(4) Assumed investment yield on each asset used for the expected return calculation (Dai-ichi Life, DFL, NFL and TAL)

Assumed investment yield on each asset used for the calculation of "Expected existing business contribution (market-consistent approach)" in "3. Movement Analysis" for Dai-ichi Life and DFL is as follows:

	Assumed investment yield
Cash and deposits, call loans	-0.13%
Fixed income assets	0.08%
Domestic stocks	4.77%
Foreign bonds	3.60%
Other assets	5.00%

The assumed investment yield used for the calculation of "Expected existing business contribution (in excess of risk-free rate)" is calculated by multiplying the share of each asset as of March 31, 2018 by the assumed investment yield of each asset above. For Dai-ichi Life, the weighted-average assumed investment yield is 1.08%. For fixed products of DFL, assumed investment yield is calculated separately to correspond to the property of the assets.

For NFL and TAL, no expected return in excess of risk-free rate is assumed.

#### (5) Exchange rate (TAL and DLVN)

TAL's EEV and DLVN's TEV are calculated in local currency and converted into JPY by following rates;

	March 31, 2018	March 31, 2019
AUD 1.00	JPY 81.66	JPY 78.64

	December 31, 2017	December 31, 2018
VND 1.00	JPY 0.0050	JPY 0.0048

#### 2. Non-economic assumptions

All cash flows (premium, operating expense, benefits and claims, cash surrender value, tax, etc.) are projected applying the best estimate assumptions up to the termination of the policies, by product, referring to past, current and expected future experience.

- (1) Operating expenses (maintenance expenses) (Dai-ichi Life, DFL, NFL and TAL)
  - Operating expenses are set based on the experience of each company. The look-through basis is applied in terms of operating expenses of insurance business in the Group. In addition, each company reflects a business

management fee to be paid to Dai-ichi Life Holdings.

- For Dai-ichi Life and DFL, adjustments are made for one-time expenses which are considered to be non-recurrent in the future. For Dai-ichi Life, the amount excluded from the expense assumption is ¥0.2 billion (for the fiscal year ended March 31, 2019) which mainly corresponds to the one-time reinsurance premium for receiving reinsurance. For DFL, the amount excluded from the expense assumption is ¥0.1 billion (for the fiscal year ended March 31, 2019) which corresponds to the one-time costs related to IT system development.
- For NFL, improvement of operating efficiency is expected in the future with the progress of business expansion because the new business has been operated for only a short period of time. Therefore, based on the projection of new business trend and of operating expenses in the mid-term business plan, unit-costs are assumed to decrease over 7 years; it is expected to reach an ultimate level within 10 years after new business expansion started. This rate of improvement is set equal to 17% p.a. for the EEV calculation.
- Future inflation rate is assumed to be zero for Dai-ichi Life, DFL and NFL. It is assumed to be 2.50% p.a. for TAL.

#### (2) Policyholder dividends (Dai-ichi Life, DFL, NFL and TAL)

For Dai-ichi Life and TAL, policyholder dividend rate is set based on the current dividend policy.

For DFL and NFL, no assumption of policyholder dividend rate is set because only non-participating policies are sold.

# (3) Effective tax rates (Dai-ichi Life, DFL, NFL, TAL and DLVN) Effective tax rates are set based on the most recent effective tax rate (including local tax) for each company.

	I
	For the fiscal
	year ended
	March 31, 2019
	and thereafter
Dai-ichi Life	27.92%
Dai-ichi Frontier Life	28.000/
Neo First Life	28.00%
TAL	30.00%
Dai-ichi Life Vietnam	20.00%

(Note) Effective tax rates of Dai-ichi Life Holdings are applied to the adjustment related to non-covered business, which are 30.62% for the fiscal year ended March 31, 2019 and thereafter.

#### **Appendix C: EEV Methodology and Assumptions of Protective Life**

#### 1. Adjusted Net Worth ("ANW")

#### (1) Total net assets

Total net assets on the balance sheet is comprised of the following three components:

- Statutory capital and surplus (sum of Protective Life's subsidiaries): The starting point for the ANW is the statutory capital and surplus of the life insurance companies. This is taken directly from the statutory annual statement for Protective Life's subsidiaries as of December 31, 2018 (4,340 million USD).
- Value of non-life entities:

  The GAAP equity book value of non-life entities is reflected in this component rather than in statutory capital and surplus.
- Adjustment for holding company's equity:
  The ANW is adjusted to reflect the net GAAP equity position of the holding company (Protective Life).

