# November 28, 2012 SUMITOMO LIFE INSURANCE COMPANY

Disclosure of European Embedded Value (summary) as of September 30, 2012

This is the summarized translation of the European Embedded Value ("EEV") of Sumitomo Life Insurance Company (hereinafter "Sumitomo Life") as of September 30, 2012.

Sumitomo Life has adopted EEV Principles and related guidance issued by the European CFO Forum, while also taking into account a market-consistent approach, in calculating its Embedded Value.

As a mutual life insurance company, Sumitomo Life regarded the surplus after policyholder dividends as the value attributable to the company in calculating its EEV. Also, foundation funds, classified as net assets in the statutory financial report, were classified as liabilities in the calculation of EEV.

## 1. EEV Results

## a. EEV Results

(billions of yen)

	March 31, 2012	September 30, 2012	Increase (Decrease)
EEV	2,318.5	2,309.0	(9.4)
Adjusted net worth	1,313.4	1,393.3	79.8
Value of in-force business	1,005.0	915.7	(89.2)

(billions of yen)

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	Six months ended	Six months ended	Increase	Year ended
	September 30, 2011	September 30, 2012	(Decrease)	March 31, 2012
Value of new business	74.3	97.4	23.0	177.7

# b. Adjusted Net Worth

(billions of yen)

		(billions of you
March 31, 2012	September 30, 2012	Increase (Decrease)
1,313.4	1,393.3	79.8
492.6	513.4	20.8
298.6	288.5	(10.0)
532.6	607.3	74.7
95.8	91.6	(4.1)
(44.9)	(46.5)	(1.5)
(11.9)	(7.0)	4.9
(49.3)	(54.2)	(4.8)
	1,313.4 492.6 298.6 532.6 95.8 (44.9) (11.9)	1,313.4 1,393.3   492.6 513.4   298.6 288.5   532.6 607.3   95.8 91.6   (44.9) (46.5)   (11.9) (7.0)

<sup>(</sup>Note) Foundation funds, the total amount of valuation adjustments, and expected distributions from capital are excluded.

# c. Reconciliation of total net assets to adjusted net worth

(billions of yen)

		March 31, 2012	September 30, 2012	Increase (Decrease)
Т	otal net assets on the consolidated balance sheets (Note)	496.6	518.2	21.6
	PLUS Retained earnings in liabilities (after tax)	298.6	288.5	(10.0)
	PLUS Unrealized gains(losses) (after tax)	567.6	640.7	73.1
	PLUS Unfunded retirement benefit obligation (after tax)	(49.3)	(54.2)	(4.8)
	LESS Book value of businesses not covered	-	-	-
Α	djusted net worth	1,313.4	1,393.3	79.8

(Note) Foundation funds, the total amount of valuation adjustments, and expected distributions from capital are excluded.

## d. Value of In-force Business (VIF)

 $(\hbox{billions of yen})$ 

	March 31, 2012	September 30, 2012	Increase (Decrease)
Value of in-force business	1,005.0	915.7	(89.2)
Certainty equivalent present value of future profits	1,388.8	1,258.7	(130.1)
Time value of financial options and guarantees	(150.8)	(102.3)	48.4
Cost of holding required capital (Note)	(69.8)	(65.5)	4.3
Cost of non-hedgeable risks	(163.0)	(175.0)	(11.9)

<sup>(</sup>Note) Sumitomo Life defines required capital as the amount required to maintain a solvency margin ratio of 400%.

