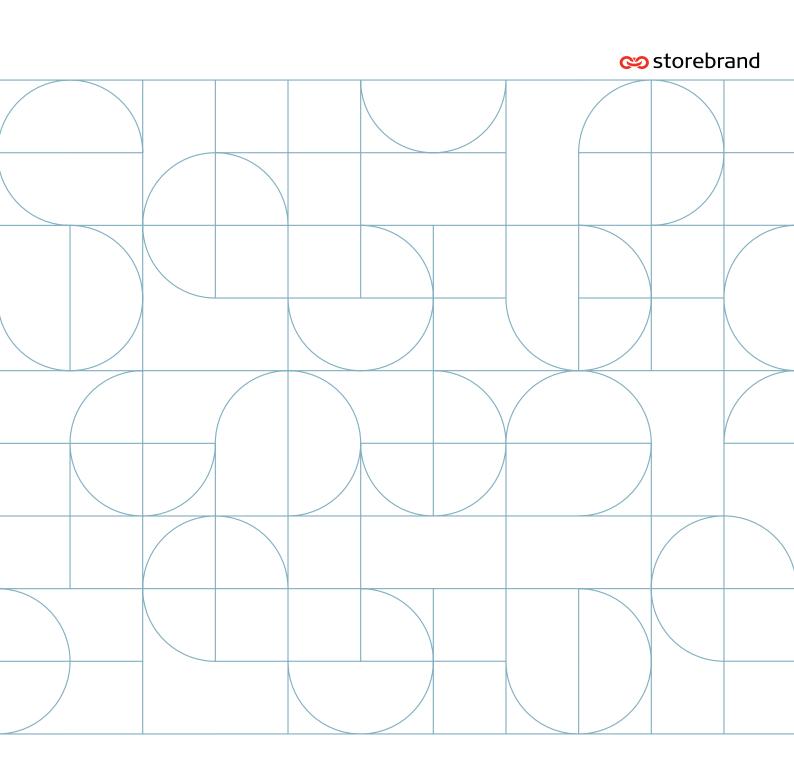
# 2011 Market Consistent Embedded Value

Supplementary information – 7 March 2012



# Market Consistent Embedded Value

Supplementary information regarding Market Consistent Embedded Value 2011 of the life insurance business of Storebrand Group.

### **MAIN FEATURES**

- Embedded value of Storebrand Life Group was NOK 24,981 million at year-end 2011.
- The total embedded value earnings for the financial year 2011 were NOK -5,363 million, representing -17.5% return on the opening embedded value. The operating earnings were NOK 856 million, representing an operating return of 2.8%.
- The value of new business written in 2011 was NOK 385 million (at point of sale).
- The embedded value calculations are compliant with EEV Principles using a market consistent approach and have been reviewed externally by Towers Watson.

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# I. INTRODUCTION

This document discloses the 2011 Market Consistent Embedded Value (MCEV), hereby denoted embedded value, for Storebrand Life Group. It includes business written in Storebrand Livsforsikring AS (SBL) and the Swedish life insurance company SPP Livförsäkring AB and SPP Liv Fondförsäkring AB (SPP). The value of Euroben Life & Pension Limited has been consolidated into the results shown for SBL.

An embedded value is a present value of cash flow calculation estimating the value of the company excluding any value attributable to future new business. The calculation of embedded values requires a number of assumptions with respect to the business, operating, demographic, and economic conditions, as well as factors

determined by financial markets. Although the operating and demographic assumptions used represent estimates which Storebrand considers reasonable, actual future operating conditions and actual future experience may vary from that assumed in the calculation of the embedded value, and such variations may be material. Consequently, the inclusion of embedded value information herein should not be regarded as a statement by Storebrand, Towers Watson, or any other person, that the stream of future after-tax profits used to determine the embedded value will be achieved with certainty.

### II. RESULTS FOR STOREBRAND LIFE GROUP

All results are presented in NOK.

The total embedded value as at 31 December 2011 for the life insurance business of Storebrand Life Group after capital movements is NOK 24,981 million. The value of in-force business (VIF) at year-end 2011 is NOK 16,406 million while shareholder surplus is NOK 8,575 million. The VIF includes the present value of future shareholder profits (PVFP) in a certainty equivalent scenario (including profits arising in the

asset management companies of Storebrand Group induced by its life insurance business), an allowance for the time value of options and guarantees (TVOG), frictional costs of holding required capital (FCRC) and an allowance for cost of residual non-hedgeable risks (CNHR).

# **Embedded value for Storebrand Life Group**

The following table shows the embedded value at year-end 2011 and the published embedded value at year-end 2010:

NOK mill.	MCEV 2010	MCEV 2011
Total shareholder surplus at market value	8,951	8,575
comprising		
- Free surplus	1,671	606
- Required capital	7,280	7,969
Value of In-force business	21,648	16,406
comprising		
- PVFP	33,226	29,778
- TVOG	-7,766	-8,543
- FCRC	-159	-186
- CNHR	-3,653	-4,643
Total embedded value	30,599	24,981
Look through value included in the PVFP	3,498	3,098

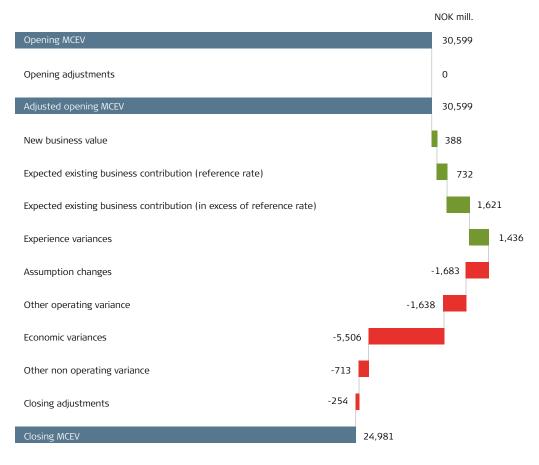
An implied discount rate (IDR) of 9.8% at year-end 2011 has been derived for Storebrand Life Group (10.1% for SBL and 9.0% for SPP). The approach for deriving the IDR is described in Section V.

