5 Risk Management Policies and Procedures

The Group's core business is life insurance and pensions. A life insurance and pensions contract represents a long-term promise to the policyholder. To fulfil its future payment obligations to the policyholders, the insurance entities of the Group must be financially sound over an extended period of time. The ability to remain financially sound and strong depends on a number of risk factors. The Group's risk map can be broadly divided into financial, insurance, strategic and operational risks. All of these risk categories can impact the financial stability of the Group.

Risks must be identified, assessed, managed and monitored locally and aggregated at Group level. Monthly reports covering interest rate risk, equity and real estate price risk, currency risk, credit risk and insurance risk are prepared on a consolidated basis. Strategic and operational risks are assessed and reported on an annual basis.

The risk appetite for the largest operations in the insurance business is defined with the help of local risk budgets, which are used as a basis for the determination of the individual risk limits. These limits are used as a framework for the asset and liability management process, the objective of which is to define a strategic asset allocation. From this strategic asset allocation a scenario-based expected return is calculated, which forms the basis for the mid-term planning of the Group.

Risk management functions are performed at several levels by corresponding bodies within the Swiss Life Group, such as the Investment and Risk Committee at the level of the Board of Directors of the Swiss Life Group and the Group Risk Committee at the level of the Corporate Executive Board of the Swiss Life Group. The risk management functions at the level of the individual operations of the Swiss Life Group are organised accordingly.

Group risk management is responsible for the definition of the Group-wide methodology for the measurement of the risks and produces a consolidated risk report which consolidates the main quantitative elements of the risk management of the Swiss Life Group's operations. Furthermore, Group risk management also produces consolidated views on the operational and strategic risks of the Swiss Life Group.

The information below focuses first on the risk budgeting and asset and liability management process before covering in an extensive way the principal risk categories faced by the Swiss Life Group.

5.1 Contracts for the account and risk of the Swiss Life Group's customers

The assets relating to certain life insurance and investment contracts are managed for the account and risk of the Swiss Life Group's customers (separate account/unit-linked contracts, private placement life insurance). They are segregated and managed to meet specific investment objectives of the policyholders. The assets back the insurance liabilities and the financial liabilities arising from these contracts. The fair values of the liabilities reflect the fair values of the assets. Certain contracts with unit-linking features contain financial and insurance guarantees. The liabilities relating to these guarantees are included in financial liabilities and insurance liabilities, respectively.

The assets and liabilities from separate account/unit-linked contracts and private placement life insurance are generally excluded from the Swiss Life Group's financial risk management considerations to the extent that the risks are borne by the customers.

Assets for the account and risk of the Swiss Life Group's customers

In CHF million

	31.12.2015	31.12.2014
Cash and cash equivalents	2 625	2 309
Financial assets at fair value through profit or loss		
Debt securities	5 785	6 240
Equity securities	4 751	6 154
Investment funds	16 756	16 580
Other	1	1
TOTAL ASSETS FOR THE ACCOUNT AND RISK OF THE SWISS LIFE GROUP'S CUSTOMERS	29 918	31 284

Liabilities linked to assets for the account and risk of the Swiss Life Group's customers

In CHF million

	Notes	31.12.2015	31.12.2014
Unit-linked contracts	10	22 615	24 325
Investment contracts	19	3 995	4 107
Insurance liabilities	22	3 167	2 760
TOTAL LIABILITIES LINKED TO ASSETS FOR THE ACCOUNT AND RISK OF THE SWISS LIFE GROUP'S CUSTOMERS		29 777	31 192

The financial result for the years ended 31 December for the account and risk of the Swiss Life Group and the Swiss Life Group's customers was as follows.