#### e. Value of New Business

(billions of yen)

		Six months ended September 30, 2011	Six months ended September 30, 2012	Increase (Decrease)	Year ended March 31, 2012
Value of new bus	iness	74.3	97.4	23.0	177.7
Certainty equivalent	present value of future profits	85.5	108.1	22.6	200.7
Time value of finance	al options and guarantees	(3.3)	(2.3)	0.9	(6.5)
Cost of holding requi	red capital (Note)	(2.7)	(2.2)	0.4	(4.9)
Cost of non-hedgeal	ole risks	(5.1)	(6.0)	(0.9)	(11.5)

(Note) Sumitomo Life defines required capital as the amount required to maintain a solvency margin ratio of 400%

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

(billions of yen)

	Six months ended September 30, 2011	Six months ended September 30, 2012	Increase (Decrease)	Year ended March 31, 2012
Value of new business (a)	74.3	97.4	23.0	177.7
Present value of premium income (b) (Note)	918.6	1,218.6	299.9	1,897.3
New business Margin (a) ÷ (b)	8.1 %	8.0 %	-0.1pt.	9.4 %

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

# 2. Statement of changes in EEV

(billions of yen)

	Adjusted net worth	Value of in-force business	EEV
Values as of March 31, 2012	1,313.4	1,005.0	2,318.5
(1) Value of new business	-	97.4	97.4
(2) Expected existing business contribution (at the risk-free rate)	0.4	7.4	7.9
(3) Expected existing business contribution (in excess of risk-free rate)	7.5	97.6	105.2
(4) Expected transfer from VIF to adjusted net worth	45.9	(45.9)	-
in-force at beginning of year	99.5	(99.5)	-
new business	(53.5)	53.5	-
(5) Non-economic experience variances	(26.0)	5.2	(20.7)
(6) Non-economic assumptions changes	-	(8.5)	(8.5)
(7) Economic variances	51.8	(242.6)	(190.7)
Values as of September 30, 2012	1,393.3	915.7	2,309.0

# 3. Sensitivity Analysis

# a. Sensitivity Analysis of EEV

 $(\hbox{billions of yen})$ 

	EEV	Increase (Decrease)
EEV as of September 30, 2012	2,309.0	-
Sensitivity 1: 50bp upward parallel shift in risk-free yield curve	2,554.6	245.6
Sensitivity 2: 50bp downward parallel shift in risk-free yield curve	2,022.2	(286.8)
Sensitivity 3: 10% decline in equity and real estate values	2,165.2	(143.7)
Sensitivity 4: 10% decline in maintenance expenses	2,392.7	83.6
Sensitivity 5: 10% decline in surrender and lapse rates	2,466.0	156.9
Sensitivity 6: 5% decline in mortality and morbidity rates for life insurance products	2,493.7	184.7
Sensitivity 7: 5% decline in mortality and morbidity rates for annuities	2,306.1	(2.9)
Sensitivity 8: Setting required capital at statutory minimum level	2,343.4	34.4
Sensitivity 9: 25% increase in implied volatilities of equity and real estate values	2,299.6	(9.4)
Sensitivity 10: 25% increase in implied volatilities of swaptions	2,278.9	(30.1)

Only the value of in-force business is affected in sensitivities 4 through 10. The following table shows the effect of sensitivities 1 through 3 on adjusted net worth.

 $(\hbox{billions of yen})$ 

	Increase (Decrease)
Sensitivity 1: 50bp upward parallel shift in risk-free yield curve	(552.7)
Sensitivity 2: 50bp downward parallel shift in risk-free yield curve	437.6
Sensitivity 3: 10% decline in equity and real estate values	(135.0)

# b. Sensitivity analysis of the value of new business

(billions of yen)

	Value of new business	Increase (Decrease)
Value of new business for six months ended September 30, 2012	97.4	-
Sensitivity 1: 50bp upward parallel shift in risk-free yield curve	123.0	25.6
Sensitivity 2: 50bp downward parallel shift in risk-free yield curve	73.0	(24.4)
Sensitivity 3: 10% decline in equity and real estate values	97.4	(0.0)
Sensitivity 4: 10% decline in maintenance expenses	100.0	2.6
Sensitivity 5: 10% decline in surrender and lapse rates	107.2	9.7
Sensitivity 6: 5% decline in mortality and morbidity rates for life insurance products	101.6	4.1
Sensitivity 7: 5% decline in mortality and morbidity rates for annuities	97.4	0.0
Sensitivity 8: Setting required capital at statutory minimum level	98.6	1.1
Sensitivity 9: 25% increase in implied volatilities of equity and real estate values	97.2	(0.1)
Sensitivity 10: 25% increase in implied volatilities of swaptions	96.5	(8.0)

## 4. Note

The calculation of EEV requires numerous assumptions regarding future projections that are subject to risks and uncertainties. Future results may differ from those assumptions used in the calculation of EEV.

