

# *Market Consistent Embedded Value (MCEV)*

*The Group MCEV is a measure of the consolidated value of shareholders' interest in the in-force business of the Swiss Life Group. It includes the insurance business covered by the MCEV methodology and all other businesses valued by its IFRS net asset value.*

## *Contents*

68	<b>1</b>	<b>Introduction</b>
68	1.1	Basis of preparation
68	1.2	Covered business and non-covered business
68	1.3	Definitions
70	<b>2</b>	<b>Summary of MCEV Results</b>
70	2.1	Key results
71	2.2	MCEV of covered business
72	2.3	Value of new business
73	2.4	Group MCEV – analysis of earnings
74	2.5	Covered business – analysis of earnings
76	2.6	Sensitivities
77	2.7	Reconciliation of IFRS net asset value to Group MCEV
79	<b>3</b>	<b>Information by Market Unit</b>
79	3.1	Market units
80	3.2	Results by market unit
86	<b>4</b>	<b>Methodology</b>
86	4.1	MCEV components for covered business
89	4.2	New business
89	4.3	Asset and liability data
90	4.4	Economic scenario generator
91	4.5	Dynamic management actions and policyholder behaviour
91	4.6	Look-through principle
92	4.7	Consolidation
92	4.8	Employee pension schemes and share-based payment programmes
93	<b>5</b>	<b>Assumptions</b>
93	5.1	Economic assumptions
97	5.2	Taxation and legislation
97	5.3	Operating assumptions
98	<b>6</b>	<b>Auditor's Report on Embedded Value</b>
100	<b>7</b>	<b>Glossary and List of Abbreviations</b>

# 1 Introduction

## 1.1 Basis of preparation

Market consistent embedded value (MCEV) is a measure of the consolidated value of shareholders' interests in the in-force covered business of the Swiss Life Group. Covered business includes life, health and pension business of the company. The Group MCEV is a measure of the consolidated value of shareholders' interest in the covered and non-covered business in force of the company. Business in force includes business written as at 31 December 2013; future new business is not included. The notion of market consistent embedded value (MCEV) will alternatively refer within the course of this report to the MCEV of Swiss Life's covered business, of one of its market units, or to Swiss Life's Group MCEV.

Swiss Life's market consistent embedded value reporting follows the European Insurance CFO Forum Market Consistent Embedded Value Principles<sup>1</sup>. The cost of credit risk relating to bonds is calculated and disclosed in addition to the Principles' mandatory requirements. Further details on the MCEV methodology and assumptions are given in sections 4 and 5.

PricewaterhouseCoopers have audited this market consistent embedded value report. Their opinion is part of this report (section 6).

## 1.2 Covered business and non-covered business

Covered business includes all of Swiss Life's life, health and pension business as well as assumed external reinsurance, with the exception of Swiss Life Insurance Solutions AG, which is not material for MCEV purposes. MCEV (and Group MCEV) are net of ceded external reinsurance. Included are namely insurance operations in Switzerland, France, Germany, Luxembourg, Liechtenstein and Singapore. All other businesses such as investment management and Swiss Life Select are generally included in the non-covered business at their IFRS net asset values, with the exception of France, where they are included in the covered business.

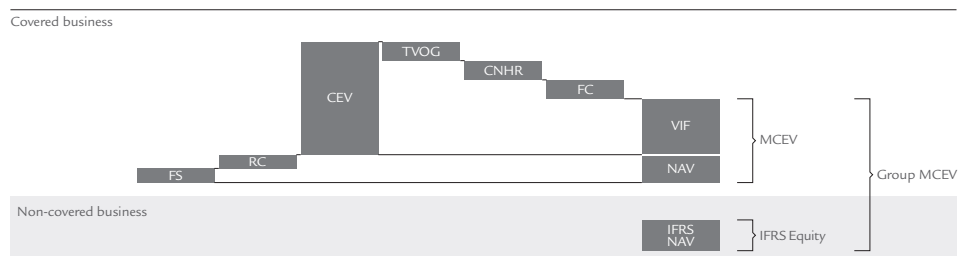
## 1.3 Definitions

Swiss Life's Group MCEV consists of the MCEV for covered business and the IFRS net asset value for non-covered business.

According to MCEV Principle 3, the MCEV represents the present value of shareholders' interests in the earnings distributable from assets allocated to the covered business after sufficient allowance for the aggregate risks in the covered business. It is calculated on a post-tax basis taking into account current legislation and known future changes.

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## Components of Group MCEV



The MCEV for covered business consists of the net asset value (NAV), i.e. the value of assets not backing liabilities, and the value of in-force business (VIF), i.e. the value of future profits emerging from operations and assets backing liabilities.

The net asset value is split between:

- the required capital (RC): the amount of capital provided by shareholders deemed necessary to run the business under the chosen definition (see section 4.1)
- the free surplus (FS): additional capital allocated to the covered business above the required capital

The value of in-force covered business is defined as the sum of:

- the certainty equivalent value of future profits (CEV)
- the time value of financial options and guarantees (TVOG), including the cost of credit risks
- the cost of residual non-hedgeable risks (CNHR)
- the frictional costs of required capital (FC)

The IFRS net asset value (IFRS NAV) is defined as the unadjusted IFRS net asset value allocated to the non-covered business.

For details about the MCEV components, see section 4 on methodology. Please note that the notion of certainty equivalent value is equivalent to the notion of present value of future profits in the CFO Forum Principles.

## 2 Summary of MCEV Results

### 2.1 Key results

Swiss Life increased its MCEV from CHF 9 628 million to CHF 11 378 million and its value of new business from CHF 158 million to CHF 289 million in a stable environment, benefiting from continued operational improvements.

Results are shown in CHF million. Rounding differences may occur.

The following tables show key results as at 31 December 2013 compared to the results as at 31 December 2012:

In CHF million				
			2013	2012
Value of new business			289	158
Present value of new business premium (PVNBP)			12 929	11 276
New business margin (%PVNBP)			2.2%	1.4%

Profitability of new business improved strongly due to ongoing margin management and active new business steering across the group. This margin expansion was achieved while increasing the new business volume overall.

In CHF million				
	Net asset value	Value of in-force business	Total	Total
			2013	2012
Covered business	3 313	6 356	9 669	7 888
Non-covered business	1 709	n/a <sup>1</sup>	1 709	1 741
GROUP MCEV	5 022	6 356	11 378	9 628
Total MCEV earnings			1 806	2 035
Operating MCEV earnings			1 873	644

<sup>1</sup> n/a: not applicable

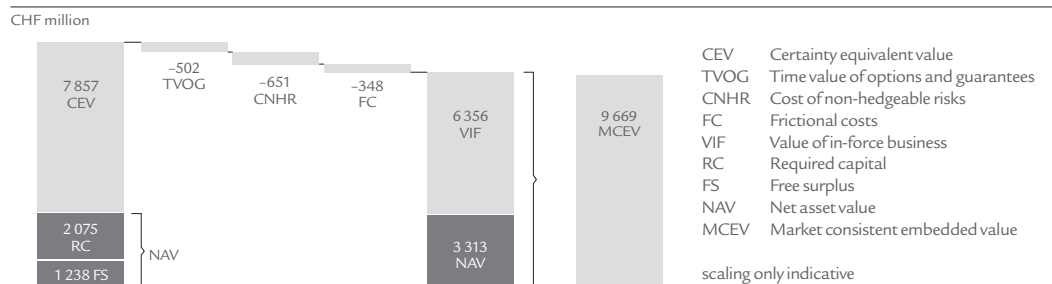
The value of covered business increased by a strong 23%. Operating MCEV earnings contributed to this increase by profitable new business and a high operating return on the in-force business enhanced by positive persistency experience and expense reductions.

The Group MCEV increased by 18% in total.

## 2.2 MCEV of covered business

The following graph and table show the MCEV by components, together with the previous year's figures:

MCEV of covered business 2013



In CHF million

	2013	2012
NET ASSET VALUE	3 313	2 836
Free surplus	1 238	873
Required capital	2 075	1 963
VALUE OF IN-FORCE BUSINESS	6 356	5 051
Certainty equivalent value	7 857	7 254
Time value of financial options and guarantees	-502	-1 172
Cost of residual non-hedgeable risks	-651	-716
Frictional costs of required capital	-348	-315
MCEV	9 669	7 888

The net asset value went up by 17% mostly due to the operating profit of the year as well as transfers and foreign currency translation effects. Free surplus – after financing new business – increased by CHF 365 million. The biggest contribution to free surplus generation results from Switzerland. Goodwill and other intangibles are not included in the net asset value, with the exception of France (see section 4.7).

