



Embedded value (EV)



❖ **Embedded Value (EV) of the business is calculate as the sum of two items:**

$$EV = VIF + ANW$$

When

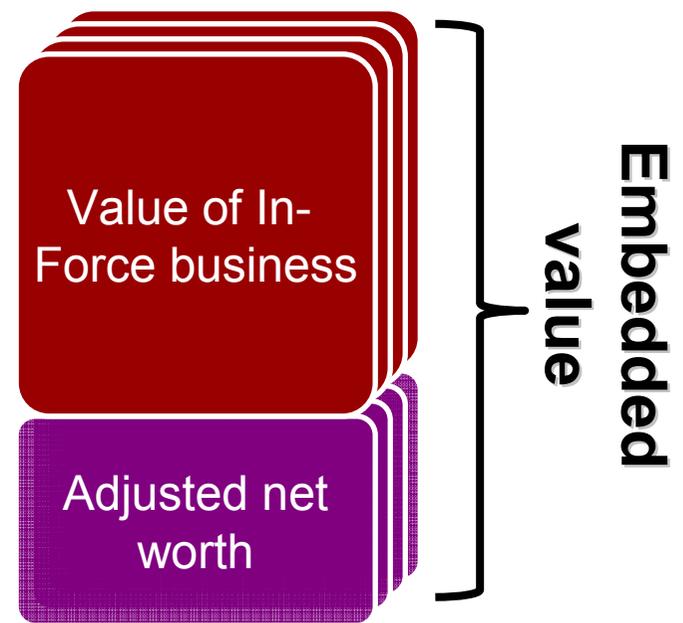
- VIF is the discounted Value of projected future distributable earnings of the business In-Force
- ANW is the Adjusted Net Worth or the excess of market value of assets over statutory liabilities.
 $ANW = \text{Statutory assets} + \text{Market value adjustment} - \text{Statutory liabilities}$



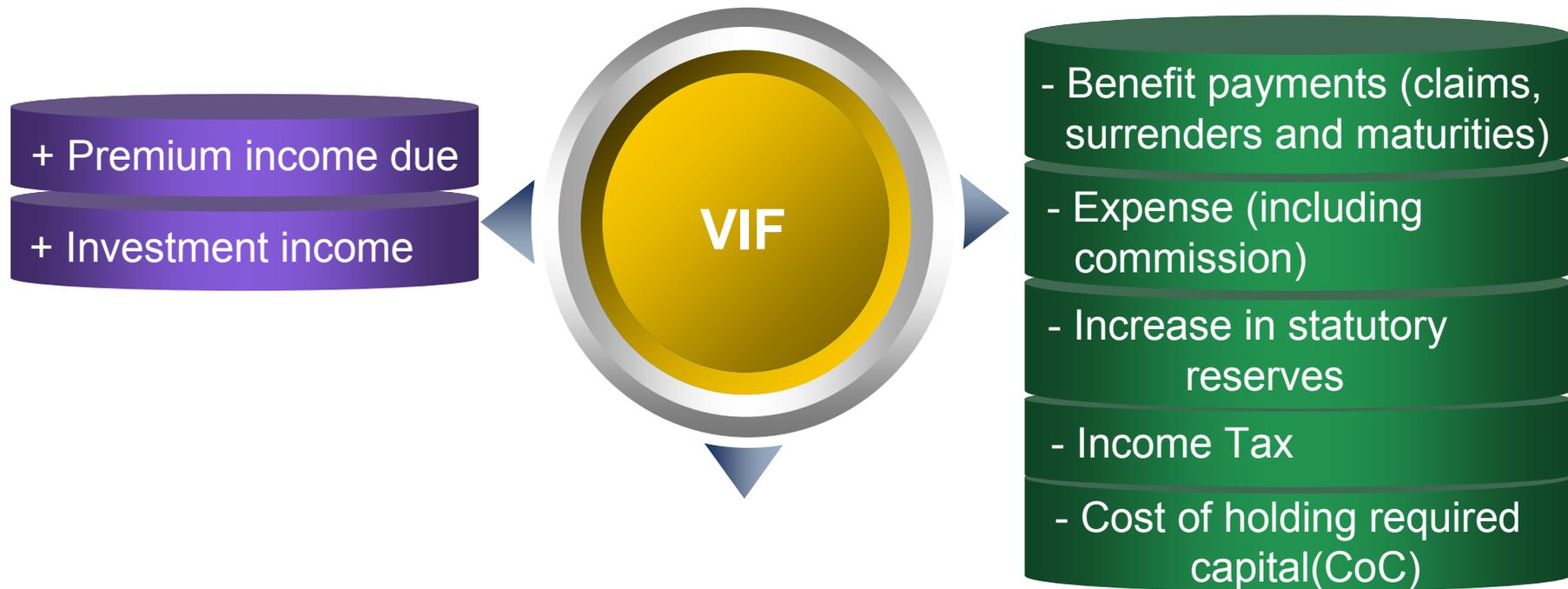
Components of an Embedded value

Discounted Value of distributable earnings from In-Force business

Excess of market value of assets over statutory liabilities



Embedded value = Value of In-Force business + Adjusted Net Worth



Value of in-force covered business (VIF) is defined as the discounted value of projected future distributable earnings of the business in-force on the valuation date consists above part.