In CHF million		For the account and risk of the Swiss Life Group		For the account and risk of the Swiss Life Group's customers		Total	
	Notes	2015	2014	2015	2014	2015	2014
Investment income	8	4 290	4 448	–	–	4 290	4 448
Net gains/losses on financial assets	8	228	2 631	21	–	248	2 631
Net gains/losses on financial instruments at fair value through profit or loss	8	95	–2 016	–15	7	81	–2 009
Net gains/losses on investment property		655	288	–	–	655	288
Share of profit or loss of associates		7	3	–	–	7	3
FINANCIAL RESULT		5 275	5 354	6	7	5 281	5 361

5.2 Risk budgeting and limit setting

The risk capacity and the risk appetite of the Swiss Life Group's insurance operations are primarily defined based on economic principles. Consequently, the market values or best estimates of both the assets and the liabilities are obtained by discounting the cash flows generated by these assets and liabilities by direct observation of market values or with another appropriate discount rate. The available economic capital is defined as the difference of the economic value of the assets compared to liabilities. The available economic capital is used to cover the different risks to which the Swiss Life Group's insurance operations are exposed by the nature of their activities. The final decision on the risk appetite for each insurance operation rests with the Corporate Executive Board.

To control and limit exposure to risks, capital and exposure limits are defined. They include overall market risk capital, credit risk capital and, more specifically, interest rate risk capital and credit spread risk capital as well as net equity and foreign currency exposure.

5.3 Asset and liability management (ALM)

The main objective of the ALM process is to ensure that the Swiss Life Group's insurance operations can meet their commitments to policyholders at all times while also adequately compensating shareholders for making risk capital available. Based on the economic principles of risk management and on the risk appetite definition applied in the risk budgeting process, ALM comprises the following main activity: the determination of the strategic asset allocation and of the risk capital and exposure sublimits.

The ALM process is centrally coordinated and steered at Group level by means of local asset and liability management committees with representatives from local senior management and representatives from the Group. The local units are in charge of implementing the decisions. The process requires the involvement of investment management, finance, actuarial and risk functions.

Compliance with external constraints

Aspects other than the purely economic view must also be considered in the ALM process, such as regulatory requirements including statutory minimum distribution ratios ("legal quote"), funding ratios, solvency, local accounting rules and International Financial Reporting Standards, liquidity requirements and rating targets. Some of these views may lead to results that are not aligned with the economic approach, but nevertheless need to be taken into account.

Depending on the regulatory framework in which the Swiss Life Group's insurance operations evolve, the asset portfolios might need to be split to reflect the different categories of insurance products. The asset portfolios of the insurance operations in Switzerland have been separated to distinguish between individual life and group life. As a consequence, such separation is also reflected in the ALM process. Insurance companies are generally obliged to hold tied assets in view of claims arising from insurance contracts. Special rules apply to investments in tied assets. They specify the eligible asset classes as well as requirements to be met in terms of investment organisation and processes.

Strategic asset allocation

Defining the strategic asset allocation is the first major task of the ALM process and aims at achieving an efficient risk capital allocation, i.e. optimising the returns on the asset portfolio for the available risk capital defined within the risk budgeting process, taking into account all known constraints.

The liabilities are largely predefined in terms of amount and timing of the payments and the associated assumptions are regularly reviewed. The corresponding asset portfolios mainly comprise fixed-income instruments. This way, the impact of interest rate fluctuations and the risk capital consumption are strategically optimised under a risk/return point of view, thus ensuring that the policyholders receive the benefits consistent with their products. Policyholders may benefit from the ensuing investment returns in the form of discretionary participation, while shareholders may benefit from an increase in the value of their investment in the Swiss Life Group.

The strategic asset allocation is therefore determined on the basis of the individual existing commitments and the risk capacity of the Swiss Life Group's insurance operations. The strategic asset allocation is reviewed at least once a year and adjusted if necessary.

The ALM process has been applied in all large insurance operations of the Swiss Life Group.

Distribution policy

The distribution policy seeks to align the interests of the different groups of stakeholders. Holders of traditional life insurance policies favour a guaranteed minimum interest rate coupled with regular and appropriate discretionary participation, whereas shareholders place greater emphasis on returns commensurate with the level of risk they are exposed to. The focus of the Swiss Life Group lies on the sustainability of the business model and should balance the policyholders' and shareholders' expectations.

External constraints must be considered in the definition of the distribution policy. Important elements which influence such policy are minimum guaranteed interest rates and the statutory minimum distribution ratio ("legal quote"), which depend on the regulatory environments of the Swiss Life Group's insurance operations.