The current tax legislation in Norway, related to gains on equities not being considered in the taxable income calculation, leads to an effective tax rate of 0% for profits arising in SBL and the group's asset management companies. As an effect of the holding company structure in Sweden, whereby part of the profits can be transferred to the group as a tax-free group contribution, it is expected that the effective tax rate for profits arising in SPP will be 0%. Therefore, a tax rate of 0% has also been applied for SPP.

On 1 January 2012 the Norwegian Ministry of Finance proposed a restriction to the tax exemption method for shares held in the customer portfolios in life insurance and pension companies. This will potentially put SBL and consequently SPP in a taxable position. The potential effect of this is explored as an additional sensitivity. The impact will depend on final amendments made to the tax legislation, but is expected to be within the range of minus NOK 1.3 billion to minus NOK 3.2 billion.

# 2011 Embedded value earnings analysis

The following chart shows the embedded value earnings:



The following table shows the movements in the embedded value in 2011:

	Analysis of MCEV Earnings				
NOK mill.	Free Surplus	Required Capital	Value of In-force	Total MCEV	
(1) Opening MCEV	1,671	7,280	21,648	30,599	
(2) Opening adjustments	0	0	0	0	
(3) Adjusted opening MCEV	1,671	7,280	21,648	30,599	
(4) New business value	-423	77	734	388	
(5) Expected existing business contribution (reference rate)	132	88	512	732	
(6) Expected existing business contribution (in excess of ref. rate)	1,430	27	165	1,621	
(7) Transfers from VIF and required capital to free surplus	807	-25	-782	0	
(8) Experience variances	234	0	1,202	1,436	
(9) Assumption changes	107	-198	-1,592	-1,683	
(10) Other operating variance	0	0	-1,638	-1,638	
(11) Operating MCEV earnings	2,288	-32	-1,400	856	
(12) Economic variances	-4,747	3,099	-3,859	-5,506	
(13) Other non operating variance	-695	0	-18	-713	
(14) Total MCEV earnings	-3,154	3,068	-5,278	-5,363	
(15) Closing adjustments	2,089	-2,378	36	-254	
(16) Closing MCEV	606	7,969	16,406	24,981	

# Detailed description of embedded value earnings

Technical terms are described in section V. Methodology

- 1) Opening MCEV: Published embedded value at year-end 2010.
- **2) Opening adjustments:** Adjustments to the published embedded value from the previous year-end.

No adjustments have been made to published results from year-end 2010.

- **3) Adjusted opening MCEV:** *Embedded value at year-end 2010 after opening adjustments.*
- **4) New business value:** Value of new business (VNB) in 2011 based on year-end 2011 assumptions.

VNB at point of sale and using year-end 2011 exchange rates is NOK 385 million. VNB as shown in the embedded value earnings of NOK 388 million is based on year-end 2010 exchange rates and includes the unwinding to the year-end 2011. VNB is NOK 230 million in SBL and NOK 158 million in SPP. The portion of VNB from DC and Unit Linked products is 70%.

The VNB calculation method does not include new members on existing corporate contracts.

**5) Expected existing business contribution (reference rate):** This item reflects the unwinding of the discounting included in the present value components. Additionally, the risk free return on the shareholder surplus is shown in the free surplus column.

The total expected existing business contribution of NOK 732 million comprises the unwinding of the value of in-force of NOK 512 million and the risk free return on the shareholder surplus of NOK 220 million.

**6) Expected existing business contribution (in excess of reference rate):** The existing business contribution in excess of reference rate reflects the additional return on the opening MCEV in line with management expectations for the business. In this step, "real world" returns described in Section VI are assumed for the first year (2011). Also, the excess return includes the release of the allowance for options and guarantees (TVOG) and non-hedgeable risks (CNHR) for the year 2011.

The total expected return over risk-free rate at the end of 2011 was NOK 1,621 million.

In total, the expected existing business contribution (points 5 and 6 above) amount to NOK 2,353 million which represents an expected return of 7.7% on the opening MCEV.

7) Transfers from VIF and required capital to free surplus: Profits for 2011 that were capitalized at the previous year-end are moved from the VIF into the shareholder surplus. There is no impact on the embedded value earnings as these profits were expected to emerge at the previous year-end. This item also includes the expected development of the required capital with a corresponding movement in the free surplus.

The transfer from VIF to the free surplus amounts to NOK 782 million. Additionally, the required capital has decreased by NOK -25 million with a corresponding increase in the free surplus.

8) Experience variances: These variances result from deviations between actual and expected profits due to operational and actuarial considerations. Experience variances consist of effects on the 2011 profits (shown in the column "Free surplus") and effects on the future profits (shown in the column "VIF").

The total experience variances amount to NOK 1,436 million, comprising NOK 1,017 million from SBL and NOK 419 million from SPP.

The positive variance for SBL is mainly caused by lower lapses than expected (including growth from new members on existing schemes in DB and DC business) with an effect on future profits of NOK 1,104 million. An administrative back-log resolved in 2011 led to a one-off effect on the risk result in 2011 of NOK -202 million.

For SPP, the positive variance comprises NOK 279 million caused by a better disability risk result than expected in 2011 and a NOK 98 million impact on future profits from higher premiums received than expected.

**9) Assumption changes:** Changes in actuarial and operational assumptions from 2010 to 2011, which affects the VIF only.

The total effect of changes in assumptions for the group in 2011 amounts to NOK -1,683 million comprising NOK -1,232 million from SBL and NOK -451 million from SPP.

For SBL, the anticipated conversion of paid-up group pension policies will lead to increased expenses in the medium term. For part of the portfolio, expenses decreased in 2011 while it increased for others (e.g. for DC business). Total impact on value of in-force of these changes amounts to NOK -448 million as the expense increase are on products with longer cash flow. A change in the fee arrangement with the asset management company led to a decrease in the expected future income margin causing a negative effect of NOK -598 million on the value of in-force.

A reduction in assumed mortality causes a NOK -648 million reduction in the embedded value for annuity products. The positive experience variances with regard to lapse rates (described above) also led to reduction in expected lapse rates causing a positive effect of NOK 450 million.