Appendix: Principal EEV Assumptions

## 1. Economic assumptions

## a. Risk-free rate

In the certainty equivalent calculation and the interest rate model calibration, Japanese Government Bonds (JGBs) are used as a proxy for risk-free rates.

Given the poor liquidity of ultra-long JGBs, we have extrapolated risk-free rates for tenors greater than 30 years with reference to the shape of the Japanese swap rates with 30 to 50 year tenors as the observable market rates.

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

Tenor	March 31, 2012	September 30, 2012
1 year	0.104%	0.110%
2 years	0.123%	0.104%
3 years	0.173%	0.118%
4 years	0.250%	0.139%
5 years	0.332%	0.209%
10 years	1.050%	0.819%
15 years	1.600%	1.437%
20 years	1.914%	1.794%
25 years	1.998%	1.963%
30 years	2.106%	2.080%
35 years	2.200%	2.163%
40 years	2.271%	2.216%
45 years	2.327%	2.249%
50 years	2.375%	2.269%

(Source: Bloomberg (interpolated/extrapolated))

#### b. Principal dynamic assumption

#### (1) Interest rate model

As an interest rate model, Sumitomo Life has adopted a single-factor Hull-White model, in which interest rates associated with Japanese yen, U.S. dollars, Euros and British pounds 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 also been taken into account. The interest rate model has been calibrated to be consistent 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 the time value of financial options and guarantees through the stochastic method.

A summary of implied volatilities of interest rate swaptions used to calibrate the scenarios is as follows:

Interest rate swaptions implied volatilities

			March 3	31, 2012		September 30, 2012			2
Option Tenor	Swap Tenor	JPY	USD	EUR	GBP	JPY	USD	EUR	GBP
5 years	5 years	34.8%	30.3%	27.5%	25.1%	36.0%	33.3%	31.7%	28.7%
5 years	7 years	31.7%	29.0%	26.5%	23.1%	31.2%	31.0%	30.1%	26.1%
5 years	10 years	29.4%	28.0%	25.8%	21.4%	26.2%	29.4%	29.1%	23.9%
7 years	5 years	30.1%	27.3%	24.4%	20.1%	28.2%	28.6%	27.1%	22.4%
7 years	7 years	29.5%	26.6%	24.1%	19.3%	25.9%	27.6%	26.5%	21.6%
7 years	10 years	27.1%	26.5%	24.4%	19.0%	23.3%	26.7%	26.9%	20.6%
10 years	5 years	26.8%	24.9%	22.5%	17.4%	23.6%	25.4%	23.9%	18.6%
10 years	7 years	26.3%	24.9%	23.1%	17.5%	22.6%	25.6%	24.5%	18.4%
10 years	10 years	26.2%	24.2%	24.2%	17.1%	21.6%	25.4%	25.7%	17.6%

 $(Source \, ; Bloomberg)$ 

## (2) Implied volatilities of equities and currencies

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

## Stock options

Curronov	Underlying	Option	Volatility				
Currency	Asset	Tenor	March 31, 2012	September 30, 2012			
		3 years	21.4%	19.2%			
JPY	Nikkei 225	4 years	21.9%	19.7%			
		5 years	22.5%	20.4%			
USD		3 years	22.5%	22.8%			
	S&P 500	4 years	23.4%	23.8%			
		5 years	24.2%	24.6%			
EUR	_	3 years	24.7%	25.6%			
	Euro Stoxx50	4 years	25.1%	25.8%			
	Cloxixes	5 years	25.3%	26.0%			
		3 years	22.2%	22.4%			
GBP	FTSE 100	4 years	23.2%	23.5%			
		5 years	24.1%	24.5%			