Product design

The targets of risk management are supported by product management principles. Product design defines among other things which guarantees and benefits are built into a specific product to respond to the demand from and expectations of customers. The actuarial bases used for this purpose support each individual product generating a sufficient contribution margin. To ensure that the Group's principles are observed, guidelines and directives on product management and underwriting are in place. As the Group's insurance entities operate in a number of different countries, the local regulatory constraints may have an impact on the business units' product range. These constraints must always be obeyed.

5.4 Financial risk management objectives and policies

The Group is exposed to financial risk through its financial assets, financial liabilities (primarily investment contracts and borrowings), reinsurance assets and insurance liabilities. In particular, the key financial risk is that the proceeds from the financial assets are not sufficient to fund the obligations arising from the insurance and investment contracts, as well as from borrowings and other liabilities. The most important components of the financial risk are interest rate risk, equity and real estate price risk, credit risk, currency risk and liquidity risk.

The risk budgeting and limit setting described above ensure that the corresponding risks remain under control. The market risk capital, interest rate risk capital, credit spread risk capital and credit risk capital limits, as well as exposure limits for currencies and net equity for each large insurance operation, are defined based on the risk appetite per operation. These limits are assessed and reported on a monthly basis.

Hedging

The Swiss Life Group uses derivatives within the strict limits set by the applicable insurance legislation and by internal guidelines. Derivatives are primarily used to manage the exposure to foreign exchange rates, interest rates, equity securities and counterparties. The main instruments include index futures and option structures in stock markets, bond futures and swaps in order to manage duration, currency forwards and options in order to manage currency risk and credit default swaps or credit default swap indices and options on credit default swap indices in order to manage counterparty risk. Within certain limits, derivatives are used to enhance returns on the existing portfolio. The types of derivatives generally permitted for usage within the Swiss Life Group as well as the list of allowed over-the-counter trading partners have been approved by the Group Risk Committee.

Hedging strategies involve hedge accounting in accordance with International Financial Reporting Standards as well as “economic hedging”. “Economic hedges” comprise derivatives in combination with financial assets and financial liabilities which have a common risk factor and give rise to opposite changes in fair value that tend to offset each other.

Interest rate risk relating to financial instruments and insurance contracts

The Group’s primary interest rate exposure is to contracts with guaranteed benefits and the risk that the interest rates of the financial assets purchased with the consideration received from the contract holders is insufficient to fund the guaranteed benefits and expected discretionary participation payable to them.

Interest-sensitive insurance liabilities

In CHF million

	CHF	EUR	Other	Total
CARRYING AMOUNTS AS AT 31 DECEMBER 2015				
Minimum guaranteed interest rate 0 – < 2%	**39 080**	**5 676**	**6**	**44 762**
Minimum guaranteed interest rate 2 – < 3%	**9 118**	**5 497**	**31**	**14 645**
Minimum guaranteed interest rate 3 – < 4%	**20 972**	**6 188**	**25**	**27 184**
Minimum guaranteed interest rate 4 – < 5%	**70**	**6 054**	**25**	**6 149**
Minimum guaranteed interest rate 5 – < 6%	**–**	**–**	**2**	**2**
TOTAL INTEREST-SENSITIVE INSURANCE LIABILITIES	**69 239**	**23 414**	**88**	**92 742**
Insurance liabilities with no minimum guaranteed interest rate				**12 249**
Insurance liabilities linked to assets for the account and risk of the Swiss Life Group's customers				**3 167**
TOTAL INSURANCE LIABILITIES				**108 157**
CARRYING AMOUNTS AS AT 31 DECEMBER 2014				
Minimum guaranteed interest rate 0 – < 2%	34 925	5 954	5	40 884
Minimum guaranteed interest rate 2 – < 3%	11 486	6 210	32	17 729
Minimum guaranteed interest rate 3 – < 4%	19 511	6 724	23	26 259
Minimum guaranteed interest rate 4 – < 5%	72	6 713	26	6 812
Minimum guaranteed interest rate 5 – < 6%	–	–	2	2
TOTAL INTEREST-SENSITIVE INSURANCE LIABILITIES	65 995	25 602	89	91 686
Insurance liabilities with no minimum guaranteed interest rate				11 690
Insurance liabilities linked to assets for the account and risk of the Swiss Life Group's customers				2 760
TOTAL INSURANCE LIABILITIES				106 136

Some life insurance products with a savings component and investment contracts are subject to minimum guaranteed interest rates. The guaranteed rate differs according to the type of contract. In Switzerland for instance the minimum guaranteed interest rate for the occupational pensions segment (mandatory BVG savings account) stood at 1.75% in 2015 and will be reduced to 1.25% for 2016 (2014: 1.75%).