For SPP, new lapse assumptions have a negative effect of NOK -272 million, mainly caused by higher lapses on profitable products and lower lapses on less profitable products. New cost allocation has an effect of NOK -148 million; more costs are allocated from DC to DB, and somewhat increased cost allocation to Unit-Linked.

**10) Other operating variance:** This item comprises changes in management policies for profit sharing, investment strategy, etc. Additionally, this item includes model improvements and corrections.

The total other operating variances amount to NOK -1,638 million. This relates to model corrections and improvements which are partially offset by changes in management rules. The main model corrections and improvements relate to a reduced expected fee income in group pension business and an increased CNHR. The change in management rules mainly reflect a de-risking of the portfolio as a response to the current market conditions.

**11) Operating MCEV earnings:** Sum of items 4) to 10). These earnings are under management control in contrast to economic earnings.

The total operating MCEV earnings amount to NOK 856 million representing a return on the opening MCEV of 2.8%.

**12) Economic variances:** The economic variances are divided into effects on the 2011 profit and all future profits. The variances in the shareholder surplus comprise the impact of the investment performance in 2011 on shareholder profits and movements in the required capital. The change in VIF represents the effect on future profits from the change in the economic environment during 2011.

Total economic variances in 2011 amount to NOK -5,506 million, mainly caused by lower interest rates. The 10-year spot rate has decreased from 4.5% to 3.6% in Norway and from 3.7% to 2.3% in Sweden.

For SBL, economic variances are NOK -3,765 million, divided into NOK -3,162 million from reduced value of in-force and NOK -603 million from lower results than expected in 2011. The value of in-force is mostly reduced by lower interest rates and fall in equity markets during 2011. Lower financial results, mainly caused by reserve strengthening on traditional profit sharing business, and lower return on shareholder capital give the negative effect in 2011 results to shareholder.

For SPP, economic variances are NOK -1,741 million, with NOK -697 million from value of in-force and NOK -1,044 million from lower financial results than expected in 2011. The value of in-force effect is mainly caused by falling equity markets in 2011.

**13) Other non-operating variance:** Regulatory changes implemented in 2011 and other non-operating changes are shown in this item (e.g. changes in tax laws or other business related laws).

The other non-operating variances amount to NOK -713 million caused by tax liabilities. According to current IFRS accounting principles employed by Storebrand, a tax liability based on gains in the real estate portfolio had to be set up. However, Storebrand does not expect that this tax will be paid but rather that the tax liability will be released at some point.

- **14) Total MCEV earnings:** *Sum of items 11) to 13).* The movements from 31 December 2010 to 31 December 2011 show MCEV total earnings of NOK -5,363 million. This represents a return of opening MCEV of -17.5%, divided into economic variances and other non-operating variances of -20.3% and operating earnings of 2.8%.
- **15) Closing adjustments:** Under this item, changes in the exchange rate to NOK, dividends and other capital movements are shown.

Closing adjustments in aggregate amount to NOK -254 million comprising NOK -203 million dividend to Storebrand ASA from SBL, NOK -131 million profits from asset management and finally the effect of the change in the exchange rate between the Norwegian and the Swedish currency with NOK 80 million.

**16) Closing MCEV:** MCEV for the Storebrand Life Group at year-end 2011.

# Value of new business (VNB)

The following table shows the consolidated value of new business written in 2011:

NOK mill.	
Value of New Business	
comprising	
- PVFP	649
- TVOG	-138
- FCRC	-4
- CNHR	-122
Total value of new business	385
Look through	114

# New business margins

The following table shows the new business margins for the business written in 2011:

NOK mill.	
Value of New Business	385
Regular premiums	1,087
Single Premiums	4,284
APE	1,515
APE margin (%)	25 %
PVNBP	13,903
PVNBP margin (%)	2.8 %

The implied discount rate for the new business amounts to 7.5%, the internal rate of return 13.7%.

# Sensitivities for Storebrand Life Group

The following sensitivities have been carried out for the embedded value and the VNB. The sensitivities reflect changes in single assumptions unless stated otherwise.

#### Sensitivities 1 & 2:

A parallel shift of 100 basis points is applied to the starting yield curve. The market values of bonds are adjusted accordingly. It should be noted that a 100 basis points parallel shift for the entire yield curve has been reflected. (The extrapolation method described in Section VI has not been applied to the shifted curve.)

#### Sensitivities 3 & 4:

The initial market values of all equity and property holdings are reduced by 10% (in Sensitivity 4 only equity market values have been reduced). Dynamic risk management does not apply to this sudden shock, but contributes to reduced risk in the portfolios for the remaining projection period.

# Sensitivity 5:

The implied volatilities at evaluation date for equity and property are increased by 25%.

### Sensitivity 6:

The implied volatilities at evaluation date for swaptions are increased by 25%.

### Sensitivity 7:

Future maintenance expenses are reduced by 10%.

# Sensitivity 8:

Future lapse rates are reduced by 10%.

### Sensitivity 9:

Mortality rates are reduced by 5% going forward for annuity business only.

#### Sensitivity 10:

Mortality rates are reduced by 5% going forward for life business only.

#### Sensitivity 11:

Salary and expense inflation rates are increased by 50 basis points.

# Sensitivity 12:

Required capital set to be equal to the minimum level of required solvency capital. It should be noted that for Norway the minimum is given by the banking requirement (Basel 1). For SPP, 100% of the EU minimum solvency requirement has been allowed for in this sensitivity.