The value of in-force business increased by 26%. This improvement is due to a higher certainty equivalent value and a notably lower TVOG, especially in Switzerland.

The cost of credit risk amounts to CHF –638 million for 2013 compared to CHF –653 million for 2012.

## 2.3 Value of new business

### 2.3.1 Value of new business, premiums and margins

Amounts in CHF million

	2013	2012
VALUE OF NEW BUSINESS	289	158
<i>New business strain</i> <sup>1</sup>	-106	-99
<i>Value of new business before new business strain</i>	394	257
Annual premiums	575	539
Single premiums	6 090	5 604
PRESENT VALUE OF NEW BUSINESS PREMIUMS (PVNBP)	12 929	11 276
Average annual premium multiplier	11.9	10.5
New business annual premium equivalent (APE)	1 184	1 100
NEW BUSINESS MARGIN (% PVNBP)	2.2%	1.4%
New business margin (% APE)	24.4%	14.4%

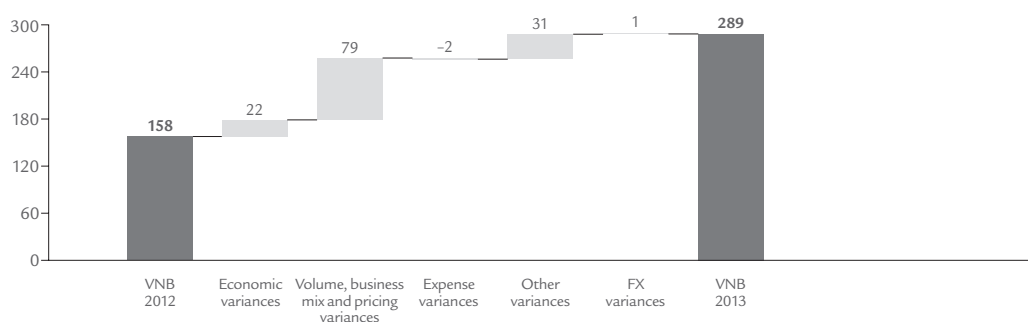
<sup>1</sup> New business strain represents the effect on the net asset value from writing new business.

### 2.3.2 Value of new business — analysis of change

The following graph and table detail the drivers for the change in new business value and margin of the business sold in 2013 compared to the business sold in 2012.

Value of new business – analysis of change

CHF million



Amounts in CHF million

	PVNBP	VNB	NBM (% PVNBP)	Change in NBM (% PVNBP)
VALUE OF NEW BUSINESS 2012	11 276	158	1.4%	
Economic variances	-298	22		0.2%
Volume, business mix and pricing variances	1 528	79		0.4%
Expense variances	6	-2		-0.0%
Other variances	344	31		0.2%
FX variances	74	1		0.0%
VALUE OF NEW BUSINESS 2013	12 929	289	2.2%	

Both the value of new business and the new business margin increased considerably due to pricing discipline, an improved business mix and new products. Overall, the new business volume measured in PVNBP increased by 15%, predominantly from the Swiss business.

Additional explanations about new business calculations are given in section 4.2 of this report.

## 2.4 Group MCEV – analysis of earnings

The table below shows the development of Group MCEV split by components from 31 December 2012 to 31 December 2013.

In CHF million	Covered business MCEV	Non-covered business IFRS	Total Group MCEV	
			2013	2012
OPENING GROUP MCEV	7 888	1 741	9 628	7 728
Opening adjustments	77	-221	-144	-144
ADJUSTED OPENING GROUP MCEV	7 965	1 520	9 485	7 584
Operating MCEV earnings	1 676	197	1 873	644
Non-operating MCEV earnings	-42	-24	-67	1 392
TOTAL MCEV EARNINGS	1 634	173	1 806	2 035
Other movements in IFRS net equity	n/a <sup>1</sup>	-12	-12	-2
Closing adjustments	71	28	99	11
CLOSING GROUP MCEV	9 669	1 709	11 378	9 628

<sup>1</sup> n/a: not applicable

The opening adjustment of the Group MCEV represents the distribution in 2013 to shareholders out of the capital contribution reserve of CHF 4.50 per share corresponding to a total of CHF 144 million as described in the Consolidated Financial Statements (note 26).

The following commentaries refer mainly to the non-covered business as the analysis of earnings for the covered business is commented in sections 2.5 and 3.2 in detail.

The operating MCEV earnings for non-covered business correspond mainly to results from Swiss Life Holding, Swiss Life Asset Managers, and distribution and insurance units outside the scope of covered business. Also included are minor effects from changes in accounting policies and segment restatements as described in the Consolidated Financial Statements (notes 2.2 and 4).

The non-operating MCEV earnings relate to borrowing costs and tax effects for the non-covered business. For Group MCEV, the change in non-operating MCEV earnings compared to 2012 originates almost entirely from the covered business.

The other movements in IFRS net equity (non-covered business only) include the sale and purchase of treasury shares, effects from changes in unrealised gains and losses, effects from equity-settled share-based payments and currency exchange rate effects on goodwill.

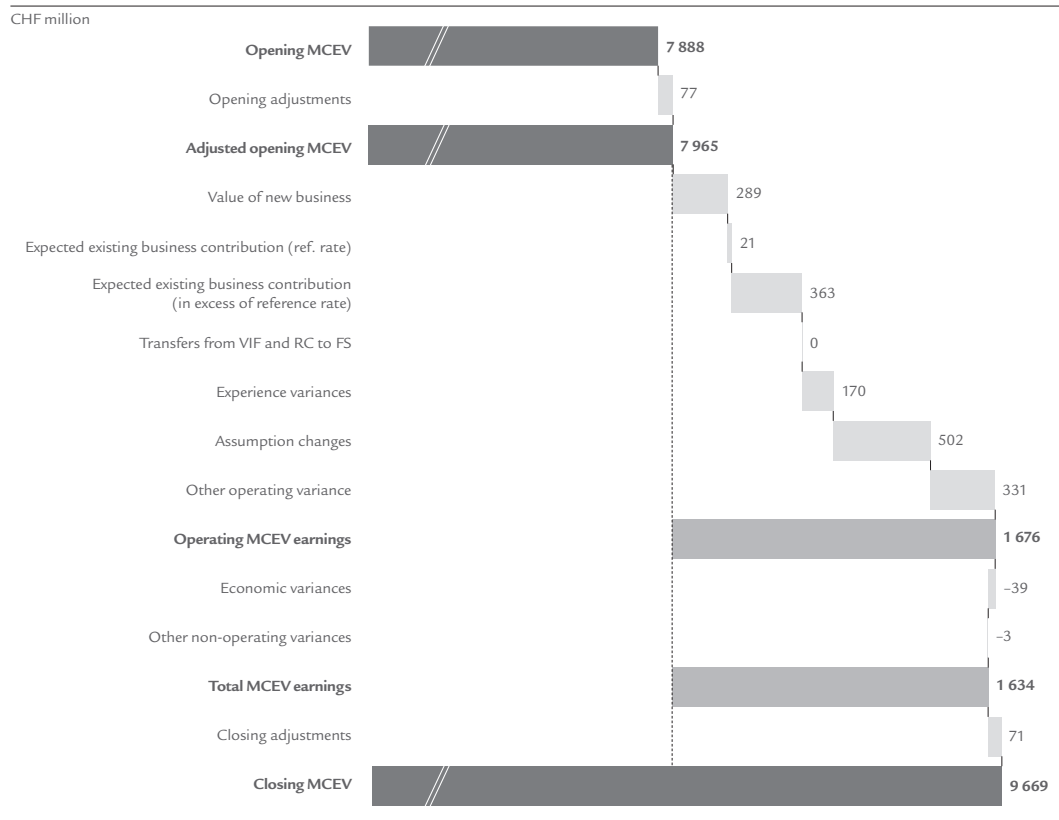


The closing adjustments result mainly from the equity component of the convertible bonds issued in December 2013, transfer of funds between covered and non-covered business and currency exchange rate developments.

