



**SNS REAAL**

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**European  
Embedded Value  
Report 2010**

# European Embedded Value Report 2010

## **SNS REAAL N.V.**

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# Introduction

## 1.1 EUROPEAN EMBEDDED VALUE PRINCIPLES

The European Embedded Value ('EEV') Principles were published in May 2004 by the CFO Forum. The principles and the additional guidance on EEV disclosures published in October 2005, provide a framework for calculating and reporting supplementary embedded value ('EV') information.

The EV results of the Insurance activities of SNS REAAL presented in this report comply with the EEV Principles for embedded value.

# Independent review

*Towers Watson has reviewed the calculation of the embedded value of the Insurance activities of SNS REAAL as at 31 December 2010, the value of its new business written during 2010 and the movement analysis over 2010. The covered business included all life insurances and associated rider benefits. All material business units were included in the review.*

Towers Watson has concluded that the methodology and assumptions used comply with the European Embedded Value Principles and Guidance noting the disclosed treatment of expense synergies.

The directors are responsible for the Embedded Value calculations. However, Towers Watson has performed high-level checks on the results of the calculations and has discovered no material issues.

Towers Watson has not, however, performed detailed checks on the models and processes used.

In arriving at these conclusions, Towers Watson has relied on the accuracy and completeness of data and information supplied by SNS REAAL and that the directors know of no other information or data which ought to have been made available to Towers Watson that would materially affect the conclusion set out herein.

This opinion is made solely to SNS REAAL N.V. in accordance with the terms of Towers Watson's engagement letter. To the fullest extent permitted by applicable law, Towers Watson does not accept or assume any responsibility, duty of care or liability to anyone other than SNS REAAL for or in connection with its review work, the opinions it has formed, or for any statement set forth in this opinion.

Towers Watson  
Drs. H. Blaak AAG

# Embedded Value of the Insurance activities of SNS REAAL

## 3.1 HIGHLIGHTS

### 3.1.1 Definition of embedded value

This part of the report contains the figures and analysis of the embedded value ('EV') of the Insurance activities of SNS REAAL.

The EV for the life insurance business comprises two components:

- Adjusted net asset value ('ANAV'), being the sum of the
  - Required capital, plus
  - Free surplus.
- Value of in-force business ('VIF'), being the sum of the
  - Present value of future after-tax profits, minus
  - Cost of options and guarantees, minus
  - Cost of holding required capital.

Together, these two components make up the life insurance economic value. The value of holding activities is included in the life insurance EV, as a part of the ANAV. The ANAV of SNS REAAL's non-life insurance and the value of other activities have been added to this value to determine the total EV of the Insurance activities. The VIF of SNS REAAL's non-life insurance and other activities is considered nil under this framework.

In addition to the margin on top of the risk-free rate contained in the risk discount rate and the cost of holding required capital, risk is also allowed for under EEV through an explicit reduction in the EV for the (time) value of options and guarantees.

All material blocks of life insurance business are included in the results presented in this report. The following product groups have been valued:

- Life products and their associated disability rider benefits;
- Deferred and immediate annuity products;
- Pension products.

Future new life insurance business to be sold after the valuation date is not reflected in the figures in this report. No allowance has been made for the potential value added by the renewal of current policies by existing non-life policyholders. The assumptions used in calculating the EV (e.g. expenses), are based on a going-concern principle. The inflow of new members in existing group pension contracts is included in the life new business.

Future after-tax profits are estimated by means of actuarial methods. Future operating and economic assumptions are based upon current best estimates. These assumptions are reviewed annually in line with EEV Guidance. The distribution of these profits, in terms of both amount and timing, is restricted by accounting rules (International Financial Reporting Standards – IFRS). The estimated timing of future after-tax profits allows for these restrictions.

The pension plans of our recent acquisitions classify as defined benefit plans. For these plans SNS REAAL holds a provision on the balance sheet in line with IAS19. In the calculations for IAS19, SNS REAAL follows the corridor option under IFRS, adjusting the corridor in the net asset value. The remainder of SNS REAAL's employees is covered under defined contribution plans. These are insured with parties that do not belong to SNS REAAL, and as a result there are no adjustments to EV required with respect to these employee benefit plans. The costs to SNS REAAL of all of these plans have been included in the expenses allowed for in the EV calculations.

SNS REAAL uses EV as an internal management tool for its life insurance operations. Within the Insurance activities of SNS REAAL, EV plays an important role in:

- New business pricing;
- Analysis of operating performance;
- Product line management;
- Distribution channel management.

The economic assumptions can be found in appendix I and appendix II gives an overview of the operational assumptions in calculating the EV.

### 3.1.2 Embedded value results

All figures in this document are presented on an after-tax basis except where stated otherwise. The table below provides a high-level overview of the EV results.