#### (2) Retained earnings in liabilities

Liabilities that are appropriate to be added to the adjusted net worth have been added. The asset valuation reserve is a required liability in the statutory balance sheet of U.S. life insurance companies. The asset valuation reserve is regarded as allocated surplus and is included in ANW.

(3) Adjustment for deferred tax assets and miscellaneous items

This includes (i) deduction of the deferred tax assets on the statutory balance sheet and (ii) addition of assets which have a certain economic value but which are not recorded on the statutory balance sheet.

#### 2. Value of in-force business

- VA business (market-consistent approach)
  The value of in-force business for the VA business is calculated based on the same methodology as described in "3. Value of in-force business (Dai-ichi Life, DFL, NFL and TAL)" section in Appendix A. Protective Life defines required capital as the level required to maintain 400% of NAIC Company Action Level ("CAL") Risk-Based Capital ("RBC").
- Non-VA businesses (top-down approach)

  The value of in-force is calculated by deducting the cost of holding required capital from the present value of future profits. The time value of financial options

and guarantees is not material for the non-VA business.

The present value of future profits is the after-tax statutory profits of non-VA in-force covered business based on projected cash flows calculated on a deterministic basis, and discounted by an appropriate risk discount rate. Investment cash flows are calculated based on the economic assumptions at the reporting date and on asset allocations on the reporting date and expected in the future.

The cost of holding required capital is a spread between the after tax investment yield and the discount rate for holding the required capital.

Protective Life defines required capital as the level required to maintain 400% of CAL RBC for most of its business.

#### 3. Value of new business

The value of new business of Protective Life for the fiscal year ending December 31, 2018 is represented by the value of new policies issued during the twelve months period, and is calculated using the same method as the value of in-force business. The value of new business is calculated separately for the new business acquired during the 1st and the 2nd half of the fiscal year, based on average economic assumptions for each period and non-economic assumptions at the time of new policies. The value of new business is the value at the time of sale of new policies. The profit during the fiscal year ended December 31, 2018 from new business is calculated based on the same assumptions above. Premium for investment products is included as premium income revenue in this report as we are reporting on a statutory basis, which is not commonly accounted as premium income revenue in US-GAAP.

#### 4. Economic Assumptions for VA business

U.S. Dollar based market-consistent assumptions as of each reporting date are used for the VA business, which are determined based on an approach which is similar to the approach described in Appendix B.

#### (1) Risk-free rate

For Protective Life's VA business, US dollar swap rates are used as a proxy for risk-free rates. The table below shows, for selected terms, the risk-free rates (spot rates) which are used in the calculations.

	US dollar swap rate		
Term	December 31,	December 31,	
	2017	2018	
1 Year	1.91%	2.78%	
2 Year	2.09%	2.68%	
3 Year	2.18%	2.61%	
4 Year	2.23%	2.59%	
5 Year	2.26%	2.60%	
10 Year	2.42%	2.75%	
15 Year	2.53%	2.86%	
20 Year	2.57%	2.89%	
25 Year	2.58%	2.90%	
30 Year	2.57%	2.89%	
35 Year	2.56%	2.86%	
40 Year	2.54%	2.81%	
50 Year	2.48%	2.75%	

(Source: Bloomberg, after interpolation)

#### (2) Interest rate models

Implied volatilities of interest rate swaptions used to calibrate the scenarios are summarized as follows:

Interest rate swaptions

	1	December 31,	December 31,
		2017	2018
Option Term	Swap Term	USD	USD
5 Year	5 Year	29.7%	26.9%
5 Year	7 Year	28.8%	25.9%
5 Year	10 Year	25.3%	24.8%
7 Year	5 Year	28.8%	25.7%
7 Year	7 Year	28.3%	25.1%
7 Year	10 Year	24.8%	24.1%
10 Year	5 Year	27.1%	24.3%
10 Year	7 Year	27.0%	22.5%
10 Year	10 Year	25.9%	22.6%