## 2.5 Covered business – analysis of earnings

The graph and table below show the analysis of earnings for the covered business in 2013:

Covered business – analysis of earnings for 2013



In CHF million	Free surplus	Required capital	VIF	MCEV	
				2013	2012
OPENING MCEV	873	1 963	5 051	7 888	5 361
Opening adjustments	77	–	–	77	56
ADJUSTED OPENING MCEV	951	1 963	5 051	7 965	5 417
Value of new business	–291	186	394	289	158
Expected existing business contribution (reference rate)	10	–4	15	21	30
Expected existing business contribution (in excess of reference rate)	12	–1	351	363	629
Transfers from VIF and required capital to free surplus	604	–111	–493	–	–
Experience variances	–99	11	258	170	5
Assumption changes	3	–2	502	502	449
Other operating variance	–68	–7	406	331	–279
OPERATING MCEV EARNINGS	170	72	1 434	1 676	992
Economic variances	82	15	–136	–39	1 468
Other non-operating variances	11	–	–15	–3	–47
TOTAL MCEV EARNINGS	263	87	1 283	1 634	2 412
Closing adjustments	24	25	21	71	59
CLOSING MCEV	1 238	2 075	6 356	9 669	7 888

### Opening adjustments

Opening adjustments represent dividend payments from non-covered to covered business.

### Value of new business

Value of new business contributions from free surplus and required capital sum up to the new business strain of CHF –106 million (2012: CHF –99 million). This represents the shareholders' share in acquisition expenses for new business. The VIF-component of CHF 394 million (2012: CHF 257 million) is the value of future profits from new business.

### Expected existing business contribution (reference rate)

Expected existing business contribution (reference rate) shows the unwinding of discount on all value of in-force components with reference rates as at start of year. Additionally the notional interest on the net asset value is included.

### Expected existing business contribution (in excess of reference rate)

Expected existing business contribution (in excess of reference rate) represents the additional contribution to MCEV by taking into account investment returns for the reporting period expected at the beginning of the period over and above the initial reference rates for the period. Also, releases from the period's contribution to the time value of financial options and guarantees and cost of residual non-hedgeable risks are included. Due to the reduction of the time value of options and guarantees, this positive contribution was lower in 2013 compared to the prior year. The expected existing business contribution is explained to a large extent by spreads expected to be earned on the corporate bond and real estate portfolio.

### Transfers from value in force and required capital to free surplus

Transfers from value in force and required capital to free surplus include the transfer of the results of the preceding step from value in force to free surplus. Also, the required capital is normally reduced after this step, resulting in an equal increase of free surplus. The total effect in this line is zero. In the context of a life insurer's business model, this should be seen in combination

with effects from new business which partly reverses this effect by an increase of required capital and a reduction of net asset value.

#### **Experience variances**

Experience variances aggregate the impact of actual development versus expectations regarding non-economic assumptions such as mortality, expenses, lapses, as well as the deviations in handling of additional reserves. A variety of effects such as better overall persistency and reserve strengthening resulted in a MCEV increase. The latter had a negative impact on free surplus and a positive effect on value of in-force business; the largest contribution originates from the Swiss business.

#### **Assumption changes**

Assumption changes refer to the impact of the change on assumptions such as future expense, surrender, mortality, morbidity, longevity rates. The positive contribution is driven by a very favourable persistency experience in Swiss group life business, while in France the effects from the French health reform had a minor negative impact. The further reduced expense base contributed positively as well.

#### **Other operating variance**

Other operating variance include the effects of Swiss Life's approach to bond realisations and disciplined surplus sharing, as well as tax benefits due to the relocation in Germany.

#### **Economic variances**

Economic variances represent the change in embedded value by replacing the starting economic scenarios by the closing ones. Effects from deviations between actual and expected investment returns are included here. The economic variances had a minor impact on MCEV overall (for details see section 3.2).

#### **Other non-operating variances**

Other non-operating variances encompass effects relating to government-set parameters, such as taxes.

#### **Closing adjustments**

Closing adjustments represent the transfer of funds into the covered business and currency exchange rate translation effects resulting from the consolidation in Swiss francs.

## **2.6 Sensitivities**

Sensitivities for MCEV with regard to reference rates slightly increased while operational and demographic sensitivities remained stable overall. Sensitivities with regard to swaption implied volatilities are driven by the Swiss group life business, where operating improvements have contained the cost of policyholder options and guarantees, such that business-inherent shareholder options drive the time value of options and guarantees. Sensitivities with regard to equity/property market values and their volatilities remained stable overall compared to the ones for 2012.

The economic sensitivities are assumed to occur after the new business contracts have been sold, indicating how the value of in-force business and the value of new business written would be affected by economic shocks.

The table below shows sensitivities of the MCEV and the value of new business to important financial market parameters and to operational and demographic assumptions.

### Sensitivities as at 31 December 2013

Amounts in CHF million

	Change in MCEV	+/-	Change in value of new business	+/-
<b>BASE VALUE</b>	<b>9 669</b>		<b>289</b>	
<b>Economic</b>				
100 bp increase of interest rates (reference rates)	413	4%	37	13%
100 bp decrease of interest rates (reference rates)	-700	-7%	-33	-12%
10% increase in equity / property market values	624	6%	<sup>1</sup>	<sup>1</sup>
10% decrease in equity / property market values	-693	-7%	<sup>1</sup>	<sup>1</sup>
25% increase in equity / property implied volatilities	-245	-3%	-4	-1%
25% decrease in equity / property implied volatilities	189	2%	5	2%
25% increase in swaption implied volatilities	202	2%	-0	-0%
25% decrease in swaption implied volatilities	-157	-2%	-10	-3%
<b>Operational</b>				
10% increase in maintenance expenses	-197	-2%	-15	-5%
10% decrease in maintenance expenses	194	2%	13	4%
10% proportionate increase in lapse rates	-170	-2%	-17	-6%
10% proportionate decrease in lapse rates	199	2%	24	8%
<b>Demographic</b>				
5% proportionate increase in mortality rates (death cover)	-30	-0%	-5	-2%
5% proportionate decrease in mortality rates (annuities)	-83	-1%	-12	-4%
5% increase of longevity driver (annuities)	-15	-0%	-3	-1%
5% proportionate increase in morbidity rates	-48	-0%	-4	-1%
5% proportionate decrease in morbidity rates	47	0%	4	1%
<b>Other</b>				
Required capital 100% statutory solvency capital	170	2%	12	4%

<sup>1</sup> not available

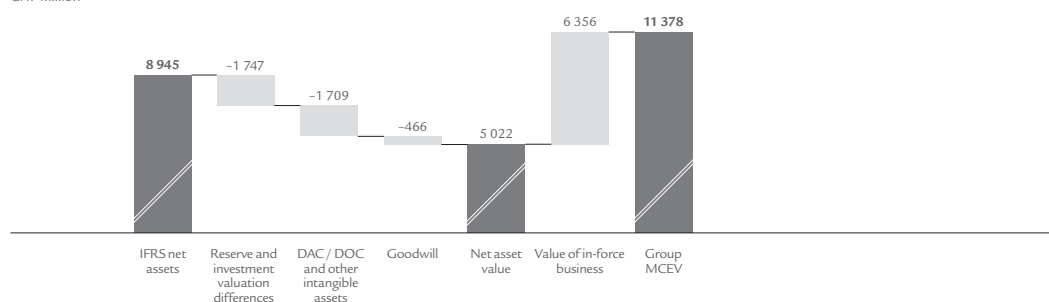
## 2.7 Reconciliation of IFRS net asset value to Group MCEV

Swiss Life's MCEV for covered business reflects the value of the shareholders' interest in the life, health and pension business as well as assumed external reinsurance of the Swiss Life Group. This value includes the determination of best estimate liabilities for policyholder bonuses and tax payments, which are derived from results based on local statutory accounting rather than on IFRS. Therefore local balance sheets and profit and loss accounts are the starting point for the projections. The net asset value (of assets not backing liabilities) is based on the local balance sheet, and adjusted to market value.