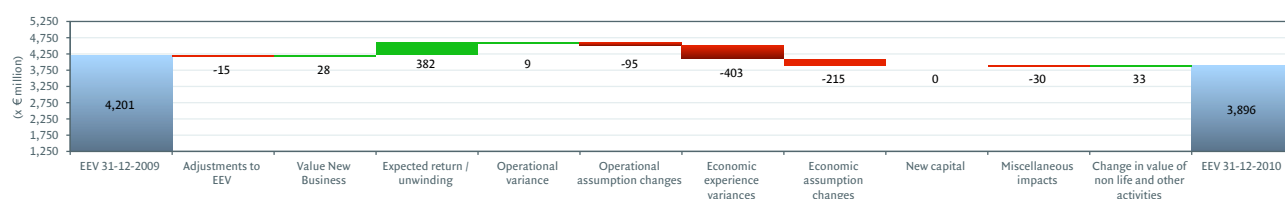
TABLE 1: TOTAL EMBEDDED VALUE

In € millions	2010	2009	% Change
Life Insurance Adjusted Net Asset Value	2,527.3	2,124.0	19%
Life Insurance Value in Force	864.0	1,605.9	(46.2%)
Life Insurance EV	3,391.3	3,729.9	(9.1%)
Net Asset Value of Non-Life and other activities	504.2	471.1	7%
<b>Total EV</b>	<b>3,895.5</b>	<b>4,201.0</b>	<b>(7.3%)</b>

The EV decreased by € 305.5 million during 2010, of which € 741.9 million is a decrease of the VIF. The ANAV increased by € 436.4 million. The ANAV increased due to lower interest rates. The VIF decreased as a result of this, but also because of a more conservative strategic asset mix.

In the calculation on a SNS REAAL basis allowance has been made for the deferral and amortisation of value of business acquired ('VOBA') and intangibles resulting from several acquisitions over the past few years (Zwitserleven, AXA NL, Zurich, etc.).

The analysis of the change in the EV is shown in the figure below. The breakdown of the decrease in the EV is further explained in section 3.3.4.



### 3.1.3 New business results

The value added by new business decreased in 2010. The value of the 2010 and 2009 new life insurance business is summarised in the table below.

TABLE 2: VALUE NEW BUSINESS

In € millions	2010	2009
New Annualised Premium Equivalent ('NAPE')	327.7	406.1
Present Value New Business Premium ('PVNBP')	1,411.0	2,115.7
Value New Business ('VNB')	28.3	42.3
VNB as % of PVNBP	2.0%	2.0%

The Dutch Market for life insurance products remained very competitive and the market conditions remain challenging. Sales of several individual life products, especially single premium policies, dropped because SNS REAAL preferred value above volume. Loss-making new business of DBV has been stopped. Sales of pension products remained stable. As a result, the total

NAPE decreased in 2010. The PVNBP especially decreased because of a changing product mix from life policies with long premium instalments to group pension contracts with shorter premium instalments. The VNB decreased in particular because of lower investment rates and higher costs.

## 3.2 CAPITAL

In addition to policyholder reserves, solvency capital is required to support the life insurance business. This 'required capital' is an allocation of surplus that cannot be distributed until it is no longer needed to support the business in-force. There is a price to pay for setting aside capital to protect policyholders, this is commonly referred to as the Cost of Capital ('CoC'). The CoC is included within the EV and VNB calculations.

SNS REAAL has set the required capital level of the Insurance activities at 150% (2009:150%) of the EU regulatory minimum requirement, based on Solvency I. This reflects the level of capital SNS REAAL considers being appropriate to manage the business, allowing for the company's assessment of the level of market, insurance and operating risk inherent in the underlying portfolio.

According to the Financial Supervision Act ('Wft') that came into force on 1 January 2007, the surplus value in the Wft liability adequacy test can be treated as solvency capital, thus reducing the required shareholder's capital. Consequently, the CoC is also reduced. As there is no surplus value in the Wft liability adequacy test at the end of 2010, no reduction has been made. Therefore, the required capital level of the Insurance activities is exactly 150% of the EU regulatory minimum requirement. The same definition of required capital has been used for both existing and new business.

### 3.2.1 Adjusted net asset value

The table below illustrates the derivation of the ANAV figures for life Insurance business and non-life Insurance activities that are part of the total EV.