❖ **Cost of holding required capital**

(CoC) is the additional amount of capital above the statutory reserves, cannot be distributed to shareholders.



Key assumptions	
1.	Risk discount rate The discount rates are 9%, 10% and 11% have been assumed in each future year as the discount rate for the in-force life insurance business.
2.	Investment returns Future investment returns have been assumed to be 5% for investment fund.
3.	Taxation Income tax rate of 25% for year 2011-2012 and 30% for the following year onwards has been assumed.
4.	Mortality The experience mortality rates have been based on 30% of TMO97 table for male and female respectively for non annuitants.
5.	Morbidity Morbidity assumptions have been based on the Company's own pricing table.
6.	Lapse Rate Policy discontinuance rates have been based on the Company's recent experience studies.
7.	Expenses Expenses assumptions have been based on the Company's most recent expenses investigation.
8.	COC 4% of Statutory Reserve



Component of Appraisal Value and Embedded Value (unit : MB)

Present Value of	December 31, 2010	December 31, 2009
Discount rate	10%	10%
Adjusted Net Worth	14,261	8,870
Present Value of future profits after tax	9,563	7,118
Cost of Capital	-1,990	-1,540
VIF after cost of capital	7,573	5,578
Embedded value of life insurance business	21,834	14,448
Value of one year's new business (VNB)		
Value of one year's new business	2,467	1,820
Cost of Capital	-345	-275
VNB after cost of capital	2,122	1,545



Summary of Embedded Value and Value of New Business Results

Embedded Value as of 31 December 2010	Risk Discount Rate		
	9%	10%	11%
(in millions of Baht) Adjusted Net Worth("ANW")	14,261	14,261	14,261
Present Value of Future Profit ("PVFP")	12,581	12,023	11,519
Corporate Tax ("Tax")	2,568	2,460	2,363
Cost of Target Required Capital ("CoC")	1,789	1,990	2,166
Value of Inforce ("VIF")	8,224	7,573	6,990
Embedded Value	22,486	21,834	21,251

Note:

ANW is equal to the sum of:

- (i) Shareholder's net assets of BLA as measured on OIC statutory basis;
- (ii) Net of tax adjustment for the difference between market value of certain investment assets and the carrying value reported on an OIC statutory basis.



Value of One year New Business Sold in 2010	Risk Discount Rate		
	9%	10%	11%
(in millions of Baht)			
Present Value of Future Profit ("PVFP")	3,416	3,250	3,097
Corporate Tax ("Tax")	(820)	(783)	(748)
Cost of Target Required Capital ("CoC")	(314)	(345)	(371)
Value of One year New Business	2,283	2,122	1,977