For the other parts of the Swiss Life Group, i.e. the non-covered business, the shareholder value is derived from its contribution to the Group's IFRS net asset value.

## Reconciliation of IFRS net asset value to Group MCEV

CHF million



## Reconciliation of IFRS net assets to Group MCEV as at 31 December 2013

In CHF million

	2013
IFRS NET ASSETS	8 945
Adjustments	-3 922
<i>Reserve and investment valuation differences</i>	-1 747
<i>DAC / DOC and other intangible assets</i>	-1 709
<i>Goodwill<sup>1</sup></i>	-466
Net asset value	5 022
Value of in-force business	6 356
GROUP MCEV <sup>2</sup>	11 378

<sup>1</sup> Goodwill adjustments correspond to goodwill of covered business with the exception of CHF 95 million from French operations (see section 3.2).

<sup>2</sup> Group MCEV includes CHF 762 million of goodwill and intangible assets as part of the unadjusted IFRS net assets for non-covered business.

Starting with the total IFRS net assets, there are valuation differences between IFRS and MCEV regarding the net asset value for the covered business. In the reconciliation these valuation differences are shown under “adjustments”. The main elements that have been adjusted are deferred acquisition costs (DAC), goodwill and other intangible assets, differences between statutory and IFRS balance sheet items reflecting different reserving bases, and different treatment of the investments and unrealised gains (that form part of the IFRS net assets but are projected on MCEV as part of the value of in-force business in the MCEV calculations).

The adjusted IFRS net asset value corresponds to the MCEV net asset value of the Swiss Life Group. Adding the value of in-force business leads to the Group MCEV.

## 3 *Information by Market Unit*

### 3.1 Market units

Swiss Life's covered business is subdivided according to market units as follows:

- Life, pension and assumed external reinsurance business in Switzerland
- All businesses in France, mainly life, health and pension business
- Life and pension business in Germany
- Life and pension business in Luxembourg, Liechtenstein, and Singapore (together referred to as International)

This breakdown by market unit essentially coincides with the IFRS insurance segments in the annual report. There are differences since the MCEV classification generally follows the legal structure in order to ensure a correct modelling of the profit sharing. A divergence from the IFRS insurance segment reporting is the treatment of distribution units such as Swiss Life Select, which are reported for MCEV purposes under non-covered business, and Swiss Life Asset Management in France, which is reported for MCEV purposes under France.

#### **Switzerland**

Swiss Life's main business in the Swiss market is group life business with a full range of offerings. The individual business includes traditional savings, risk and annuity products, as well as modern savings and retirement products with flexible and lower guarantees. Swiss Life's own sales force plays the major role in distribution, followed by brokers and Swiss Life Select. The business for assumed external reinsurance is included here.

#### **France**

Insurance products include savings, annuity, and risk products as well as health insurance products. New business for life insurance focuses on multi-support products, combining traditional savings and unit-linked components. The main distribution channels are brokers, tied agents and own sales force. Additionally, Swiss Life in France has developed strong relations with independent financial advisors and private banks.

#### **Germany**

Swiss Life sells traditional and modern products within individual and group life business. Disability insurance plays an important role. The main distribution channels are independent brokers, followed by financial advisors such as Swiss Life Select.

#### **International**

Swiss Life offers private placement life insurance (PPLI) through its carriers in Liechtenstein, Singapore and Luxembourg. In Luxembourg, Swiss Life also provides group insurance solutions for international and local corporate clients through Corporate Clients.

### 3.2 Results by market unit

#### MCEV by market unit for the year 2013

In CHF million

	Switzerland	France <sup>1</sup>	Germany	International	Total
NET ASSET VALUE	1 633	1 265	356	59	3 313
Free surplus	1 192	110	-55	-9	1 238
Required capital	442	1 155	411	68	2 075
VALUE OF IN-FORCE BUSINESS	4 653	1 174	312	218	6 356
Certainty equivalent value	5 180	1 861	525	290	7 857
Time value of financial options and guarantees	-25	-325	-140	-13	-502
Cost of residual non-hedgeable risks	-291	-265	-53	-42	-651
Frictional costs of required capital	-211	-98	-21	-18	-348
MCEV	6 287	2 439	667	277	9 669

<sup>1</sup> The value for France includes CHF 95 million in goodwill and intangible assets originating from the non-life and non-health insurance operations.

#### MCEV by market unit for the year 2012

In CHF million

	Switzerland	France <sup>1</sup>	Germany	International	Total
NET ASSET VALUE	1 273	1 171	362	30	2 836
Free surplus	838	95	-33	-27	873
Required capital	435	1 076	395	57	1 963
VALUE OF IN-FORCE BUSINESS	3 780	924	144	204	5 051
Certainty equivalent value	4 845	1 729	414	267	7 254
Time value of financial options and guarantees	-579	-419	-161	-13	-1 172
Cost of residual non-hedgeable risks	-304	-303	-73	-36	-716
Frictional costs of required capital	-182	-83	-36	-14	-315
MCEV	5 053	2 094	506	234	7 888

<sup>1</sup> The value for France includes CHF 79 million in goodwill and intangible assets originating from the non-life and non-health insurance operations.

**Switzerland**

The MCEV increased due to operating earnings including a strong value of new business.

The reduction of the time value of options and guarantees reflects Swiss Life's handling of bond realisations and the disciplined surplus sharing with which it has substantially reduced the guarantees over the past years. These operating measures were particularly beneficial in group life, which is characterised by variable guarantees.

The higher net asset value results from a considerable annual profit achieved despite substantial balance sheet strengthening. The free surplus increased by CHF 353 million due to operating earnings and dividend payments after financing the new business production.

**France**

The MCEV for Swiss Life in France improved due to a strong value of new business, a good annual profit and efficiency gains, more than offsetting the negative effects from the regulatory reform in the French health business. Capital market developments contributed positively as well.

Swiss Life France is subject to a tax of 3% applied to dividends paid by Swiss Life France. As no clear market practice concerning the treatment of this tax has emerged yet and as the effect would not be material, it is not taken into account.

**Germany**

Net assets remained flat despite a dividend payment and new business financing; at the same time the "Zinszusatzreserve" was further built up.

The value of in-force business benefits from improved new business, other operational effects and from the higher reference rates.

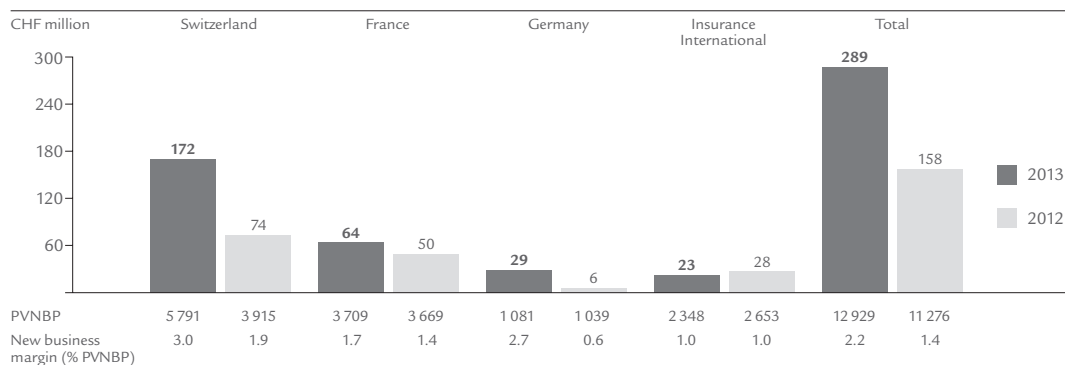
**International**

The MCEV increased considerably driven by the PPLI business, where substantial operational progress has been achieved.

The net asset value increased due to a capital transfer and a good annual profit, and the value of in-force business improved due to the value of new business.