TABLE 3: ADJUSTED NET ASSET VALUE

In € millions	2010	2009
Net Asset Value Life Insurance activities	3,117.6	2,713.1
Net Asset Value Non-Life Insurance activities	622.6	574.1
Minority interests	2.9	13.3
Total reported shareholders' equity	3,743.1	3,300.5
Net Asset Value Life Insurance activities	3,117.6	2,713.1
Restricted capital	18.6	(8.4)
Goodwill life Insurance	(444.3)	(444.3)
Other adjustments Life	(164.6)	(136.4)
Adjusted Net Asset Value Life Insurance activities	2,527.3	2,124.0
Net Asset Value Non-Life Insurance activities	622.6	574.1
Goodwill Non-Life	(110.1)	(110.1)
Other adjustments Non-Life	(0.9)	--
Adjusted Net Asset Value Non-Life Insurance	511.6	464.0
Adjusted Net Asset Value Insurance activities	3,038.9	2,588.1
Other activities	(7.4)	7.0
Total Adjusted Net Asset Value	3,031.5	2,595.1

The amount shown in the table above as 'Restricted capital' results from the adoption of IFRS and relates to individual profit-sharing business. In this line, part of the revaluation of the underlying assets is to be distributed to policyholders in the future in the form of profit-sharing. The expected future value to be distributed to policy holders is classified as restricted capital. The amount deducted from the net asset value in this respect, has been added to the VIF i.e. this adjustment represents a reallocation of value between the ANAV and the VIF.



The goodwill shown in the table above has arisen as a result of the acquisition of Zurich, AXA NL and Zwitserleven. As illustrated above, goodwill has been excluded for EEV purposes.

The 2010 total amount of goodwill (after tax) is € 554.4 million (2009: € 554.4 million) of which € 110.1 million is addressed to the non-life net asset value.

‘Other adjustments Life’ presented in the table above refers mainly to the intangibles assigned to the “brand name” Zwitserleven (–€ 126.0 million), and to software (–€ 23.5 million) and IAS19 (–€ 20.2 million). ‘Other adjustments Non-Life’ refers to IAS19.

‘Other activities’ presented in the table above exist merely of expenses made for administration activities (e.g. the employee benefit plans of SNS REAAL’s employees).

### 3.2.2 Deferred acquisition costs and Value of business acquired

In calculating the new business and value in-force business (‘VIF’) figures shown in this report, allowances have been made for the deferral and amortisation of deferred acquisition costs (‘DAC’) and value of business acquired (‘VOBA’). In the VIF the amortisation of DAC and VOBA have been deducted.

At the end of 2010, DAC totalled € 485.6 million (2009: € 541.0 million) and VOBA € 939.4 million (2009: € 1,028.4 million). In the amortisation of DAC and VOBA the projecting of future after-tax distributable profits has been taken into account. In the VIF the net present value of these profits has been deducted.

The results of the IFRS liability adequacy test performed at year-end 2010 show that both the DAC and VOBA are recoverable from future profits. The liability adequacy test also shows that the amount deferred with regards to 2010 new business is recoverable from future margins.

## 3.3 RESULTS

### 3.3.1 Embedded value

The table below provides details of the embedded value (‘EV’) at year-end 2009 and year-end 2010. Non-life insurance and other activities are included on the basis of their net asset value.

TABLE 4: EMBEDDED VALUE

In € millions	2010	2009
Required capital (Life)	1,879.3	1,140.7
Free surplus (Life)	648.0	983.3
<b>Total adjusted net asset value (Life)</b>	<b>2,527.3</b>	<b>2,124.0</b>
Present value of future profits	1,659.1	2,045.1
Cost of options and guarantees	(137.2)	(72.8)
Cost of capital	(657.9)	(366.4)
<b>Value of in-force business</b>	<b>864.0</b>	<b>1,605.9</b>
<b>Life insurance EV</b>	<b>3,391.3</b>	<b>3,729.9</b>
Adjusted net asset value of Non-Life and other activities	504.2	471.1
<b>Total EV</b>	<b>3,895.5</b>	<b>4,201.0</b>

All material portfolios of life insurance business are included in the reported EV results. Some minor portfolios are not included in SNS REAAL’s projection models (e.g. co-assurance) and are taken into account by calculating a pro rata estimated value.

The required capital presented is 150% of the EU minimum solvency requirement and is reduced by the surplus value of the Wft liability adequacy test (net of taxes). This reduction is nil at year-end 2010 (2009: € 691.0 million), because the liability adequacy test resulted in a negative value. The required capital in 2010 has therefore increased.

### 3.3.2 Options and guarantees

Options and guarantees result from a minimum guarantee within a specified profit sharing formula. Minimum guarantees are either 3% or 4% depending on the issue date of the policy, with more recent issues having lower guaranteed rates. In traditional business the technical provisions can relate to business with some form of profit-sharing (discretionary or otherwise). In individual unit-linked business there are forms of minimum maturity guarantees. Group segregated account business provides the policyholder with the right to leave paid-up benefits with SNS REAAL irrespective of whether the underlying assets are sufficient to meet the contract's liabilities.

REAAL and Zwitserleven use different methods in calculating the value of options and guaranties. REAAL applies Monte Carlo simulation and Zwitserleven uses a closed-form method.