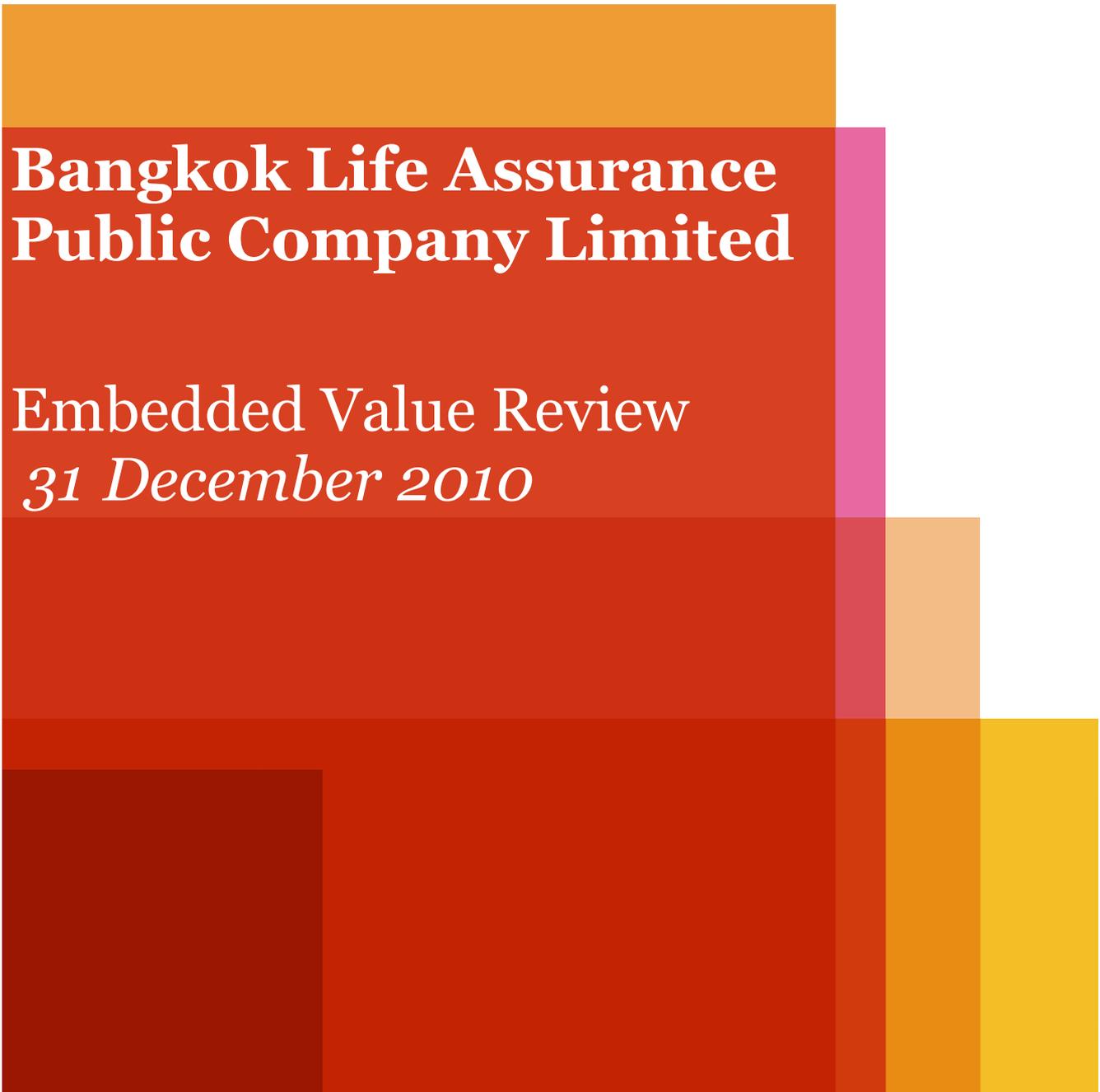


EV per Share	Risk Discount Rate		
Investment Income	9%	10%	11%
4.75%	17.5	17.0	16.6
5.00%	18.7	18.2	17.7
5.25%	20.0	19.4	18.8

VNB per Share	Risk Discount Rate		
Investment Income	9%	10%	11%
4.75%	1.7	1.6	1.5
5.00%	1.9	1.8	1.6
5.25%	2.1	2.0	1.8



Thank You !



**Bangkok Life Assurance
Public Company Limited**

Embedded Value Review
31 December 2010

Independent Report on Review of Embedded Value information

To the Board of Directors of Bangkok Life Assurance Public Company Limited

We have reviewed the accompanying Embedded Value (“EV”) information of Bangkok Life Assurance Public Company Limited (“the Company”) for the year ended 31 December 2010 (“the EV information”).

The directors of the Company are responsible for the preparation and presentation of the EV information in accordance with generally accepted actuarial practices. This responsibility includes designing, implementing and maintaining internal control relevant to the maintenance of underlying data and information on the in-force business and preparation of the EV information which is free from material misstatement, whether due to fraud or error; performing EV calculations; selecting and applying appropriate methodologies; determining future experience assumptions; and making other assumptions that are consistent with market information and are reasonable in the circumstances.

Our responsibility is to perform certain review procedures set out in our letter of engagement and, based on these procedures, conclude whether the EV methodologies and assumptions are consistent with generally accepted actuarial practices and with available market information.

We have reviewed the methodology and assumptions used in preparing the EV information, including the following:

- Value of in-force business as of 31 December 2010;
- Value of one-year new business issued during the year ended 31 December 2010; and
- Sensitivity analysis of value of in-force business.

Our review procedures included, but were not limited to, discussing with management of the Company the methodology and assumptions, reviewing documentation relating thereto, and considering whether the methodologies are consistent with the Guidelines and whether the assumptions are consistent with available market information.

The preparation of EV information requires assumptions and projections to be made about future uncertain events, therefore actual experience may differ from these assumptions and projections, and this will affect the EV value of in-force business and the value of one-year new business.