(Source: Bloomberg)

(3) Implied volatilities of equities and other assets Implied volatilities used to calibrate the scenarios are as follows:

**Stock Options** 

Curronav	urranay Lindaulyina Assat		Volatility		
Currency	Underlying Asset	Term	December 31, 2017	December 31, 2018	
	G 0 P 700	1Year	13.6%	19.5%	
5&	S&P 500	2Year	15.9%	18.8%	
USD Russell 2000  Barclays US Aggres	D 11 2000	1Year	17.2%	21.2%	
	Russen 2000	2Year	18.7%	20.9%	
	Barclays US Aggregate	1Year	3.2%	5.2%	
	Bond Fund	2Year	3.2%	5.2%	

(Source: Willis Towers Watson analysis of Markit data, Bloomberg)

#### (4) Correlations

The following table shows correlation factors between major variables as of December 31, 2018.

	USD Risk-free rate	S&P 500	Russell 2000	Barclays US Aggregate Bond Fund
USD Risk-free rate	1.00	0.17	0.24	-0.87
S&P 500	0.17	1.00	0.90	-0.06
Russell 2000	0.24	0.90	1.00	-0.14
Barclays US Aggregate Bond Fund	-0.87	-0.06	-0.14	1.00

(Source: Bloomberg)

# (5) Assumed investment yield used for the expected return calculation

The assumed investment yield of VA fund return used for the calculation of "Expected existing business contribution (market-consistent approach)" in "3. Movement Analysis" is as follows:

	Assumed investment yield		
	Six months ended Six months ende		
	June 30, 2018	December 31, 2018	
Bonds	4.00%	4.75%	
Equity	8.25%	8.50%	

#### 5. Economic Assumptions and Risk Discount Rate for Non-VA businesses

#### (1) Economic assumptions

Investment cash flows for the top-down approach are based on the economic assumptions on the reporting date and on the asset allocations on the reporting date and expected in the future. Key economic assumptions include the level of government bond rates, default rates and investment expenses. Government bond rates and credit spreads were set equal to prevailing levels at each reporting date. No changes to the levels were projected. Credit spreads in the in-force model graded from initial levels to historical averages over projected years 6-10.

Existing yields are as follows:

	Current Yield		
	December 31, December 3		
	2017	2018	
Corporate Bonds	5.19%	4.93%	
Others	4.32%	4.23%	
Grand Total	4.87%	4.67%	

(Note) Statutory basis, before deduction of default cost

Reinvestment yields vary by liability group, in accordance with the characteristics of the liabilities and actual practice, and are determined based on the reinvestment strategy on the reporting date and expected in the future.

Reinvestment rates by main liability group are as follows:

	Reinvestment Rates	
Main Products	December 31,	December 31,
	2017	2018
Universal Life and VUL	3.89 - 4.85%	4.47 - 5.15%
Traditional and term life	3.64 - 4.85%	4.28 - 5.15%
Fixed annuities	3.00 - 4.55%	3.53 - 4.83%
MVA annuities	2.60 - 3.57%	3.50 - 3.93%

(Note 1) Before deduction of default cost

(Note 2) Rates vary by product type

Default rates, which apply to existing assets and reinvestments, are determined by asset type, duration, and rating, where applicable, based on historical records. Expected default costs net of recovery are as follows:

	Default cost	
	December 31,	December 31,
	2017	2018
Existing assets	18bp	18bp
Reinvested assets (Note)		
Universal Life and VUL	14 - 19bp	12 - 17bp
Traditional and term life	11 - 19bp	10 - 17bp
Fixed annuities	11 - 16bp	7 - 15bp
MVA annuities	10 - 11bp	9 - 10bp

(Note) Costs vary by product type

#### (2) Risk discount rate

The risk discount rate is set using a weighted average cost of capital approach (WACC) taking into account the cost of equity and cost of debt.