The time value of financial options and guarantees changed from € 72.8 million at year-end 2009, to € 137.2 million at year-end 2010. This is mainly the result of lower risk-free rates.

### 3.3.3 Value of new business

An important element in the change in EV from one year to the next is the value added by new business. The value of new business ('VNB') is the present value of after-tax distributable profits associated with sales during the reporting period. The value is determined using the average of economic assumptions over each quarter during the year, and year-end operational assumptions. The cost of capital associated with the new business is included in the value of new business.

New business sales are expressed based on the following:

- The New Annual Premium Equivalent ('NAPE'), equal to regular premium plus one tenth of single premium; and
- The Present Value of future New Business Premiums ('PVNBP') which equals the single premiums received in the year plus the present value of regular premiums projected to be received over the term of the new contracts, allowing for expected levels of lapse and mortality.

New business volumes include premiums that arise from the sales of new individual and group pension contracts and from 2010 new members in existing group pension contracts. Renewals of existing group contracts are included in new business volumes. For new contracts and renewals only premiums received in the contract period are in scope. Projected contractual increases in premiums are reflected in the in-force value and deviations from these projections are treated as variations in experience rather than new sales. For individual policies, non-contractual increases to the benefits under these contracts are in principle included in new business.

The table below provides for an overview of the value created by the new business sold in 2010.

TABLE 5: VALUE ADDED BY NEW BUSINESS

In € millions	2010	2009
Value of new business	28.3	42.3
NAPE	327.7	406.1
VNB as % of NAPE	8.6%	10.4%
PVNBP	1,411.0	2,115.7
VNB as % of PVNBP	2.0%	2.0%

For 2010, the VNB of REAAL amounted to € 15.2 million (2009: € 23.1 million). Zwitserleven added € 13.1 million (2009: € 19.2 million). In 2010 the portfolios of REAAL and Zwitserleven changed. REAAL now only consists of life and annuity products and Zwitserleven only of pension products. This also applies for new business. The VNB of life products in 2009 was € 4.6 million and for pension products € 37.7 million. Similar to the VIF, the impact on value of expected synergy and integration costs have been allowed for in determining the VNB.

The Dutch Market for life insurance products remained very competitive and the market conditions remain challenging. Sales of several individual life products, especially single premium policies, dropped because SNS REAAL preferred value above volume. Loss-making new business of DBV has been stopped. Sales of pension products remained stable. As a result, the total NAPE decreased in 2010. The VNB of life products increased to € 15.2 million due to costs reductions and an improvement of the product mix. The VNB for pension products decreased to € 13.1 million because of lower investment rates and higher costs.

The PVNBP decreased in particular because of an adjusted product mix: from life policies with long premium instalments to group pension contracts with shorter premium instalments.

The internal rate of return ('IRR') is the discount rate at which the present value of distributable earnings projected to be earned by new business is equal to the total capital invested to write the business. New business generally requires capital to be invested to meet acquisition costs, to set up statutory reserves in excess of premiums received and to meet required capital levels in excess of statutory reserves. This investment is then recovered over the remaining lifetime of the policies.

The IRR of the Insurance activities of SNS REAAL's 2010 New Business is 10.0% (IRR 2009: 11.1%).

### 3.3.4 Analysis of the change in embedded value

The EV decreased by € 305.5 million during 2010, from € 4,201.0 million to € 3,895.5 million. The ANAV increased due to lower interest rates. The VIF decreased as a result of this, but also because of a more conservative strategic asset mix.

The change in the EV in 2010 is explained by the movement analysis shown in the table below. The analysis is shown separately for the ANAV and the VIF, including amounts transferred between these two categories.

TABLE 6: MOVEMENT ANALYSIS

In € millions	Adjusted net asset value	Value of in-force business	2010 Total	2009 Total
EV from preceding period	2,595.1	1,605.9	4,201.0	3,972.9
Adjustments to EV from preceding period	---	(15.4)	(15.4)	58.3
<b>Revised starting EV</b>	<b>2,595.1</b>	<b>1,590.5</b>	<b>4,185.6</b>	<b>4,031.2</b>
Value New Business	---	28.3	28.3	42.3
Expected return / unwinding	154.6	227.7	382.3	288.3
Transfer net result	167.5	(167.5)	---	---
Operational experience	---	(85.6)	(85.6)	148.7
<b>Operating return</b>	<b>322.1</b>	<b>2.9</b>	<b>325.0</b>	<b>479.3</b>
Economic experience variances	82.4	(485.7)	(403.3)	372.2
Economic assumption changes	---	(215.2)	(215.2)	(221.8)
New capital Life business minus dividend paid	---	---	---	(360.5)
Miscellaneous impacts	(1.2)	(28.6)	(29.8)	(185.1)
Change in value of Non-Life and other activities	33.1	---	33.1	85.8
<b>Closing EV</b>	<b>3,031.5</b>	<b>864.0</b>	<b>3,895.5</b>	<b>4,201.0</b>

#### Adjustments to EV from preceding period

The adjustments (–€ 15.4 million) to EV from preceding period represent the impact on EV of refinements to financial projection models. The most important adjustments are:

- a changed definition of the risk-free rate, which is based on the ECB AAA curve, equal to the risk-free yield curve of the Wft liability adequacy test;
- an updated definition of the different asset categories;
- an improved modelling of the asset returns.