In forming our conclusion, we have relied on the integrity, accuracy and completeness of audited and unaudited data and information provided by the Company. Our work did not involve re-performing the EV calculations, nor verifying the data and information underlying the EV information.

Based on our review procedures, we have concluded that the methodologies and assumptions used in preparing the EV information are consistent with generally accepted actuarial practices relating to the Traditional Embedded Value methodology.

This report has been prepared for and only for the Board of Directors of the Company in accordance with our letter of engagement and for no other purpose. We do not accept or assume responsibility for any other purpose or to any other person whom this report is shown or in whose hands it may come save where expressly agreed by our prior consent in writing.

For and on behalf of
PricewaterhouseCoopers FAS Limited
By its duly authorised representative



Noel Ashpole

Bangkok
5 April 2011

EMBEDDED VALUE REPORT OF BANGKOK LIFE ASSURANCE PUBLIC COMPANY LIMITED

In order to provide investors with additional information to understand our economic value and business performance results, the Company has provided the following information regarding its embedded value. The embedded value represents the shareholders' adjusted net asset value plus the value of the Company's in-force life insurance business adjusted for the cost of maintaining the regulatory solvency margin deployed to support this business. The embedded value excludes the value of future new business sales.

The calculation of embedded value necessarily makes a number of assumptions with respect to future experience of the in-force portfolio of business. As a result, future experience may vary from that assumed in the calculation, and these variations may be material. The market value of the Company is measured by the value of the Company's shares on any particular day. In valuing the Company's shares, investors take into account a variety of information available to them and their own investment criteria. Therefore, these calculated values should not be construed as a direct reflection of the actual market value.

The embedded value report was approved by the Management and submitted to the Board of Directors on 29th March 2011.

Components of embedded value

(in THB million)	December 31, 2010	December 31, 2009
Risk discount rate	10%	10%
Adjusted net asset value	14,261	8,870
Value of in-force insurance business after tax	9,563	7,118
Cost of holding the required solvency margin	(1,990)	(1,540)
Value of in-force insurance business after cost of solvency	7,573	5,150
Embedded value	21,834	14,448

(in THB million)	December 31, 2010	December 31, 2009
Risk discount rate	10%	10%
Value of one year's new business	2,467	1,820
Cost of holding the required solvency margin	(345)	(275)
Value of one year's new business after cost of solvency	2,122	1,545

Note: Figures may not match totals due to rounding.

Key assumptions

The assumptions used in the embedded value calculation in 2010 have been made on a “going concern” basis, assuming continuation of the economic and legal environment currently prevailing in Thailand. The current statutory reserving basis and solvency margin requirement were assumed in the calculation and does not consider the new Risk Based Capital requirements due to be introduced by the Office of Insurance Commission in September 2011. Certain portfolio assumptions were based on the Company’s own recent experience as well as considering the more general Thailand market and other life insurance market’s experience. The principal bases and assumptions used in the calculation are described below:

1. Risk discount rate

A discount rate of 10% has been assumed in each future year as the discount rate for the in-force life insurance business.

2. Investment returns

Future investment returns have been assumed to be 5%.

3. Taxation

Income tax rate of 25% for year 2011-2012 and 30% for the following year onwards has been assumed.

4. Mortality

The experience mortality rates have been based on 30% of 1997 Thai Mortality Table for both male and female lives.

5. Morbidity

Morbidity assumptions have been based on the Company’s own new premium pricing table at the date of the product sale.

6. Lapse Rate

Policy discontinuance rates have been based on the Company’s recent experience studies.

7. Expenses

Expenses assumptions have been based on the Company’s most recent expenses investigation.

New business volumes and business mix

The volume of new business sold and modelled during 2010 to calculate the value of one year's new business was THB 9,108 million in terms of first year premium. The mix of the new business measured by first year premium was:

	Percentage
Individual life long term	
Agency	19
Bancassurance	78
Group life	
Short-term business	3
Total	100

Note: Figures may not match totals due to rounding.