The following table shows the sensitivity results for the embedded value at year-end 2011:

NOK mill.	Total MCEV	Change	in %
Base	24,981		
1. 100 basis point pa increase in the interest rate	28,795	3,814	15 %
2. 100 basis point pa decrease in the interest rate	16,063	-8,918	-36 %
3. 10% decrease in equity/property capital	21,892	-3,089	-12 %
4. 10% decrease in equity capital	23,567	-1,415	-6 %
5. 25% increase in equity/property implied volatilities	24,921	-60	0 %
6. 25% increase in swaption implied volatilities	23,981	-1,000	-4 %
7. 10% decrease in maintenance expenses	27,215	2,233	9 %
8. 10% proportionate decrease in lapse rates	25,839	858	3 %
9. Mortality rates -5% - annuity business	24,210	-771	-3 %
10. Mortality rates -5% - life business	25,024	42	0 %
11. Salary and expense inflation + 0.5%	25,148	167	1 %
12. Required capital equal to minimum level of solvency capital	25,000	19	0 %

In addition to the standard sensitivities on the previous page, two other sensitivities are presented below:

#### Tax sensitivity:

A sensitivity to explore the effect of potential taxation in accordance with the proposed amendment to the tax legislation has been carried out. Profits in SBL would be taxed with up to the standard corporation tax of 28%. Based on the current proposal, though, Storebrand's tax loss carried forward (7,687 million as of 31.12.2011) could be maintained and shield the group from the payment of tax for a number of years.

There are still uncertainties regarding the implementation and its impact on the effective tax rate following this change. If the resulting effective tax rate would be 25% for SBL, and additionally considering a tax loss carried forward period of 4 years, this would reduce Storebrand Group MCEV for 2011 from NOK 28,138 million to NOK 25,346 million (a reduction of -9,9%). Full company tax rate of 26.3% has been used on the VIF for taxable products in SPP.

Macro extrapolation sensitivity:

A sensitivity has been performed with regards to a potential change of the macro extrapolation methodology that Storebrand currently uses for embedded value calculations. For this sensitivity, the preliminary methodology of Solvency II, as defined in the QIS5 specification, is used to create the base scenario for the interest rate curve. The effect on MCEV for Storebrand Life Group of a change to this interest rate curve would be NOK -4,893 million (decrease on embedded value of -20%).

EIOPA proposes to use such a curve to represent markets that are not "deep and liquid". In constructing the curve, parameters must be set to specify the last liquid point of the market curve and both the level of long rates and at what point in time one should expect the long rate to materialize. This process should still be regarded as work in progress, as methodology and level of these parameters may change from EIOPA. Note that the sensitivity does not include updated CNHR or other secondary effects.

The table below shows the results of standard sensitivities on VNB:

NOK mill.	Total VNB	Change	in %
Base	385		
1. 100 basis point pa increase in the interest rate	418	34	9 %
2. 100 basis point pa decrease in the interest rate	190	-194	-51 %
3. 10% decrease in equity/property capital	341	-43	-11 %
4. 10% decrease in equity capital	364	-20	-5 %
5. 25% increase in equity/property implied volatilities	380	-4	-1 %
6. 25% increase in swaption implied volatilities	369	-16	-4 %
7. 10% decrease in maintenance expenses	447	63	16 %
8. 10% proportionate decrease in lapse rates	443	58	15 %
•			
9. Mortality rates -5% - annuity business	377	-8	-2 %
10. Mortality rates -5% - life business	384	0	0 %
11. Salary and expense inflation + 0.5%	400	16	4 %
12. Required capital equal to minimum level of solvency capital	385	1	0 %

# **III. RESULTS BY COMPANY**

In this section the embedded value results are shown for SBL and SPP separately on a legal entity basis.

The table below shows the embedded value for SBL, SPP and the consolidated embedded value at year-end 2011:

	MCEV 2011	MCEV 2011	MCEV 2011
NOK mill.	SBL	SPP	Consolidated
Total shareholder surplus at market value	15,721	6,537	8,575
comprising			
- Free surplus	11,378	-320	606
- Required capital	4,343	6,857	7,969
Value of In-force business	11,440	4,966	16,406
comprising			
- PVFP	22,680	7,098	29,778
- TVOG	-7,742	-801	-8,543
- FCRC	-92	-94	-186
- CNHR	-3,405	-1,237	-4,643
Total embedded value	27,162	11,502	24,981
Look through value included in the PVFP	2,314	784	3,098

# **Results for SBL**

The embedded value shown below for SBL reflects its value before consolidation at year-end 2010 and 2011. The values include the value of SBL's Irish subsidiary Euroben Life & Pension Limited. In order to derive the embedded value shown for Storebrand Life Group above, the embedded value of SPP has to be added and the book value of SPP deducted.

The following table shows the embedded value for SBL at year-end 2010 and 2011:

NOK mill.	MCEV 2010	MCEV 2011
Total shareholder surplus at market value	15,582	15,721
comprising		
- Free surplus	11,351	11,378
- Required capital	4,230	4,343
Value of In-force business	16,392	11,440
comprising		
- PVFP	25,410	22,680
- TVOG	-6,226	-7,742
- FCRC	-97	-92
- CNHR	-2,694	-3,405
Total embedded value	31,974	27,162
Look through value included in the PVFP	2,693	2,314

The following table shows the VIF for SBL by portfolio:

NOK mill.	Total	Fee	20/80	35/65	DC/UL	Risk	Euroben
Value of In-force business							
comprising							
- PVFP	22,680	10,173	3,294	278	6,492	2,126	317
- TVOG	-7,742	-3,423	-3,792	-482	0	0	-45
- FCRC	-92	-38	-41	-5	-2	-2	-4
- CNHR	-3,405	-1,058	-1,322	-120	-829	-32	-45
Total Value of in-force business	11,440	5,653	-1,860	-328	5,660	2,092	223
Look through value included in the PVFP	2,314	619	735	70	887	2	0

The following table shows the VNB for SBL by portfolio:

NOK mill.	Total	Fee based business	20/80	35/65	DC/UL	Risk
Value of New Business						
comprising						
- PVFP	444	148	71	0	132	93
- TVOG	-137	-64	-73	0	0	0
- FCRC	-2	-1	-1	0	0	0
- CNHR*	-78	-21	-23	0	-32	-2
Total value of new business	227	62	-26	0	100	92
Look through value included in the PVFP	56	12	13	0	32	0

Fee based business: Defined benefit group pension schemes, 20/80: Paid-up policies from DB schemes with 20/80 profit sharing, 35/65: Traditional life and saving business with 35/65 profit sharing, DC/UL: Defined contribution and Unit Link, Risk: Individual risk products and group life, Euroben: Irish subsidiary with DB business

The following table shows the new business margins for 2010 (as published) and 2011:

-		
NOK mill.	2010	2011
Fee based business, 20/80 and 35/65 portfolio		
VNB	338	36
PVNBP	11,180	5,102
Regular Premiums	263	139
Single Premiums	5,152	1,862
APE	778	325
APE margin (%)	43 %	11 %
Margin on PVNBP	3.0 %	0.7 %
Defined Contribution and Unit Linked		
VNB	210	100
PVNBP	7,426	3,616
Regular Premiums	322	187
Single Premiums	2,177	1,526
APE	540	340
APE margin (%)	39 %	29 %
Margin on PVNBP	2.8 %	2.8 %
Risk business		
VNB	89	92
PVNBP	454	364
Regular Premiums	127	48
Single Premiums	0	0
APE	127	48
APE margin (%)	70 %	191 %
Margin on PVNBP	19.6 %	25.1 %
Total		
VNB	637	227
PVNBP	19,060	9,083
Regular Premiums	712	374
Single Premiums	7,329	3,388
APE	1,445	713
APE margin (%)	44 %	32 %
Margin on PVNBP	3.3 %	2.5 %

# **Sensitivities for SBL**

NOK mill.	Total MCEV	Change	in %
Base	27,162		
1. 100 basis point pa increase in the interest rate	30,399	3,238	12 %
2. 100 basis point pa decrease in the interest rate	19,553	-7,608	-28 %
3. 10% decrease in equity/property capital	24,847	-2,315	-9 %
4. 10% decrease in equity capital	26,408	-754	-3 %
5. 25% increase in equity/property implied volatilities	27,064	-98	0 %
6. 25% increase in swaption implied volatilities	26,141	-1,021	-4 %
7. 10% decrease in maintenance expenses	28,608	1,446	5 %
8. 10% proportionate decrease in lapse rates	27,706	545	2 %
9. Mortality rates -5% - annuity business	26,839	-322	-1 %
10. Mortality rates -5% - life business	27,204	42	0 %
11. Salary and expense inflation + 0.5%	27,799	638	2 %
12. Required capital equal to minimum level of solvency capital	27,162	1	0 %

The following table shows the sensitivity results for the VNB of SBL:

NOK mill.	Total VNB	Change	in %
Base	227		
1. 100 basis point pa increase in the interest rate	257	30	13 %
2. 100 basis point pa decrease in the interest rate	40	-187	-82 %
3. 10% decrease in equity/property capital	201	-27	-12 %
4. 10% decrease in equity capital	220	-7	-3 %
5. 25% increase in equity/property implied volatilities	230	2	1 %
6. 25% increase in swaption implied volatilities	211	-17	-7 %
7. 10% decrease in maintenance expenses	257	30	13 %
8. 10% proportionate decrease in lapse rates	250	22	10 %
9. Mortality rates -5% - annuity business	221	-6	-3 %
10. Mortality rates -5% - life business	227	0	0 %
11. Salary and expense inflation + 0.5%	250	23	10 %
12. Required capital equal to minimum level of solvency capital	227	0	0 %

# **Results for SPP**

The MCEV for SPP at year-end 2010 and 2011 are shown below.

NOK mill.	MCEV 2010	MCEV 2011
Total shareholder surplus at market value	5,644	6,537
comprising		
- Free surplus	1,789	-320
- Required capital	3,855	6,857
Value of In-force business	5,256	4,966
comprising		
- PVFP	7,817	7,098
- TVOG	-1,540	-801
- FCRC	-62	-94
- CNHR	-959	-1,237
Total embedded value	10,900	11,502
Look through value included in the PVFP	806	784

The value of in-force business for SPP by product is shown in the following table:

NOK mill.	Total	DB	DC	UL	Risk
Value of In-force business					
comprising					
- PVFP	7,098	2,488	193	3,833	584
- TVOG	-801	-233	-568	0	0
- FCRC	-94	-25	-64	-4	0
- CNHR	-1,237	-361	-142	-692	-42
Total Value of in-force business	4,966	1,869	-582	3,137	541
Look through value included in the PVFP	784	61	60	662	0

The following table shows the VNB for SPP by product:

NOK mill.	Total	DB	DC	UL	Risk
Value of New Business					
comprising					
- PVFP	204	9	-47	216	26
- TVOG	-1	3	-3	0	0
- FCRC	-3	0	-1	-1	0
- CNHR	-44	-1	-1	-41	-1
Total Value of in-force business	157	11	-52	173	25
Look through value included in the PVFP	57	0		57	0

The negative value for IF business is caused by negative administration and risk results.

The following table shows the 2011 new business margins for SPP:

NOK mill.	Total	DB	DC	UL	Risk
Value of New Business	157	11	-52	173	25
Regular premiums	713	8	31	641	32
Single Premiums	896	0	262	634	0
APE	802	8	58	705	32
APE margin (%)	20 %	138 %	-91 %	25 %	78 %
PVNBP	4,820	121	377	4,129	193
PVNBP margin (%)	3 %	9 %	-14 %	4 %	13 %

KF: Defined benefit business with profit sharing, IF: Defined contribution business with guarantees and profit sharing, UL: Unit linked products, Risk: Disability policies, Euroben: Irish subsidiary with DB business

# **Sensitivities for SPP**

NOK mill.	Total MCEV	Change	in %
Base	11,502		
1. 100 basis point pa increase in the interest rate	12,079	576	5 %
2. 100 basis point pa decrease in the interest rate	10,193	-1,310	-11 %
3. 10% decrease in equity/property capital	10,728	-774	-7 %
4. 10% decrease in equity capital	10,841	-662	-6 %
5, 25% increase in equity/property implied volatilities	11,540	37	0 %
6. 25% increase in swaption implied volatilities	11,523	20	0 %
7. 10% decrease in maintenance expenses	12,289	787	7 %
8. 10% proportionate decrease in lapse rates	11,816	313	3 %
9. Mortality rates -5% - annuity business	11,054	-449	-4 %
10. Mortality rates -5% - life business	11,503	0	0 %
11. Salary and expense inflation + 0.5%	11,032	-471	-4 %
12. Required capital equal to minimum level of solvency capital	11,520	18	0 %