## Value of new business by market unit



## Value of new business by market unit – premiums and margins for the year 2013

Amounts in CHF million

	Switzerland	France	Germany	International	Total
VALUE OF NEW BUSINESS	172	64	29	23	289
<i>New business strain</i> <sup>1</sup>	-46	-49	-2	-8	-106
<i>Value of new business before new business strain</i>	218	113	32	32	394
Annual premiums	233	266	62	14	575
Single premiums	1 864	1 725	259	2 241	6 090
PRESENT VALUE OF NEW BUSINESS PREMIUMS (PVNBP)	5 791	3 709	1 081	2 348	12 929
Average annual premium multiplier	16.9	7.5	13.2	7.6	11.9
New business annual premium equivalent (APE)	419	439	88	238	1 184
NEW BUSINESS MARGIN (% PVNBP)	3.0%	1.7%	2.7%	1.0%	2.2%
New business margin (% APE)	41.0%	14.7%	33.2%	9.8%	24.4%

<sup>1</sup> New business strain represents the effect on the net asset value from writing new business.

## Value of new business by market unit – premiums and margins for the year 2012

Amounts in CHF million

	Switzerland	France	Germany	International	Total
VALUE OF NEW BUSINESS	74	50	6	28	158
<i>New business strain</i> <sup>1</sup>	-45	-51	-4	1	-99
<i>Value of new business before new business strain</i>	120	101	10	27	257
Annual premiums	159	304	66	10	539
Single premiums	1 420	1 363	242	2 578	5 604
PRESENT VALUE OF NEW BUSINESS PREMIUMS (PVNBP)	3 915	3 669	1 039	2 653	11 276
Average annual premium multiplier	15.7	7.6	12.0	7.7	10.5
New business annual premium equivalent (APE)	301	441	91	268	1 100
NEW BUSINESS MARGIN (% PVNBP)	1.9%	1.4%	0.6%	1.0%	1.4%
New business margin (% APE)	24.7%	11.3%	6.5%	10.4%	14.4%

<sup>1</sup> New business strain represents the effect on the net asset value from writing new business.

**Switzerland**

New business consists of new contracts and new coverages on existing contracts. Within group life business, replacements and newly insured persons entering existing group life contracts are not accounted for as new business.

The continued positive development of the new business margin is driven by comprehensive re-pricings and products with new guarantee concepts in individual life, initiated in 2012 and showing the full effect in 2013. In addition to positive impacts from the capital market environment, the successful placement of real estate funds as well as favourable persistency experience in group life contributed positively.

New business volume increased significantly overall due to strong demand for Swiss Life's group life solutions and a high contribution from assumed reinsurance.

**France**

Ongoing margin management more than compensated for the negative effects of the French health reform.

In life, the share of unit-linked business was increased and the guarantees for traditional products were lowered. As higher new business volumes were achieved, both the resulting efficiency gains and the improved business mix led to a higher profitability.

The value of new business in health decreased due to the impact of the health reform in France. To mitigate its impact, the product offering was generally shifted to group business and some niches in individual business

**Germany**

The value of new business increased considerably due to disciplined margin management and pricing. The increasing volume of risk products including long-term care, the discontinuation of less profitable products as well as the sustainable surplus sharing paid off.

**International**

The PPLI business is the main contributor to International's value of new business. The effect of substantially lower new business volume was compensated by strict cost management and a focused new business offering leading to a stable margin.

Because of the weight of PPLI within International, by far the biggest share of new business premiums consists of single premiums.

### Analysis of earnings by market unit for the year 2013

In CHF million

	Switzerland	France	Germany	International	Total
OPENING MCEV	5 053	2 094	506	234	7 888
Opening adjustments	160	-64	-18	-	77
ADJUSTED OPENING MCEV	5 213	2 030	488	234	7 965
New business value	172	64	29	23	289
Expected existing business contribution (reference rate)	13	5	2	1	21
Expected existing business contribution (in excess of reference rate)	180	139	30	14	363
Experience variances	170	2	2	-4	170
Assumption changes	496	0	8	-2	502
Other operating variance	290	10	50	-20	331
OPERATING MCEV EARNINGS	1 320	221	122	12	1 676
Economic variances	-237	145	47	6	-39
Other non-operating variances	-10	2	-0	5	-3
TOTAL MCEV EARNINGS	1 074	368	169	23	1 634
Closing adjustments	-	41	10	20	71
CLOSING MCEV	6 287	2 439	667	277	9 669

All market units contributed to the value creation with a positive value of new business.

#### Switzerland

Opening adjustments reflect dividend payments from France, Germany and Swiss Life Asset Managers.

Strong operating earnings of CHF 1320 million correspond to a return of 25% on MCEV.

The positive experience variances relate to improved persistency in group life business and effects from the balance sheet-strengthening measures, such as a reduction of technical interest rates, and other impacts.

Favourable persistency experience in group life, a positive demographic experience and a further reduced expense base drive the assumption changes.

The positive other operating variances relate to the aforementioned handling of bond realisations and disciplined surplus sharing.

Switzerland shows negative economic variances. Referring to section 2.6, the decrease in Swiss franc interest rate volatilities led to a negative variance in 2013.

#### France

France had a capital outflow of CHF 64 million.

Strong operating returns of 11% were driven by new business and the expected existing business contribution.

Achieved expense efficiency gains were offset in the assumption changes by the negative effects of the French health reform.

Operating variances are driven by the adjustment of the strategic asset allocation and the sharing of asset returns.

Higher interest rate levels and the equity market were the drivers for the positive economic variance.

Closing adjustments are the effects of the difference between the closing euro exchange rate and its opening forward rate.

#### **Germany**

Germany had a capital outflow of CHF 18 million.

Strong operating returns of 25% were driven by new business production, expected existing business contribution, and other operating improvements such as a disciplined surplus sharing and tax benefits due to relocation.

The positive capital market development added another 10% of return.

Closing adjustments are the effects of the difference between the closing euro exchange rate and its opening forward rate.

#### **International**

The value of new business contributed strongly to the MCEV earnings with CHF 23 million or 10% of the opening MCEV of International. Combined with negative true-up effects on the in-force business and its expected existing business contribution, operating MCEV earnings of CHF 12 million resulted.

By reason of the type and composition of International's business, changes in economic conditions have a limited impact compared to other market units.

Closing adjustments include capital transfers and currency exchange rate effects.

## 4 Methodology

### 4.1 MCEV components for covered business

#### Net asset value (NAV)

The net asset value is the market value of assets allocated to the covered business, which are not backing liabilities from the covered business.

The net asset value is calculated as the statutory equity capital, adjusted by the unrealised gains or losses on assets covering the equity capital that are attributable to shareholders after taxes. Depending on local regulatory restrictions, equalisation reserves are also included in the net asset value. Intangible assets are not accounted for in the net asset value.

The net asset value is further split between the required capital (RC) and the free surplus (FS).

#### Required capital (RC)

The required capital is the market value of assets, attributed to the covered business – over and above that required to back liabilities for covered business – whose distribution to shareholders is restricted. Swiss Life bases the amount of required capital on 150% of the statutory solvency level according to Solvency I, except for assumed external reinsurance where an economic approach is used instead.

The amount of required capital disclosed is presented from a shareholder's perspective and thus is net of funding sources other than shareholder resources (such as subordinated loans or unallocated bonus reserves).

#### Free surplus (FS)

The free surplus is the market value of assets allocated to, but not required to support, the in-force covered business at the valuation date. The free surplus is calculated as the difference between the net asset value and the required capital.

Under the chosen definition of required capital, the free surplus, unlike the required capital, is supposed to be immediately releasable and hence does not affect the frictional costs of required capital.

#### Value of in-force business (VIF)

The value of in-force business consists of the following components:

1. Certainty equivalent value (CEV)
2. Time value of financial options and guarantees (TVOG), including the cost of credit risk (see below)
3. Cost of residual non-hedgeable risks (CNHR)
4. Frictional costs of required capital (FC)

In the MCEV Principles, the term present value of future profits (PVFP) is used instead of certainty equivalent value.

Certainty equivalent value and time value of financial options and guarantees are items that involve projections encompassing local statutory liabilities and assets in line with:

- local legal and regulatory obligations
- company practice due to commercial and competitive constraints
- local market practice in the calculation of embedded value

#### **Certainty equivalent value (CEV)**

The certainty equivalent value is defined as the present value of the future shareholders' statutory profits (net of tax) under the certainty equivalent scenario.

In this particular scenario, future market returns are determined as the forward rates implied in the reference rates at the valuation date. Discounting is performed at the same reference rates. The certainty equivalent value includes that part of the value of financial options and guarantees which materialises in the underlying scenario.