Risk discount rates are as follows:

	In-force business	
	December 31,	December 31,
	2017	2018
Risk discount rate	7.00%	7.00%
Risk free rate (10 year U.S. government bond yield)	2.41%	2.69%
Risk margin	4.59%	4.32%

	New business			
	Six months	Six months	Six months	Six months
	ended	ended	ended	ended
	June 30,	December 31,	June 30,	December 31,
	2017	2017	2018	2018
Risk discount rate	7.00%	7.00%	7.25%	7.25%
Risk free rate (10 year U.S. government bond yield)	2.35%	2.32%	2.77%	2.94%
Risk margin	4.65%	4.68%	4.48%	4.31%

#### 6. Non-economic assumptions

All cash flows (premium, operating expense, benefits and claims, cash surrenders, tax, etc.) are projected by applying the best estimate assumptions up to the termination of the policies by product. The assumptions are based on the past, current and expected future experience.

Future credited rates and policyholder dividends are based on current credited rate setting methods and policyholder dividend strategies.

Dynamic policyholder behavior is applied where appropriate.

The future inflation rate is assumed to be 3% p.a. and is applied to the best estimate unit expense assumptions.

The tax rate is set at 21.00% and is applied to the projected taxable income.

#### 7. Exchange rate

The EEV of Protective Life is calculated in local currency and converted into JPY using the following rate:

	December 31, 2017	December 31, 2018	
USD 1.00	JPY 113.00	JPY 111.00	

#### **Appendix D: Actuarial Opinion**

Dai-ichi Life Holdings requested Willis Towers Watson, an independent actuarial firm, to review the calculation of the Group's EEV and obtained the following opinion.

Willis Towers Watson has reviewed the methodology and assumptions used to determine the embedded value results as at March 31, 2019 for Dai-ichi Life Group. The review covered the embedded value as at March 31, 2019, the value of new business issued in the fiscal year 2018, the analysis of movement in the embedded value during the fiscal year 2018 and the sensitivities of the embedded value and new business value to changes in assumptions.

Willis Towers Watson has concluded that the methodology and assumptions used, together with the disclosure provided in this document, comply with the EEV Principles and Guidance. In particular:

- The methodology makes allowance for the aggregate risks in the covered business:
  - For Dai-ichi Life Group excluding Protective Life's non-VA businesses, through Dai-ichi Life Group's bottom-up methodology as described in Appendix A of this document, which includes a stochastic allowance for financial options and guarantees, and deductions to allow for the frictional cost of required capital and the impact of non-hedgeable risks, and
  - For Protective Life's non-VA businesses, through Dai-ichi Life Group's top-down methodology as described in Appendix C of this document, which incorporates risk margins in the discount rates applied to best estimate deterministic projections of after-tax statutory profits and the deduction of the cost of risk-based capital relating to the business. Consequently, it should be noted that the results for Dai-ichi Life Group, in particular Protective Life's non-VA business, may materially differ from a capital market valuation of such risk (so called "market consistent valuation");
- The operating assumptions have been set with appropriate regard to past, current and expected future experience;
- The economic assumptions used are internally consistent and consistent with observable market data; and
- For participating business, the assumed policyholders' dividend rates, and the allocation of profit between policyholders and shareholders, are consistent with the projection assumptions, established company practice and local market practice.

#### [Unofficial translation]

Willis Towers Watson has also reviewed the results of the calculations, without however undertaking detailed checks of all the models, processes and calculations involved. On the basis of our review, Willis Towers Watson is satisfied that the disclosed results have been prepared, in all material respects, in accordance with the methodology and assumptions set out in this disclosure document.

In arriving at these conclusions, Willis Towers Watson has relied on data and information provided by Dai-ichi Life Holdings, including estimates for the market value of assets for which no market prices exist. This opinion is made solely to Dai-ichi Life Holdings in accordance with the terms of Willis Towers Watson's engagement letter. To the fullest extent permitted by applicable law, Willis Towers Watson does not accept or assume any responsibility, duty of care or liability to anyone other than Dai-ichi Life Holdings for or in connection with its review work, the opinions it has formed, or for any statement set forth in this opinion.