#### Revised starting EV

This is the EV at year-end 2009 including the 'Adjustments to EV from preceding period'.

#### Value New Business

This value represents the VNB (€ 28.3 million) of the Insurance activities of SNS REAAL of 2010 (see 3.3.3).

### Expected return / unwinding

This consists of:

- the unwinding of the discount rate on the VIF at the beginning of the year and of new business written during the year (€ 227.7 million);
- the expected return on the ANAV (€ 154.6 million).

### Transfer net result

The transfer net result represents the expected profits at year-end 2009 included in the present value of future profits realised from in-force business (€ 167.5 million). This is transferred from the VIF to the free surplus, part of the ANAV.

### Operational experience

Operational experience (–€ 85.6 million) represents the operational variance of 2010 and it represents the change in operational assumptions. The operational variance which is the difference between actual and modelled operational experience, increased the VIF by € 8.9 million. The operational assumptions have been adjusted as a result of new studies concerning asset mix, expenses, mortality, lapses and disability. These adjustments resulted in a decrease in the VIF of € 94.5. This amount can be split into the following categories:

- changes in the asset mix (–€ 102.6 million): due to a more conservative strategic asset mix;
- changes in mortality frequencies, lapses and disability (–€ 26.5 million): the mortality frequencies in particular are lower;
- changes due to costs and and synergy (€ 34.6 million).

### Operating Return

This is the sum of the effect within management control: ‘Value New Business’, ‘Expected return / unwinding’, ‘Transfer net result’ and ‘Operational experience’.

The following changes are outside management control.

### Economic experience variances

Economic experience variances consist of a change in the ANAV (€ 82.4 million) and a change in the VIF (–€ 485.7 million)

Economic experience variances in the ANAV consist of the change in the market value of bonds and the value of equities (€ 144.7 million) and the difference between the expected investment return and the realised investment return (–€ 62.3 million).

One part of the economic experience variances in the VIF is the change (–€ 244.4 million) in the cost of capital reduction as a result of treating the surplus value in the Wft liability adequacy test as solvency capital. During 2010, the surplus value disappeared, resulting in a higher CoC. The other part of the economic experience variances in the VIF is the period and portfolio variance of investment results (–€ 241.3 million). This is compensated by the ‘Expected return / unwinding’ in the VIF (€ 227.7 million).

### Economic assumption changes

Economic assumptions changes have decreased the VIF by € 215.2 million. These changes can be split into:

- decrease in investment rates over 2010 (–€ 266.9 million);
- change in risk discount rate from 2009 to 2010: from 8.5% tot 8.3% (€ 46.7 million);
- changes in inflation assumptions (€ 5.0 million).

### New capital Life business minus dividend paid

Shareholder’s equity of the Insurance activities remained unchanged due to capital injections or withdrawals, and no dividend has been paid out.

### Miscellaneous impacts

The VIF impact (–€ 29.8 million) especially consists of the recalculation of the “Wabeke” effect (€ 17.7 million).

### Change in value of Non-Life and other activities

This figure (€ 33.1 million) consists of the change in shareholder’s equity of the non-life business (€ 48.5 million) and the change in the value of other activities, such as costs of off-balance mortgages and employee benefit administration for SNS REAAL’s employees, who are insured with parties that are not part of SNS REAAL (–€ 16.5 million).

### Closing EV

This is the EV at year-end 2010.

### 3.4 SENSITIVITY ANALYSIS

Embedded Value ('EV') calculations rely upon several best-estimate assumptions with respect to future investment income, mortality rates, lapse rates and other variables. Sensitivity results for the life insurance EV and new business are provided in the tables below.

The following sensitivities have been performed:

- 100 basis point lower discount rate;
- 100 basis point higher discount rate;
- 100 basis point reduction in interest rates, including subsequent changes to assumed investment returns for all asset classes, market value of fixed interest assets and risk discount rates;
- 100 basis point increase in interest rates, including subsequent changes to assumed investment returns for all asset classes, market value of fixed interest assets and risk discount rates;
- 10% decrease in lapse rates;
- 5% decrease in mortality and disability rates: the result for the life and annuity products is shown separately;
- 10% decrease in maintenance expenses;
- 10% decrease in initial costs (only new business);
- Value excluding expected synergy;
- Instant 10% downward change in equity value (only EV);
- Required capital equal to 100% of EU minimum solvency requirement rather than 150%.