The rules for anticipated management and policyholders' actions applied in the certainty equivalent scenario are the same as those for the stochastic projection used to determine the time value of financial options and guarantees.

#### **Time value of financial options and guarantees (TVOG)**

The certainty equivalent value does not allow for the risk that the financial outcome for shareholders could differ from the one implied by the certainty equivalent scenario. This is of particular relevance when products or funds include guarantees or options for the policyholder such as:

- guaranteed interest rates
- discretionary profit sharing and regulatory constraints, e.g. "legal quotes"
- maturity guarantees
- guaranteed minimum death benefits
- guaranteed annuity options
- surrender options

For such products or funds, a stochastic projection has been run allowing for the range of possible scenarios for financial markets. The TVOG is calculated as the difference between the average present value of shareholder cash flows (profits or losses) and the certainty equivalent value, plus the cost for credit risk (see remarks on credit risk below). The TVOG therefore represents the additional market consistent value of those financial options and guarantees in excess of the intrinsic value which are already allowed for in the certainty equivalent value.

At the end of the projection, shareholders are assumed to meet any shortfall of assets against liabilities or to receive a share of any residual assets. The same applies to the certainty equivalent value.

The cost of credit risk accounts for the shareholder's share of credit risk of investments in bonds that would have otherwise been unaccounted for in other MCEV components. It is defined as the present value of charges on the projected economic capital for credit risk.

The initial economic capital for credit risk is defined as the impact on the value of in-force business corresponding to the 99% expected shortfall of the credit loss from the actual bond portfolio over one year, due to the migration and default risk. The underlying credit risk calculations are performed using an internal model based on the CreditMetrics<sup>®2</sup> methodology.

The economic capital for cost of credit risk has been projected based on mathematical reserves. An annual charge of 4% has been applied to the resulting projected economic capital.

#### **Cost of residual non-hedgeable risks (CNHR)**

The cost of residual non-hedgeable risks for risk factors such as mortality, morbidity, expenses and lapse rates is calculated under a cost of capital approach. It is defined as the present value of annual charges on the projected economic capital for residual non-hedgeable risks.

The initial capital for the CNHR has been calculated in line with Swiss Life's internal model. The corresponding economic capital is calculated by aggregating the stand-alone economic capital amounts that correspond to non-hedgeable risk factors, notably the following:

- mortality
- longevity
- disability/morbidity
- recovery rates
- capital options
- lapses
- expenses

The drivers for projecting the economic capital for CNHR are generally based on the statutory solvency margin.

An annual charge of 4% has been applied to the resulting projected capital at risk. It represents the excess return or risk premium that a shareholder might expect on capital exposed to non-hedgeable risks.

In order to be consistent with the CFO Forum Principles, no diversification between hedgeable and non-hedgeable risks has been taken into account. Furthermore, no diversification effects between market units have been accounted for.

#### **Frictional costs of required capital (FC)**

The frictional costs of required capital for the covered business are defined as the present value of the costs incurred by shareholders due to investment via the structure of an insurance company (compared to direct investment as individuals), such as tax on profits generated by the insurance company or the costs of asset management. Other potential frictional costs such as agency costs or financial distress costs have not been taken into account in the frictional costs of required capital.

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## 4.2 New business

New business is defined as covered business arising from the sale of new contracts and from new covers to existing contracts during the reporting year, including cash flows arising from the projected renewal of those new contracts. Higher premiums in Swiss group life contracts from wage increases are not considered new business. The value of new business (VNB) reflects the additional value to shareholders created through the activity of writing new business during the reporting period.

The value of new business of a period represents the effect on the MCEV as at end of period from writing new business, i.e. it is the difference between the actual closing MCEV and the closing MCEV which would result if no new business had been written during the period. This is known as the “marginal” approach to value of new business. It applies to every MCEV component: CEV, TVOG, CNHR and FC. Legal constraints – e.g. “legal quotes” – or management rules often apply to books of contracts as a whole instead of individual contracts. That is why the value of new business can be dependent on the business in force before the writing of new business.

A “stand-alone” valuation for value of new business has been performed when the business in force is not affected by writing new business (for example for unit-linked contracts). In this case, the value of new business has been valued independently of the business in force.

The value of new business is generally calculated with economic scenarios and assumptions as at end of period.

## 4.3 Asset and liability data

All assets and liabilities reflect the actual positions as at valuation date.

### Assets

The asset model used for the calculation of the MCEV differentiates three main asset classes:

- cash and fixed income instruments
- equity-type investments (including real estate)
- derivatives

All bonds and bond-like securities (such as mortgages) are modelled as fixed or floating government bonds. For all bonds, coupons and nominals have been recalibrated so that the valuation of the bonds using the reference yields converges to the observed market value.

Equities, real estate, participations and alternative investments (hedge funds and private equities) are modelled separately using appropriate indices for the corresponding currencies.

Current initial market values of assets have been taken where available (“marked-to-market”), or estimated where there is no reliable market (“marked-to-model”), for example by discounting



unquoted loan and mortgage asset proceeds. Local regulatory and accounting frameworks (such as the amortisation of bonds or lower of cost or market principle) are reflected.

When a substantial share of the assets is held in foreign currencies, these foreign assets are modelled explicitly (including the foreign currency exchange risk).

#### **Insurance liabilities**

Liabilities are valued in line with local statutory requirements generally using individual policy data. For projection purposes, policies of the same product with similar risk profiles are grouped together to form model points.

#### **Hybrid debt**

In accordance with the MCEV Principles (G3.4), hybrid debt allocated to covered business is valued by discounting the corresponding coupon and nominal payments (liability cash flows) with reference interest rates and spreads that would be used by capital markets for debt with similar characteristics. For the spread used, see section 5.1.1.

### **4.4 Economic scenario generator**

The MCEV is calculated using a risk-neutral valuation, based on market consistent and arbitrage-free stochastic economic scenarios. Under this approach, the key economic assumptions are:

- the reference rates
- interest rate and equity-type volatilities
- correlations between the economic risk factors
- inflation rates

The stochastic economic scenarios are generated by the economic scenario generator developed and provided by Barrie & Hibbert, a UK based financial consulting company. For variable annuity products a dedicated economic scenario generator is used.

The assets and liabilities within the Swiss Life Group are mostly denominated in Swiss francs, euros or US dollars. The economic scenarios reflect these three major economies, and since 2012, also British pounds and Canadian dollars, which are of lesser importance. The exchange rates and dividend yields are modelled as additional risk factors, as well as the inflation rates in each economy.

For the calculation of the MCEV and the value of the new business as at valuation date, 2000 economic scenarios are used, ensuring convergence of the results for all market units. For the calculation of the sensitivities and some steps in the movement analysis, some market units use fewer scenarios in connection with variance reduction techniques.

#### 4.5 Dynamic management actions and policyholder behaviour

Anticipated dynamic management actions and policyholder behaviour mainly concern the following areas: profit sharing for participating life businesses, asset allocation and realisation of gains and losses, and assumed policyholder behaviour with regards to their contractual options. They are dependent on the economic scenario considered and reflect local regulations and type of business.

The crediting rules for policyholders are consistent with current company practices and local regulatory environments, in particular regarding the existence of a “legal quote”. They ensure that the statutory solvency rules (Solvency I, including stress tests if legally required in the country) and other legal requirements are fulfilled for each projection year.

The rules for future asset allocations are consistent with going-concern assumptions. Asset realignment avoids deviating from the strategic asset allocation by more than a predefined margin and takes place after each projected year.

Lapse rates from policyholders have been dynamically modelled. For traditional business, lapse rates depend on the difference between the credited rate to the policyholders and the anticipated policyholders’ expectations. Lapse parameters depend on the country and product line considered.

#### 4.6 Look-through principle

MCEV guidance requires that profits or losses incurred in service companies from managing covered business are measured on a “look-through” basis. This principle ensures that all profits and losses incurred in relation to the covered business are passed to the corresponding entity, and consequently incorporated into the value of in-force business.

The look-through principle is applied for asset management services and corporate centre services. The future profits or losses taken into account for these services are limited to those linked to the insurance business, after “legal quote” and taxes.

#### 4.7 Consolidation

The Group MCEV for Swiss Life comprises MCEV results for covered business and IFRS net asset values for non-covered business.