# **Appendix E: Glossary**

Best Estimate	An assumption that represents the mean expected
Assumption	financial outcome to shareholders from the range of
rissumption	possible outcomes for future experience of that
	assumption.
Certainty Equivalent	For a market consistent approach, the Certainty
Present Value of Future	
	Equivalent Present Value of Future Profits is the present
Profits / Present Value of	value of future statutory after-tax profits, projected over
Future Profits	the life time of the policies in a scenario where all
	investments are assumed to earn the risk-free rate and
	future statutory after-tax profits are discounted at the
	risk-free rate.
	For a top-down approach, the Present Value of Future
	Profits is the present value of future statutory after-tax
	profits, projected over the life time of the policies in a
	scenario where assumed investment returns include
	allowance for expected investment risk premiums and
	future statutory after-tax profits are discounted at a risk
	discount rate.
CFO Forum	The CFO Forum is a high-level discussion group formed
	and attended by the Chief Financial Officers of major
	European insurance companies. Its aim is to discuss
	issues relating to financial reporting developments for
	their businesses and how they can create greater
	transparency for investors. The CFO Forum was created
	in 2002.
Cost of Holding	Cost of Holding Required Capital is the decrease in
Required Capital	present value of distributable profits attributable to
	shareholders, related to holding required capital.
	For a market-consistent approach, this is called
	"frictional cost", and this reflects the investment and
	taxation costs incurred by shareholders through investing
	required capital in the company rather than directly.
	For a top-down approach, a spread between the
	investment yield and the discount rate for holding the
	required capital is included.
Cost of non-hedgeable	Explicit cost for asymmetric non-hedgeable risks such as
Risks	operational risks.
	operational fibrio.

Covered business	The scope of the business which the EV methodology as defined in the EEV principles is applied. The EEV principles require disclosure of the scope of covered business.
Discount rate / Risk discount rate	A discount rate is used for discounting future profits in calculating the value of in-force and new business. For a market-consistent approach, a risk-free rate is used as the discount rate. For a top-down approach, the discount rate includes a risk margin. For the purpose of this report, risk discount rate indicates the risk discount rate for a top-down approach.
EEV Principles	European Embedded Value (EEV) Principles were published by the CFO Forum in May 2004, together with additional guidance on disclosures in October 2005, addressed the treatment of options and guarantees and provided the insurance industry with improved sensitivities and disclosures. In May 2016, revised EEV principles were issued.
ICS	Insurance capital standard (ICS) is a new capital standard which International Association of Insurance Supervisors (IAIS) is developing as a part of ComFrame. ComFrame is a common framework for supervision of internationally active insurance groups (IAIGs).
Implied Volatility	The implied volatility of an option contract is the volatility implied by the market price of the option.
Look-through Basis	A basis via which the impact of an action on the whole group, rather than on a particular part of the group, is measured.
Market-consistent Approach	A measurement approach where economic assumptions are such that projected asset cash flows are valued consistently with current market prices for traded assets.
MCEV Principles	The European Insurance CFO Forum Market Consistent Embedded Value Principles (Copyright© Stichting CFO Forum Foundation 2008) were published by CFO Forum in June 2008 to ensure the valuation to be on a market consistent basis and to improve comparability between companies. In May 2016, revised MCEV Principles were issued.

Required Capital	The amount of assets, over and above the value placed on
	liabilities in respect of covered business, whose
	distribution to shareholders is restricted.
Risk-free Rate	Prospective yields on securities to be considered to be
	free of default or credit risk.
Solvency II	Solvency II is an economic capital based new regulatory
	framework for insurance companies in Europe. It was be
	effective from January 1, 2016.
Stochastic Method	Techniques that incorporate the potential future
	variability in assumptions affecting their outcome.
Swaption	A swaption is an option giving the holder the right to
	enter into a certain swap at a certain time in the future.
Time Value of Financial	An option feature has two elements of value, the time
Options and Guarantees	value and intrinsic value. Intrinsic value is that of the
	most valuable benefit under the option under conditions
	at the valuation date. Time value is the additional value
	ascribable to the potential for benefits under the option to
	increase in value prior to expiry.
Top-down approach	A measurement approach that uses a risk discount rate,
	typically based on a company's weighted average cost of
	capital to allow for risk.
Ultimate forward rate	Based on the idea that future forward rate should
	converge with a fixed level, an ultimate forward rate is
	the fixed level of future forward rate. It is common to set
	the fixed level based on macro-economic analysis, etc.