Sensitivity analysis

The company has investigated the effect, on the value of in-force business of certain independently varying assumptions regarding future experience. Specifically, the following changes in assumptions have been considered:

- Risk discount rate by 1%
- Expense inflation rate of 3%pa
- Investment return increased by 25 basis points every year
- Investment return decreased by 25 basis points every year
- Increase morbidity rate by 10% of based assumptions
- Decrease morbidity rate by 10% of based assumptions
- Increase mortality rate by 10% of based assumptions
- Decrease mortality rate by 10% of based assumptions
- Increase maintenance expense by 10%
- Decrease maintenance expense by 10%
- Increase lapse rate by 10% of based assumptions
- Decrease lapse rate by 10% of based assumptions
- Target capital adequacy ratio at 100%
- Target capital adequacy ratio at 300%

Embedded Value as of 31 December 2010	Risk Discount Rate		
	9%	10%	11%
(in THB million)			
Adjusted Net Asset Value ("ANAV")	14,261	14,261	14,261
Present Value of Future Profit ("PVFP")	12,581	12,023	11,519
Corporate Tax ("Tax")	2,568	2,460	2,363
Cost of Target Required Capital ("CoC")	1,789	1,990	2,166
Value of Inforce ("VIF")	8,224	7,573	6,990
Embedded Value	22,486	21,834	21,251

Notes:

- 1) ANAV is equal to the sum of:
 - (i) Shareholder's net assets of BLA as measured under Thai Accounting Standards; and
 - (ii) Net of tax adjustment for the difference between market value of certain investment assets and the carrying value reported in the audited financial statements.
- 2) For ANAV, we rely on the figures provided by BLA
- 3) Embedded Value is grossed up for un-modelled business

Value of One year New Business Sold in 2010	Risk Discount Rate		
	9%	10%	11%
(in THB million)			
Present Value of Future Profit ("PVFP")	3,416	3,250	3,097
Corporate Tax ("Tax")	820	783	748
Cost of Target Required Capital ("CoC")	314	345	371
Value of One year New Business	2,283	2,122	1,978

Note:

- 1) Numbers may not add up due to rounding.

(in THB million)

Value of in-force business

Central case	7,573
Expense inflation rate of 3% pa	7,316
Investment return increased by 25 basis points every year	9,015
Investment return decreased by 25 basis points every year	6,131
Increase morbidity rate by 10% of based assumptions	7,130
Decrease morbidity rate by 10% of based assumptions	7,990
Increase mortality rate by 10% of based assumptions	7,385
Decrease mortality rate by 10% of based assumptions	7,762
Increase maintenance expense by 10%	7,434
Decrease maintenance expense by 10%	7,712
Increase lapse rate by 10% of based assumptions	7,560
Decrease lapse rate by 10% of based assumptions	7,588
Target capital adequacy ratio at 100%	8,568
Target capital adequacy ratio at 300%	6,577

Embedded Value Methodology

The methodology we have adopted for EV calculation is commonly known as the Traditional Embedded Value (“TEV”) method. Under TEV, risk discount rate and investment income are set based on real-world expectations for the Company and may not be market-consistent.

There are two main components that make up EV:

- The adjusted net asset value (“ANAV”);

Adjusted net asset value is defined as the reported **value of free surplus** and **required capital**. The value of free surplus is equal to the market value of the assets supporting this surplus.

- The value of in-force business (“VIF”);

Value of in-force covered business is defined as the discounted value of projected future distributable earnings of the business in force on the valuation date.

Future distributable earnings are defined as the after-tax future regulatory book profits emerging from the business in force on the valuation date less the change in required capital plus the after-tax investment income on required capital.

After-tax future regulatory book profit consists of the following parts:

- + Premium income due;
- + Investment income;
- Benefit payments (claims, surrenders and maturities);
- Expenses (including commission);
- Increase in statutory reserves;
- Income Tax;
- Cost of holding required capital (“CoC”).

Cost of holding required capital (“CoC”) is the present value of the future releases in required capital and the present value of after-tax investment income on assets backing required capital less the required capital at the valuation date.

The EV = ANAV + VIF

BLA New Business Value Methodology

The new business value is expressed by discounting the distributable earnings back to the issue date.

An overriding principle in reporting the new business value is that the value accurately reflects **expectations as of the valuation date**. This implies that the value of new business assumptions should be **best estimates at the valuation date** and that there should not be an assumption change component to the movement analysis for new business.

As stated in the definitions, the new business value is the value that is added to the company by the business written during the current period, assuming that the company is a mature going concern in normal conditions.

New business value is expressed as at the point of sale. This value is the present value of distributable earnings on business issued in the current period. The assumption that the company is a mature going concern in normal conditions is meant to convey that the acquisition expense and commission underruns (or overruns) should not be included when determining the value. Only those expenses included in pricing the products should be considered.

The pricing assumptions are the same as best estimate assumptions at the valuation date.

Acquisition expense and commission underruns (or overruns) should be **expressed after-tax**.

New Business Value (NBV) is the value of 2010 new business as at issue date rather than 31 December 2010.

The projection of cash flow after the end of year 2010 is the same as that for embedded value calculation except the amount is discounted by half of a year based on the assumption that all the new business is evenly acquired during 2010.