The following table shows the sensitivity results for the VNB of SPP:

NOK mill.	Total VNB	Change	in %
Base	157		
1. 100 basis point pa increase in the interest rate	161	4	3 %
2. 100 basis point pa decrease in the interest rate	150	-7	-4 %
3. 10% decrease in equity/property capital	140	-17	-11 %
4. 10% decrease in equity capital	144	-13	-8 %
5, 25% increase in equity/property implied volatilities	151	-7	-4 %
6. 25% increase in swaption implied volatilities	158	1	1 %
7. 10% decrease in maintenance expenses	190	33	21 %
8. 10% proportionate decrease in lapse rates	193	36	23 %
9. Mortality rates -5% - annuity business	155	-2	-1 %
10. Mortality rates -5% - life business	157	0	0 %
11. Salary and expense inflation + 0.5%	150	-7	-4 %
12. Required capital equal to minimum level of solvency capital	158	1	1 %

# IV. IFRS RECONCILIATION AND STOREBRAND GROUP MCEV

# Storebrand Group MCEV 2011 and IFRS reconciliation

The following table shows a reconciliation of the IFRS equity for the life insurance business to embedded value at year-end 2011:

NOK mill.	
IFRS Equity Storebrand Life (incl. book value SPP)	15,821
NGAAP adjustments	
- Security reserver non-life	-120
- Administration reserve non-life	0
- Group contribution NGAAP (provision)	-200
NGAAP Equity Life (incl. SPP)	15,500
- Total consolidation SBL Group	784
NGAAP Equity Storebrand Life (incl. book value SPP)	16,285
MCEV adjustments	
- Risk smoothing fund	-469
- Market value debt	-3
- Intangible assets	-91
Shareholders Surplus Storebrand Life (incl. book value of SPP)	15,721
- Book value of SPP in SBL acocunts	-13,683
- Shareholder surplus SPP	6,537
Group Shareholder surplus in MCEV	8,575
- Value of In-force SPP	4,966
- Value of In-force SBL	11,440
Total Life MCEV	24,981

The table below shows the derivation of the group MCEV for the Storebrand Group (including the covered and non-covered business, see Section V) as well as the movements in the group MCEV in the year 2011. The movements of the Group MCEV are shown separately for the covered and the non-covered business. The IFRS life segment is the covered life business. Other segments such as the banking, asset management and other businesses (including eliminations) have been similarly included at their IFRS value.

The earnings for the Asset Management business reflect NOK 131 million less profit than IFRS reporting. This represents asset management profits for managing covered business assets that has been modelled with the covered business MCEV.

NOK mill.	IFRS Segment Life	Banking, Asset Management and Other (incl eliminations)	Group MCEV
Opening Group MCEV	30,599	2,712	33,311
Opening adjustments	0	0	0
Adjusted opening values	30,599	2,712	33,311
Operating Earnings	856	573	1,430
Non-operating Earnings	-6,220	0	-6,220
Total Earnings	-5,363	573	-4,790
Other movements in IFRS equity	0	-445	-445
Closing adjustments	-254	316	62
Closing Group MCEV	24,981	3,156	28,138

### V. METHODOLOGY

**Embedded Value:** Is a present value of cash flow calculation of the value of the company excluding any value attributable to future new business. It comprises the sum of shareholder surplus and the value of business in force (VIF). The VIF comprises the present value of future profits in a certainty equivalent scenario (PVFP) (including profits arising in the asset management companies of Storebrand Group which are induced by its life insurance business), an allowance for the time value of options and guarantees (TVOG), frictional costs of holding required capital (FCRC) and an allowance for cost of residual non-hedgeable risks (CNHR).

The shareholder surplus for SBL is based on the published shareholder assets under NGAAP. For SPP, the shareholder surplus equals the shareholder equity less intangible assets and less tax assets. In the consolidation, the book value of SPP in the books of SBL is deducted from the sum of the shareholder surplus derived as above.

The PVFP is the present value of the projected stream of future after-tax profits that are expected to be generated by the policies in force at the valuation date, taking into account all assets backing policyholder liabilities. The profits are determined on local GAAP using a deterministic projection (with a certainty equivalent scenario).

The stream of future after-tax profits is determined using best estimate assumptions for future operating conditions regarding such items as expenses, taxation, lapse, mortality, and morbidity rates. Economic assumptions are further described in Section VI.

**Embedded value earnings:** The embedded value earnings are defined as the change in embedded value, after adjustments for any capital movement, such as dividends or capital injections. The embedded value earnings are divided into the following categories: the expected return (unwinding of discounting and excess return above the reference rate), the value of new business and experience variances, assumption changes, other operational variances, economic variances, and other non-operating variances. The sum of the first five components listed above is referred to as embedded value operating earnings.

**Covered business:** The business covered in the embedded value reporting is the business written within and legally contained in Storebrand Livsforsikring AS and SPP. The value of Euroben Life & Pension Limited has been consolidated into the results shown for SBL. Additionally, profits arising in the group's asset management companies, Storebrand Kapitalforvaltning AS and Storebrand Eiendom, which arise from the life insurance business of Storebrand Group, have been included. No other sources of profits from the life insurance business within Storebrand Group are considered.

In-force business and new business: For the purposes of the embedded value, the in-force business is defined as existing policies including future renewals on existing policies for individual business, and existing schemes for group business. New members of existing group schemes have been allowed for implicitly by assuming leaving members are replaced by new members joining. New business is defined as new individual policies written in 2011, and for group business, new business relates to new schemes or schemes which are transferred to the Storebrand Group from another insurer in 2011.

New business value: The new business value is defined as the after-tax value derived from new business excluding funds that are not yet booked, including the impact of initial acquisition expenses, an allowance for TVOG, FCRC, and CNHR, and the present value of profits arising in the group's asset management companies which are induced by the new business written. The time value of options and guarantees has been derived as the marginal impact of the new business on the time value of options and guarantees (as described in more detail below) of business in-force. It is calculated at point of sale and based on end-year assumptions.

**Frictional cost of holding required capital:** The frictional cost of holding required capital only reflects the frictional investment management costs as an effective tax rate of 0% has been assumed for both SBL and SPP (see Section VI for further details).