Covered business comprises all of Swiss Life's major life, health and pension business as well as assumed external reinsurance with the exception of Swiss Life Insurance Solutions AG, which is not material for MCEV purposes. In the case of France, the remaining operations are sub-consolidated with their IFRS net asset value and also included in the French covered business.

Covered business relates to the operations in:

- Switzerland
- Germany
- France: sub-consolidated
- Luxembourg
- Liechtenstein
- Singapore

The sum of all market consistent embedded values for the market units of the covered business forms the total MCEV for covered business.

Non-covered business comprises all other entities of the Swiss Life Group that are valued at the unadjusted IFRS net asset value on a consolidated level, such as the distribution unit Swiss Life Select or investment management, financing and holding companies. Non-covered business is added to the MCEV results from the covered business to form the Group MCEV.

#### 4.8 Employee pension schemes and share-based payment programmes

Allowance is made for gains or losses arising from the defined benefit pension plans for Swiss Life's own employees. In Switzerland there is a semi-autonomous pension fund with biometric risks covered by an insurance contract. In other units the major part is covered by insurance contracts. The remaining part is modelled as commensurate expenses in the projections.

The costs of share-based payment programmes for employees are not included in the MCEV, other than to the extent that they are allowed for in the local statutory accounts upon which the shareholder net assets are based. Further information on the costs of share-based payment programmes is given in the Group's Consolidated Financial Statements.

## 5 Assumptions

### 5.1 Economic assumptions

The market consistent calibration of the economic scenarios is based on traded market instruments at the valuation date wherever possible. This includes nominal and real yield curves, interest rate volatility and equity volatilities. Where market data is not available or the market is not liquid enough, the model calibration is based on best estimate assumptions. This notably includes correlations, exchange rate volatilities and real estate volatilities.

#### 5.1.1 Reference rates

The reference rates used for the calculation of the MCEV 2013 are based on the swap rates as at 31 December 2013 and include, where appropriate, a liquidity premium. Extrapolation of the interest curves and determination of liquidity premiums closely follow the QIS 5 framework.

The underlying liquidity premium is determined by applying the formula  $\text{Maximum}(0; 50\% * (\text{corporate credit spread over swap} - 40 \text{ bp}))$ , where the corporate spreads over swap are measured with appropriate market indices. For the corporate credit spread over swap rates for the three currencies euro, US dollar and British pound, we use the quotation from Markit<sup>3</sup> instead of using the two step approach as described in the QIS 5 guidance. For Canadian dollar we use the quotation from BofA Merrill Lynch. For the spread over swap rates for Swiss franc we use a SIX Swiss Exchange Bond Index (SBI® Corporate) composed of investment grade, foreign and domestic corporate issues in Swiss francs.

We apply no liquidity premium to PPLI, unit-linked, and variable annuities business, 50% of the underlying liquidity premium to health insurance and assumed external reinsurance, and 75% to all participating and other businesses, including traditional annuities. Liquidity premiums are applied over a term of 10 years for Swiss franc, 15 years for euro and 30 years for US dollar, and phased out over the following five years.

As some of Swiss Life's liabilities are running longer than asset durations are available on financial markets in sufficient depth and liquidity, an extrapolation of yields is needed to assess swap rates beyond this horizon. Swiss Life uses the approach for extrapolation prescribed by EIOPA for QIS 5.

The spread (over swap rates) applied for valuation of the hybrid debt as at 31 December 2013 is 96 bp. For the opening MCEV the spread amounted to 185 bp.

The whole yield curve is shifted for the 100 bp increase/decrease in reference rate sensitivity including the extrapolated part beyond terms where market data is used for calibration of the reference rates.

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## 5.1.1.1 Swap rates as at 31 December 2013

Economy	1 year	2 year	5 year	10 year	15 year	30 year
Switzerland	0.06%	0.16%	0.77%	1.64%	2.03%	2.17%
Euro Zone	0.41%	0.54%	1.26%	2.16%	2.59%	2.73%
United States	0.31%	0.49%	1.77%	3.06%	3.57%	3.90%

## 5.1.1.2 Swap rates as at 31 December 2012

Economy	1 year	2 year	5 year	10 year	15 year	30 year
Switzerland	0.05%	0.06%	0.32%	0.96%	1.29%	1.47%
Euro Zone	0.33%	0.37%	0.77%	1.57%	2.02%	2.24%
United States	0.33%	0.39%	0.86%	1.79%	2.32%	2.69%

## 5.1.1.3 100% Liquidity premium, relative to swap rates, as at 31 December 2013 and 31 December 2012

Economy	2013 <sup>1</sup>	2012
Switzerland	22bp	28bp
Euro Zone	29bp	48bp
United States	47bp	68bp

<sup>1</sup> Liquidity Premium for British pound: 56bp (2012: 85bp), for Canadian dollar: 24bp (2012: 37bp)

## 5.1.2 Volatility assumptions

Volatility assumptions for the year-end 2013 and 2012 calculations are derived from market data as at 31 December 2013 and 2012.

The interest rate volatilities are based on implied volatilities of at-the-money receiver swaptions. The tables below show rates for euro and US dollar with 20-year tenors and rates for Swiss franc with 10-year tenors.

## 5.1.2.1 Swaption implied volatilities as at 31 December 2013

Economy	1 year option	2 year option	5 year option	10 year option	15 year option	30 year option
Switzerland	25.2%	26.1%	27.9%	29.0%	30.4%	21.8%
Euro Zone	23.7%	24.3%	24.0%	21.7%	20.2%	15.3%
United States	20.5%	20.1%	18.0%	15.2%	14.1%	15.2%

### 5.1.2.2 Swaption implied volatilities as at 31 December 2012

Economy	1 year option	2 year option	5 year option	10 year option	15 year option	30 year option
Switzerland	47.1%	45.4%	43.6%	44.5%	44.4%	41.0%
Euro Zone	30.1%	29.1%	25.9%	23.5%	22.7%	16.7%
United States	28.4%	27.8%	24.0%	21.2%	20.1%	22.3%

The equity implied volatilities are derived from the 10-year at-the-money equity put option prices.

### 5.1.2.3 Equity option implied volatilities as at 31 December 2013 and 31 December 2012

Economy	Index	Volatility	Volatility
		2013	2012
Switzerland	SMI	18.7%	20.2%
Euro Zone	EuroStoxx 50	20.6%	24.7%
United States	S&P 500	24.5%	26.6%

The property volatilities are based on best estimate assumptions considering historical data.

### 5.1.2.4 Property volatilities used for the calculation as at 31 December 2013 and 31 December 2012

Economy	Volatility	Volatility
	2013	2012
Switzerland	8.0%	8.0%
Euro Zone	13.0%	13.0%

### 5.1.3 Correlation assumptions

The correlation assumptions between different asset classes are based on historical market data. The correlations between returns on equities and on 10-year zero coupon bonds are assumed to be 17% for 2013 and for 2012.

### 5.1.4 Inflation assumptions

The inflation assumptions have been derived from inflation-linked bond prices, where inflation-linked bonds are traded. For the Swiss economy, the real interest rate model is calibrated on the inflation forecast by Consensus Economics, an international economic survey organisation.

#### 5.1.4.1 Forward inflation rates used for the calculation as at 31 December 2013

Economy	1 year	2 year	5 year	10 year	15 year	30 year
Switzerland	0.2%	-0.3%	0.1%	1.0%	1.1%	1.2%
Euro Zone	1.4%	1.0%	1.4%	2.3%	2.4%	2.1%

#### 5.1.4.2 Forward inflation rates used for the calculation as at 31 December 2012

Economy	1 year	2 year	5 year	10 year	15 year	30 year
Switzerland	0.4%	0.1%	0.3%	1.4%	1.5%	1.7%
Euro Zone	2.2%	1.5%	1.3%	2.2%	2.3%	2.0%

### 5.1.5 Real world assumptions

These assumptions are used for the step “expected existing business contribution in excess of reference rates”.

For fixed interest assets, the “real world” investment return assumptions are based on the gross redemption yield on the assets less a rating-dependent allowance for expected defaults derived from historical data.

Fixed risk premiums are used for other risky assets. Return assumptions for equity and property are derived from the 10-year swap rates, plus a risk premium; see table 5.1.5.1 below.