(Source: several investment banks)

## **Currency options**

Curronov	Option	Volatility			
Currency	Tenor	March 31, 2012	September 30, 2012		
USD	5 years	15.0%	12.8%		
EUR	5 years	17.7%	15.8%		
GBP	5 years	16.6%	16.4%		

(Source: Bloomberg)

#### (3) Correlations

In addition to the implied volatilities described above, Sumitomo Life has 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, Sumitomo Life estimated correlation factors based on historical market data. Specifically, the monthly data from September 30, 2002 to September 30, 2012 have been used. The following table shows correlation factors between major variables.

	1year Rate /JPY	1year Rate /USD	1 year Rate /EUR	1year Rate /GBP	USD/JPY	EUR/JPY	GBP/JPY	NIKKEI 225	S&P500	EuroStoxx 50	FTSE100
1year Rate /JPY	1.00	0.42	0.39	0.42	0.18	0.06	0.20	0.40	0.17	0.16	0.15
1year Rate /USD	0.42	1.00	0.73	0.70	0.52	0.22	0.39	0.38	0.31	0.40	0.32
1year Rate /EUR	0.39	0.73	1.00	0.75	0.36	0.37	0.43	0.33	0.42	0.46	0.39
1year Rate /GBP	0.42	0.70	0.75	1.00	0.35	0.18	0.40	0.30	0.32	0.32	0.28
USD/JPY	0.18	0.52	0.36	0.35	1.00	0.54	0.68	0.45	0.19	0.27	0.22
EUR/JPY	0.06	0.22	0.37	0.18	0.54	1.00	0.78	0.55	0.54	0.45	0.46
GBP/JPY	0.20	0.39	0.43	0.40	0.68	0.78	1.00	0.52	0.44	0.39	0.30
NIKKEI 225	0.40	0.38	0.33	0.30	0.45	0.55	0.52	1.00	0.67	0.64	0.65
S&P500	0.17	0.31	0.42	0.32	0.19	0.54	0.44	0.67	1.00	0.87	0.86
EuroStoxx 50	0.16	0.40	0.46	0.32	0.27	0.45	0.39	0.64	0.87	1.00	0.88
FTSE100	0.15	0.32	0.39	0.28	0.22	0.46	0.30	0.65	0.86	0.88	1.00

(Source: Bloomberg)

#### c. Assumed investment yield used for the calculation of expected returns

Assumed investment yields on major asset categories used for the calculation of "Expected existing business contribution" in "2. Statement of changes in EEV" are as follows:

	Assumed investment yield			
Fixed income assets	1.2%			
Foreign bonds	3.1%			
Stocks	6.1%			
Total	1.8%			

## 2. Non-economic assumptions

All cash flows (premiums, operating expenses, benefits and claims, cash surrender value, tax, etc.) are projected applying the best estimate assumptions, by product, referring to past, current and expected future experience.

#### a. Operating expenses

Operating expenses are set based on the experience of Sumitomo Life. The look-through basis is applied in terms of operating expenses of insurance business. Future unit cost reductions are not assumed.

Future inflation rates are assumed to be zero.

Increases of consumption tax in future years are assumed due to revision of the consumption tax system.

#### b. Policyholder dividends

Policyholder dividend rates are based on the current dividend policy, and set according to market-consistent, risk-neutral scenarios.

#### c. Effective tax rate

In the projection of future profits, effective tax rate is set at the following rates, reflecting the change in corporate tax rates.

33.28% for the fiscal years ending March 31, 2013, 2014, and 2015

30.73% for the fiscal year ending March 31, 2016, and each fiscal year thereafter