Required capital: The amount of required capital for SBL has been set as the greater of Norwegian regulatory capital and internal capital requirements. Life insurance in Norway is subject to two solvency requirement tests, the EU requirement (Solvency I) and the banking requirement (Basel I), both of which must be satisfied. For both SBL and SPP the internal capital requirement is equivalent to 150% of the EU minimum solvency requirements. For SBL, the banking requirement (Basel 1), which equals NOK 4,343 million, is greater than the internal capital requirement. The required capital is assumed to be released in line with the run off of the business in-force.

In the consolidated embedded value at year-end 2011, the required capital shown reflects the actual group solvency requirement and not the sum of the required capital of SBL and SPP.

**Cost of residual non-hedgeable risks (CNHR):** The CNHR is an allowance for risks that have not been allowed for elsewhere in the calculations. Where possible, the estimated impact of these risks on the embedded value has been assessed and included directly in the CNHR. Where no direct assessment of the impact of these risks has been possible,

a cost of capital approach has been applied based on an estimated risk capital for the risks. The risk capital has mainly been estimated based on QIS5 capital requirements, and a charge of 4% per annum has been applied for most risks.

The CNHR includes an allowance for the illiquidity of the Norwegian and Swedish swap markets. This is calculated based on a cost of capital approach. The corresponding risk capital is calculated by shifting the illiquid part of the yield curve. The risk capital is projected with an appropriate risk driver, and a charge of 4% is applied to quantify the contribution to the CNHR.

The total CNHR is equivalent to an annual charge of 2.6% on the diversified risk capital for non-hedgeable risks (2.5% at year-end 2010).

**Participating business:** Bonuses to policyholders are derived based on the companies' individual profit sharing strategy. Regulatory constraints are appropriately reflected.

Time value of options and guarantees (TVOG): The TVOG (including guaranteed return and the right of policyholders to receive minimum profit sharing) has been determined using a stochastic model of the underlying with-profit business. It is defined as the difference between the present value of future profits in a certainty equivalent scenario and the average over 1000 market-consistent stochastic scenarios.

For the new business, the TVOG is determined by means of a marginal method, i.e. by attributing to the new business the impact of the new business written during the year on the TVOG of the entire portfolio.

The financial options evaluated comprise the interest rate guarantees and the impact of local profit-sharing regulations. No other financial options have been evaluated; specifically, no dynamic policyholder behaviour has been assumed but instead has been considered as part of the allowance for residual non-hedgeable risks.

**Reinsurance and debt:** There are only non-material amounts of reinsurance in Storebrand Life Group. An adjustment has been made to the shareholder surplus to reflect the difference between the book value of the subordinated loans in SBL and the corresponding market value. The adjustment to the shareholder surplus at yearend 2011 amounts to NOK -3 million.

**Look-through adjustments:** Profits arising in Storebrand's asset management companies which are induced by the group's life insurance business have been considered in the VIF at year-end 2011 and in the VNB written in 2011.

**Deterministic projections:** A detailed deterministic model has been used to determine the projected future shareholder cash flows based on a certainty equivalent scenario, where it is assumed that all assets earn the risk-free rate of return and all cash flows are discounted with the risk-free rate.

**Stochastic projections:** A Monte-Carlo simulation using market consistent scenarios was used to evaluate the effect of volatility in the capital markets on the earnings of the covered business.

Allowance is made for management actions, including the investment strategy and solvency based dynamic risk management, as well as crediting and buffer capital strategy based on the current profit-sharing strategy adopted by the Storebrand Life Group. The underlying principles are in line with the strategies developed and executed in recent years, applying CPPI (Constant Proportion Portfolio Insurance) and OBPI (Option Based Portfolio Insurance).

# Implied discount rate (IDR) and internal rate of return

(IRR): The implied discount rate is derived as the discount rate which, if applied to projected shareholder profits using real world economic assumptions as described in Section VI including an allowance for the cost of holding capital, leads to the same embedded value or VNB calculated via a direct MCEV approach as described above.

The IRR is derived as the discount rate which, if applied to projected shareholder profits generated by the new business using real world economic assumptions and including an allowance for the cost of holding capital, leads to a discounted value of zero.

### VI. ASSUMPTIONS

### **Economic assumptions**

Storebrand does not consider the quoted swap rates for NOK and SEK beyond 10 years as a robust basis for embedded value calculations or other valuations. Research performed by Storebrand shows a lack of liquidity in the Norwegian and the Swedish swap market. In 2008, the following approach was developed by Storebrand, and has been adopted for statutory reserving in SPP (note that the solvency accounting does not reflect this). Consequently, this approach has also been adopted for the embedded value calculations.

The following approach to setting the reference rates (for NOK and SEK) has been adopted in the embedded value at year-end 2011:

- Market interest rates are applied to the liquid part of the interest rate curve up to 10 years.
- A long-term equilibrium level for spot rates is applied from 20 years and onwards, where the market is not functioning well. This equilibrium level is based on assumptions for growth in real economy, inflation and a risk premium.
- Linear interpolation of the spot rate is used between 10 years and 20 years.

No liquidity premiums have been added to the reference rate derived as described above.

The spot yield curve table below shows the risk free yields by currency (including the quoted 20-year and 30-year rates which are assumed to be non-liquid):

2010				20	11			
Year	NO	DΚ	SE	EK	NO	DΚ	SI	EK
	mark to market	mark to model						
1	2.8 %	2.8 %	2.3 %	2.3 %	2.6 %	2.6 %	2.0 %	2.0 %
2	3.1 %	3.1 %	2.6 %	2.6 %	2.7 %	2.7 %	1.8 %	1.8 %
3	3.4 %	3.4 %	2.8 %	2.8 %	2.8 %	2.8 %	1.8 %	1.8 %
5	3.8 %	3.8 %	3.2 %	3.2 %	3.2 %	3.2 %	2.0 %	2.0 %
10	4.5 %	4.5 %	3.7 %	3.7 %	3.6 %	3.6 %	2.3 %	2.3 %
20	4.9 %	5.0 %	4.0 %	4.4 %	3.7 %	4.8 %	2.3 %	4.1 %
30	4.7 %	5.0 %	3.9 %	4.4 %	3.7 %	4.8 %	2.2 %	4.1 %

The stochastic scenarios have been calibrated to implied volatilities of swaptions at the money. The economic scenario generator (ESG) used for generating the scenarios simulates rates and returns on a monthly basis. A set of correlated normal random samples is created based on a specified correlation matrix. The first random sample generated at each time is for the short rate process (a Cox-Ingersoll-Ross model), which in turn guides the movement of the other asset classes. Asset class returns are produced with no allowance for an asset class specific risk. The stochastic element is then applied by means of the multivariate standard normal samples already derived.