#### 5.1.5.1 Equity and property assumptions for real world projection

Risk premiums by asset class	2013	2012
Equity	400 bp	400 bp
Property (Switzerland and Europe)	200 bp	200 bp

## 5.2 Taxation and legislation

Tax assumptions for the projection of annual results have been set in line with the local tax regime. Tax losses carried forward are considered. Taxation rules are based on individual companies' total results. Tax impact of future new business has not been allowed for. The following table 5.2.1 shows the corporate tax rates applied.

### 5.2.1 Tax assumptions

	2013	2012
Switzerland	21.1%	21.1%
France	34.4% <sup>1</sup>	34.4% <sup>2</sup>
Germany	28.3%	32.6%
Luxembourg	22.0%	22.0%
Liechtenstein	12.5%	13.0%
Singapore	17.0%	18.0%

<sup>1</sup> Following French legislation the tax rate assumption applied for 2014 is 38.0%.

<sup>2</sup> Following French legislation the tax rate assumption applied for 2013 and 2014 is 36.1%.

## 5.3 Operating assumptions

Non-economic assumptions such as mortality, morbidity and lapse rates have been determined by the respective business units based on their best estimate as at the valuation date. Best estimate assumptions are set by considering past and current experience.

Expense assumptions are reconciled with past and current experience. They do not account for future cost reductions. Projected expenses are subject to inflation. All the expected expense overruns affecting the covered business, such as overhead expenses and development costs in new markets have been allowed for in the calculations. Corporate costs are included in the expenses of market units by means of a "look-through" procedure (see section 4.6).



## *6 Auditor's Report on Embedded Value*

To the Board of Directors of  
Swiss Life Holding Ltd

We have audited the Market Consistent Embedded Value Report ("MCEV Report") of Swiss Life Holding Ltd for the year ended 31 December 2013. The embedded value information included in the MCEV Report has been prepared in accordance with the Market Consistent Embedded Value ("MCEV") Principles issued by the European Insurance CFO Forum, as described in sections 1 and 4 of the MCEV Report.

### **Board of Directors' responsibility**

The Board of Directors is responsible for the preparation of the MCEV Report in accordance with the MCEV Principles, including the applied methodology and the assumptions used and for such internal controls as determined necessary to enable the preparation of the MCEV Report that is free from material misstatement, whether due to fraud or error.

### **Auditor's responsibility**

Our responsibility is to express an opinion on whether the MCEV Report has been properly prepared in accordance with the MCEV Principles. We conducted our audit in accordance with International Standards on Auditing. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the MCEV Report is free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the MCEV Report. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the MCEV Report, whether due to fraud or error. In making those risk assessments, the auditor considers internal controls relevant to the entity's preparation of the MCEV Report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal controls. An audit also includes evaluating the appropriateness of the principles used and the reasonableness of significant estimates made, as well as evaluating the adequacy of the overall presentation of the MCEV Report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

**Opinion**

In our opinion, the MCEV Report of Swiss Life Holding Ltd for the year ended 31 December 2013 is prepared, in all material respects, in accordance with the MCEV Principles.

**Basis of preparation**

Without modifying our opinion, we draw attention to sections 4 and 5 of the MCEV Report, which describe the basis of MCEV methodology and assumptions.

This report has been prepared solely for the Board of Directors of Swiss Life Holding Ltd in accordance with the terms of our engagement letter. We do not, in giving this opinion, accept or assume responsibility for any other purpose or to any other person to whom this report is shown except where explicitly agreed by our prior consent in writing. This report does not extend to any financial statements of Swiss Life Holding Ltd.

PricewaterhouseCoopers AG

Ray Kunz  
Audit expert

Thomas Hull

Zurich, 25 February 2014

## 7 Glossary and List of Abbreviations

### **Annual premium equivalent (APE)**

Volume measure for new business. Sum of regular premiums from new business +10% of single premiums on business written during the period.

### **Average annual premium multiplier**

The average annual premium multiplier is determined as the difference between PVNBP and the new business single premiums, divided by new business annual premiums.

### **Best estimate assumptions**

A best estimate assumption should equal the mean estimate (probability weighted average) of outcomes of that risk variable.

### **Certainty equivalent scenario**

Economic scenario under which asset returns are equal to the reference rates.

### **Certainty equivalent value (CEV)**

Certainty equivalent value is defined as the present value of the future shareholders' statutory profits (net of tax) under the certainty equivalent scenario.

### **CFO Forum**

The CFO Forum is a high-level discussion group formed and attended by the Chief Financial Officers of major European listed, and some non-listed, insurance companies. Its aim is to discuss issues relating to proposed new accounting regulations for their businesses and how they can create greater transparency for investors. It published the MCEV Principles together with a detailed Basis for Conclusions on 4 June 2008 and an amendment in October 2009.

### **Cost of credit risk**

The cost of credit risk accounts for the credit risk of investments in bonds that would otherwise have been unaccounted for in other MCEV components.

### **Cost of residual non-hedgeable risks (CNHR)**

The cost of residual non-hedgeable risks accounts for risk factors such as mortality, morbidity, expenses and lapse rates.

**Covered business**

Covered business includes all of Swiss Life's major life, health and pension business as well as assumed external reinsurance. In the case of France, all business operations are included in the covered business.

**Free surplus (FS)**

The free surplus is the market value of any assets allocated to, but not required to support, the in-force covered business at the valuation date.

**Frictional costs of required capital (FC)**

The additional investment and taxation cost incurred by shareholders through investing required capital in the company compared to direct investment as individuals.

**Group MCEV**

The Group MCEV for Swiss Life comprises MCEV results for covered business and IFRS net asset values for non-covered business of the Swiss Life Group (as explained above under point 4.7).

**IFRS**

International Financial Reporting Standards

**“Legal quote”**

Statutory minimum policyholder participation ratio

**Liquidity premium**

As stipulated in the MCEV Principles, liquidity premiums are included in swap yield curves in cases where liabilities are not liquid.

**Look-through principle**

Method by which profits or losses from service companies within the Swiss Life Group, which are directly related to managing the covered business, are included in the MCEV and in the value of new business.

**Market consistent embedded value (MCEV)**

Market consistent embedded value is a measure of the consolidated value of shareholders' interests in the in-force covered business of the Swiss Life Group.

**Net asset value (NAV)**

The net asset value is the market value of assets attributed to the covered business over and above that required to back liabilities for covered business.

**New business margin**

The value of new business divided by the present value of new business premiums (PVNBP) or divided by the annual premium equivalent (APE), respectively.

**Non-covered business**

All businesses of the Swiss Life Group which are not accounted for under covered business, such as investment management and Swiss Life Select, are included in the non-covered business of the Group MCEV by means of their IFRS net asset values.

**Non-traditional business**

Unit-linked-type contracts, with or without additional financial guarantees and policyholder options.

**Operating MCEV earnings**

Change in MCEV and in Group MCEV in the reporting period after initial and closing adjustments, economic variances and other non-operating variances, as well as other movements in IFRS net equity.

**Present value of new business premiums (PVNBP)**

Volume measure for new business. It represents the present value of premiums from new business. It is the sum of single premiums and the present value of periodic premiums from new business.

**QIS 5**

EIOPA's fifth quantitative impact study for Solvency II.

**Reference rate**

The reference rates used for the calculation of the MCEV are based on the swap rates at the valuation date.

**Required capital (RC)**

The required capital is the market value of assets, attributed to the covered business over and above that required to back liabilities for covered business, whose distribution to shareholders is restricted based on statutory solvency.

**Time value of financial options and guarantees (TVOG)**

The TVOG represents the additional market price of those financial options and guarantees in excess of the intrinsic value of options and guarantees which is already allowed for in the certainty equivalent value.

**Total MCEV earnings**

Change in MCEV and in Group MCEV in the reporting period after initial and closing adjustments and other movements in IFRS net equity.

**Value of in-force business (VIF)**

The value of in-force business represents the net present value of future profits emerging from operations and assets backing liabilities, after accounting for TVOG, CNHR and FC.

**Value of new business (VNB)**

The value of new business reflects the additional value to shareholders created by writing new business during the reporting period.

**Variable annuities**

Unit-linked contracts with additional guarantees and policyholder options.