#### 3.4.1 Life insurance embedded value sensitivities

The table below summarises the results of the sensitivity analysis of the life insurance EV as at 31 December 2010.

TABLE 7: LIFE INSURANCE EMBEDDED VALUE SENSITIVITIES

In € millions	Adjusted net asset value	Value of in-force business	Total
<b>As reported</b>	<b>3,031.5</b>	<b>864.0</b>	<b>3,895.5</b>
Impact of sensitivity on reported value:			
100 basis point reduction in the risk discount rate	---	265.6	265.6
100 basis point increase in the risk discount rate	---	(223.4)	(223.4)
100 basis point reduction in asset return and discount rate simultaneously	238.8	(587.3)	(348.5)
100 basis point increase in asset return and discount rate simultaneously	(201.9)	416.5	214.5
10% decrease in lapse rates	---	50.4	50.4
5% decrease in mortality and disability rates (Life)	---	41.6	41.6
5% decrease in mortality and disability rates (Annuity)	---	(36.6)	(36.6)
10% decrease in maintenance expenses	---	84.2	84.2
No synergy	---	(162.2)	(162.2)
Instant 10% downward change equity value	(35.8)	(54.2)	(90.0)
Required capital 100% of EU minimum	-	219.3	219.3

Changes in fixed interest returns generally coincide with changes in returns on other investment types and changes in risk discount rates. For this reason, we believe it is more appropriate to consider the changes in value resulting from simultaneous changes in fixed interest returns, equity and property yields and discount rates, than to consider these items independently. The change in returns on fixed income assets is only shifted for new money and reinvestments. The equity value in the downward change in equity value represents all shares in total assets.

The downward interest rate sensitivity has a larger impact on the VIF than the upward sensitivity due to the impact from embedded interest rate guarantees in the policies.

The gain in case of a 1 % interest rate increase is not as significant for profit-sharing business because part (or all) of these gains are passed on to policyholders. For unit-linked and non profit-sharing business, the main impact of changes in interest rates stems from the change in the risk discount rate that accompanies a move in the underlying risk-free rate.

Reductions in mortality and disability rates have a positive effect on the value, due to the mix of in-force business (i.e. offsetting positions in mortality and longevity risk). In reality the impact of reductions in mortality and disability can be different, because the reductions will be different for different ages of insured.

### 3.4.2 New Business sensitivities

The table provides a summary of the impact of the previously described sensitivities on the value added by 2010 new business.

TABLE 8: NEW BUSINESS SENSITIVITIES

In € millions

<b>As reported</b>	<b>28.3</b>
Impact of sensitivity on reported value:	
100 basis point reduction in the risk discount rate	14.3
100 basis point increase in the risk discount rate	(13.9)
100 basis point reduction in interest rates*	(26.7)
100 basis point increase in interest rates*	7.8
10% decrease in lapse rates	1.2
5% decrease in mortality and disability rates (Life)	2.7
5% decrease in mortality and disability rates (Annuity)	(1.7)
10% decrease in maintenance expenses	6.5
10% decrease in initial costs	3.8
No synergy	(8.6)
Required capital 100% of EU minimum	12.4

\* 100 basis point change in interest rates, including subsequent changes to assumed investment returns for all asset classes and the risk discount rate.

The sensitivity to changes in interest rates is based on the premise that capital markets move in line with the rise and fall of interest rates. It is assumed that premiums received from policyholders, policyholder benefits, and guarantees provided to policyholders will not change with market movements. The sensitivity also assumes that new money rates are applied to 2010 cash flows available for investment. This could explain the movement in the downward interest rate sensitivity in relation to the reported value.

# Disclaimer

## CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

The statements contained herein may include statements of future expectations and other forward-looking statements that are based on SNS REAAL's current views and assumptions and financial targets and involve known and unknown risks and uncertainties that could cause actual results, performance or events to differ materially from those expressed or implied in such statements due to, without limitation, general economic conditions and events. In addition to statements which are forward-looking by reason of context, the words "may", "will", "should", "expects", "plans", "intends", "anticipates", "believes", "estimates", "predicts", "potential", or "continue" and similar expressions identify forward-looking statements.

The company assumes no obligation to update any forward-looking statement, except to the extent required by legislative and regulatory requirements.

Forward-looking statements involve inherent risks and uncertainties and only apply to the valuation date. SNS REAAL undertakes no duty to and will not necessarily update any of the forward-looking statements in light of any new information or future events, except to the extent required by applicable law. SNS REAAL's cautions investors that a number of important factors could cause actual results or outcomes to differ materially from those expressed in any forward-looking statements.