The model parameters are usually calibrated to the market conditions at the valuation dates, i.e. swaption prices and equity option prices. The table below shows implied volatilities for options on 1 year swaps at the money for various option maturities:

	20	10	2011		
Year	NOK	SEK	NOK	SEK	
1	25.6 %	32.1 %	24.6 %	34.7 %	
5	18.4 %	23.1 %	21.0 %	29.6 %	
10	14.2 %	19.1 %	16.8 %	25.9 %	

Various equity indices are considered in the stochastic models. Equity volatilities are based on implied volatilities of equity options at the money. Real estate volatility is based on historic market data.

The following table shows volatility assumptions used for generating stochastic scenarios:

2010				2011				
		SBL		SPP		SBL		SPP
Year	Int eq	Dom eq	Real estate	Int and dom eq	Int eq	Dom eq	Real estate	Int and dom eq
1	21.4 %	22.7 %	7.0 %	20.5 %	23.8 %	22.7 %	7.0 %	23.1 %
10	26.9 %	25.4 %	6.5 %	25.6 %	28.9 %	23.7 %	6.5 %	27.1 %

### Real world assumptions for IDR and IRR calculations

For the calculation of IDRs and IRRs the following risk premiums have been added to the interest rates used in the certainty equivalent projection:

Capital requirements	2010	2011
Risk premiums by asset class		
- equity	3.5 %	3.5 %
- corporate bonds / loans	0.5 %	0.5 %
- real estate	1.8 %	1.8 %
- cash	-0.5 %	-0.5 %

#### Inflation

Price inflation for SPP has been set equal to implied inflation for the Swedish market. This implied inflation in Sweden equals approximately 50% of the implied forward rates. For SBL, price inflation is set to be 50% of the 1-year forward rate as a proxy for implied inflation which is not available for the Norwegian market.

Salary inflation is assumed to be 1.9 percentage points above price inflation and is based on an analysis of historic spreads.

### Expenses

The expenses incurred have been subdivided by line of business and fully allocated into investment, acquisition and maintenance expenses. Maintenance expenses are expressed as per-policy expenses and are assumed to increase with price inflation.

The costs of SPP's and SBL's own pension schemes have been reflected on local GAAP basis (which for SBL and SPP equals the IFRS basis).

There are no material services provided by other group companies other than the one reflected in the look-through value. Also, there are no material expenses at the holding level that would have to be attributed and none have been taken into account.

No productivity gains are anticipated in the embedded value assumptions. There are no material overhead expenses incurred in other entities.

### **Actuarial assumptions**

The assumptions for mortality and morbidity, lapses and paidup rates are based on recent company experience, and have been reviewed for 2011.

An internal model has been used to quantify and include future expected decrease in mortality for annuity business.

#### Tax

In line with current legislation, a tax rate of 0% has been used for SBL and profits arising from asset management. For SPP an effective tax rate of 0% has been used due to the holding company structure in Sweden which allows for tax free group contributions.

For profits arising in SBL subsidiary Euroben Life & Pension Limited a tax rate of 8% has been applied.

On 1 January 2012 the Norwegian Ministry of Finance published a proposal to restrict the tax exemption method for shares held in the customer portfolios in life insurance and pension companies. The proposed amendments to the tax legislation have not been reflected in the MCEV for 2011, as they are not yet finalized. There are still uncertainties regarding the implementation and its impact on the effective tax rate following this change.

# **Exchange rates**

An exchange rate of 0.8656 has been applied to amounts in SEK at year-end 2010 and 0.8706 at year-end 2011 consistent with the annual accounts of Storebrand Group.

# Statement of the Board of Directors

The Board of Directors confirms that the embedded value as at 31 December 2011, and the embedded value earnings including the value added by new business in 2011, have been determined using methodology and assumptions which are compliant with EEV principles. The embedded value results have been approved by the Board of Directors at the last board meeting.

# **Towers Watson Opinion**

"Towers Watson has reviewed the methodology and assumptions used to determine the 2011 embedded value results. The review covered the European Embedded Value as at 31 December 2011, the value of 2011 new business, the analysis of 2011 embedded value earnings and the sensitivities of the embedded value and new business value.

Towers Watson has concluded that the methodology and assumptions used comply with the EEV Principles and Guidance, and in particular that:

- the methodology makes allowance for the aggregate risks in the covered business through the methodology as described in this supplementary disclosure document, which includes a stochastic allowance for the cost of financial options and guarantees, and a level of required capital based on regulatory and internal capital requirements and an allowance for the cost of nonhedgeable risks;
- 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, reliable market data; and
- for participating business, the assumed bonus rates and the allocation of profit between policyholders and shareholders are consistent with the projection assumptions, established company practice and local market practice.

Towers Watson has also performed limited high-level checks on the results of the calculations and has confirmed that any issues discovered do not have a material impact on the disclosed embedded values as at 31 December 2011 and the 2011 new business values. Towers Watson has not, however, performed detailed checks on the models and processes involved.

In arriving at these conclusions, Towers Watson has relied on data and information provided by Storebrand ASA. This opinion is made solely to Storebrand ASA 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 Storebrand ASA for or in connection with its review work, the opinions it has formed, or for any statement set forth in this opinion."



# Financial calender 2012

7 March Embedded Value 201118 April Annual General Meeting

19 April Ex dividend date

3 May Results Q113 July Results Q224 October Results Q3

February 2013 Results Q4 2012

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