# Economic assumptions

Economic assumptions have been approved by SNS REAAL's Executive Board and are based on input from the SNS REAAL Asset Liability Committee. The risk-free rates for the first five years of the projections have been derived from the implied 10-year forward rates on government bonds as of year-end 2009 and 2010 respectively. After five years, risk-free rates are assumed to remain constant. In 2010, the risk-free rates are based on the ECB AAA curve. In 2009, SNS REAAL used the European Sovereign zero curve.

## I.1 NEW MONEY INVESTMENT ASSUMPTIONS

New money investment assumptions include the long term risk-free interest rates, new money credit spreads, equity and property returns. The rates used for the life insurance embedded value ('EV') at both year-end 2009 and 2010 are outlined in the tables below. The net credit spread on fixed interest investments has been based upon the underlying credit ratings within the asset portfolio. In 2010 the strategic asset mix for REAAL and Zwitserleven has been harmonised. As a result the difference in credit spread between REAAL and Zwitserleven disappeared in 2010. The net credit spread on fixed interest is 0.65% in 2010.

Equity returns are set by reference to the risk-free rate and assume an equity risk premium of 300 basis points. The property returns assume a premium above risk-free rates of 200 basis points. The returns for the asset class alternatives are set to the risk-free rate plus 133 basis points. These risk premiums reflect SNS REAAL's current view of prospective returns concerning these asset classes.

TABLE 9: NEW MONEY INVESTMENT ASSUMPTIONS

In € millions	2010	2011	2012	2013	2014	2015	2016+
<b>2010</b>							
Risk-free rate		3.63%	4.01%	4.30%	4.48%	4.57%	4.60%
Net credit spread on fixed interest		0.65%	0.65%	0.65%	0.65%	0.65%	0.65%
Equity returns		6.63%	7.01%	7.30%	7.48%	7.57%	7.60%
Property returns		5.63%	6.01%	6.30%	6.48%	6.57%	6.60%
Alternatives returns		4.96%	5.34%	5.63%	5.81%	5.90%	5.93%
<b>2009</b>							
Risk-free rate	3.81%	4.17%	4.51%	4.76%	4.96%	5.11%	
Net credit spread on fixed interest (REAAL)	0.64%	0.64%	0.64%	0.64%	0.64%	0.64%	
Net credit spread on fixed interest (Zwitserleven)	0.32%	0.32%	0.32%	0.32%	0.32%	0.32%	
Equity returns	6.81%	7.17%	7.51%	7.76%	7.96%	8.11%	
Property returns	5.81%	6.17%	6.51%	6.76%	6.96%	7.11%	

Future investments for non-unit linked business have been assumed to be invested in a mix of fixed interest investments, equities, alternatives and property.

The risk-free rates used in 2009 have been based on the 10-year forward rates of government yields as at 31 December 2009. The risk-free rates used in 2010 have been based on the 10-year forward rates of the ECB AAA curve as at 31 December 2010.



## 1.2 RISK DISCOUNT RATE

The risk discount rate is a combination of the risk-free rate (in this case, the ultimate rate shown in the tables above) to reflect the time value of money and a risk margin to reflect market and non-market risk due to experience variance in future years. A risk margin is added in particular to allow for the risk that projected additional returns on, for example, equities are not achieved.

SNS REAAL follows the principle that in determining the discount rate, an appropriate risk margin should be applied, using a weighted average cost of capital ('WACC') approach. The WACC is calculated by using a risk-free interest rate, an equity risk premium, a risk factor ( $\beta$ ) and an allowance for the impact of debt financing (based on the market value of this debt).

TABLE 10: DERIVATION OF RISK DISCOUNT RATE

	2010	2009
Risk-free rate	4.60%	5.11%
Equity risk premium	3.00%	3.00%
Risk factor ( $\beta$ )	1.33	1.20
Weighting debt capital and core Tier 1 capital securities not owned by the Dutch State	25%	28%
After-tax cost of debt capital	7.83%	7.89%
Weighting core Tier 1 capital securities owned by the Dutch state	7.9%	8.9%
After-tax cost of core Tier 1 capital securities owned by the Dutch state	9.95%	10.12%
<b>Risk discount rate</b>	<b>8.30%</b>	<b>8.50%</b>

The risk free-rate is the ultimate forward rate (see table 9). The assumed risk factor ( $\beta$ ) is the correlation between returns of the equity portfolio of the Insurance activities and European stock market returns. For 2/3 this has been estimated based on the basis of a comparison between the MSCI Index and the MSCI Insurance Index. For 1/3  $\beta$  is equal to 1, because a certain mean reversion in the  $\beta$  is assumed.

At the end of 2010 the WACC computation produced a discount rate of 8.3%, a decrease of 20 basis points compared to the end of 2009. The credit spreads for debt financing have increased (2010: 7.83% – 4.60% = 3.23% and 2009: 7.89% – 5.11% = 2.78%) but the risk-free rate dropped 51 basis points, on balance resulting in a higher risk margin (risk discount rate minus ultimate risk-free rate) in 2010 (2010: 3.70% and 2009: 3.39%).

The WACC for the value new business ('VNB') is calculated on the basis of the average level for the WACC during the year. This WACC for new business calculations is 8.0% for 2010 (2009: 8.3%).

No other adjustments for risk are reflected in the discount rate. Differences in risk by product line are reflected through the capital allocation and through deductions due to the time value of financial options and guarantees.

## 1.3 ECONOMIC SCENARIOS

A series of economic scenarios has been generated for use in determining the cost of options and guarantees. This affects real-world scenarios. The way in which these scenarios have been derived is described below.

### Scenarios for traditional profit-sharing business

Where profit-sharing is based on an external index (e.g., u-yield), the u-yield is, based on historic realisations, approximated as the projected return on the 10-year ultimate ECB AAA forward rate minus 20 basis points (2009: 20 basis points). Where management has some discretion over the amount of profit-sharing, the level of profit-sharing is estimated as a moving average of projected returns on fixed interest investments with an average maturity of 10 years.

In the calculation principles used for the profit sharing in the Zwitserleven products, the u-rate is determined at the so called partial u-rate at valuation date. During the projection period the u-rate is defined as the current risk-free rate increased by the difference between partial u-rate and risk-free rate at valuation date.

### Scenarios for unit-linked and group segregated account business

Economic scenarios are generated using expected returns on each of the different investment categories, based upon the correlation between returns in each of the investment categories and the volatility of return per category.

### Volatility and correlation

The following volatility and correlation parameters were used to determine the time value of financial options and guarantees. These are based on historical levels. The fixed interest volatility percentages refer to absolute basis points.

TABLE 11: VOLATILITY 2009 AND 2010

	Fixed interest	Equities
2009	0.68%	21.0%
2010	0.65%	24.5%

TABLE 12: CORRELATION MATRIX 2009 AND 2010

	Fixed interest	Equities
Fixed interest	100%	0%
Equities	0%	100%

## 1.4 TAXES

In calculating after-tax earnings, an allowance has been made for tax-exempt income and expenses. The effective rate of tax used in projecting future after-tax profits is 22.5% (2009: 22.5%).

# Operational assumptions

All expenses of the Insurance activities, including corporate overhead expenses, have been allocated to the various business units within the Insurance activities. Except for certain non-recurrent expenses, as specified below, expenses attributable to the life insurance businesses have been allocated to acquisition or maintenance expenses and are included in the embedded value ('EV') projections.

## II.1 EXPENSES, SYNERGY AND EXPENSE INFLATION

As a result of the acquisition of several insurance activities in the Netherlands, cost reductions are expected to be higher than envisaged once integration of these activities had been realised.

For the European embedded value ('EEV') calculations, SNS REAAL feels it is appropriate to take 100% of the expected synergy on non-acquisition expenses for the life business of acquired Insurance activities (AXA NL, Zwitserleven) into account. These synergy effects are included in the figures of 2009 and recalculated in 2010.

TABLE 13: SYNERGY AND EFFICIENCY GAINS

In € millions	2010	2011	2012	2013	2014	2015
Year-end 2009	17.6	15.8	12.8	6.2	6.8	0.0
Year-end 2010		15.6	9.5	7.0	4.8	8.1

The table above does not include the impact of expense inflation. Expense inflation assumptions are as follows.

TABLE 14: INCREASE IN RENEWAL EXPENSES

In € millions	2010	2011	2012	2013	2014	2015	2016+
Year-end 2009	1.25%	1.50%	2.00%	2.00%	2.00%	2.00%	2.00%
Year-end 2010		1.10%	1.30%	1.30%	2.10%	2.10%	2.10%

In 2010 expenses used to determine unit costs excluded integration costs for AXA NL and Zwitserleven, and non-recurrent costs (2010: € 60.6 million, 2009: € 51.8 million).

## II.2 MORTALITY, DISABILITY AND LAPSES

In 2010 the method of calculation and the assumptions has been realigned. With regard to this methodology the assumptions used in the EV calculations have been based on a review of actual operating experience.

Mortality assumptions have been updated to reflect improvements in life expectancy for the population in general and also to reflect a more detailed analysis of recent historical mortality experience for the various products sold by SNS REAAL. Lapse assumptions have also been updated to reflect changes in recent historical experience. Disability assumptions have been updated for the Zwitserleven portfolio.

The SNS REAAL Asset Liability Committee has provided a sign-off that the assumptions represent their best estimates for 2009 and 2010.