In addition to these fixed and guaranteed payments, which are exposed to interest rate risk, contractual rights exist for certain contracts to receive additional benefits whose amount and/or timing is contractually at the discretion of the issuer.

The Group manages interest rate and interest rate volatility risk by managing the interest rate sensitivity of its investment portfolio against the corresponding sensitivity of liabilities issued. The interest rate and volatility exposure of the liabilities is determined by projecting the expected cash flows from the contracts using best estimates of mortality, disability, expenses, surrender and exercise of policyholder options in combination with interest rate and volatility scenarios. The ALM process defines the strategic asset allocation optimising the net interest rate sensitivity of the investment and liability portfolios. Where this is not practicable, swap contracts and other instruments are used to hedge interest rate risk. In certain markets payer swaptions are used to hedge the risk of fair value changes of interest-sensitive financial assets. A minimum interest rate risk is accepted, since a perfect interest rate hedge can either not be achieved or may not be targeted.

Regarding interest rate risk exposure existing on contracts with guaranteed benefits where the risk is that the interest rates earned on the assets are insufficient to fund the guaranteed payments, puttable bonds are used to counter the impact of increasing interest rates.

In certain businesses, a large part of the impact of interest rate changes is for the account and risk of the policyholders based on the specific profit-sharing systems.

Equity price risk
A decline in the equity market may lead to a reduction of the Swiss Life Group's realised and unrealised gains/losses, which also negatively affects the Swiss Life Group's results of operations and financial condition.

Hedges in place with respect to the Swiss Life Group's equity investments are designed to reduce the exposure to declines in equity values but would not prevent an impairment loss in the event that the impairment criteria were met.

A portion of Swiss Life's investment portfolio comprises investments in funds which hold securities issued by non-public companies (private equity, infrastructure). These investments may be illiquid or may only be disposed of over time or at a loss, and they may not produce adequate returns or capital gains. If Swiss Life were required to liquidate some or all of the investments in its private equity portfolio, the proceeds of such liquidation may be significantly less than the amount paid for, or the carrying amount of, such investments.

Swiss Life's investment portfolios also include investments in hedge funds. The liquidity of such investments can vary according to market conditions, and the investment styles of such hedge funds could amplify any factors affecting the performance of any particular class of funds or investments.

Credit risk
The Group is exposed to credit risk, which is the risk that a counterparty will be unable to pay amounts in full when due. Key areas where the Group is exposed to credit risk are:

- Counterparty risk with respect to bonds purchased
- Counterparty risk with respect to loans and mortgages granted
- Counterparty risk with respect to money market and cash positions
- Counterparty risk with respect to derivative transactions
- Reinsurance share of insurance liabilities
- Amounts due from reinsurers in respect of claims already paid
- Amounts due from insurance contract holders
- Amounts due from insurance intermediaries

To reduce the credit exposure relating to derivatives a collateral management process is in place. Contractually all outstanding positions must be fully collateralised if they reach a very low agreed minimum transfer amount. The collateral is called daily. Counterparties for derivative transactions, over-the-counter and exchange-traded, have to be approved by both the Group Chief Risk Officer and the Group Chief Investment Officer. The minimum rating for a counterparty is generally A– (Standard & Poor's or equivalent) for the Swiss Life Group's insurance operations. During periods of market turmoil reliance on ratings is of limited value; therefore an additional qualitative and quantitative counterparty monitoring process has been established to allow for immediate proactive measures.

Counterparty risk is primarily managed by counterparty exposure limits and diversification in a broad debtor universe. The specific credit risk is managed through the holding of credit default swaps or credit default swap indices and options on credit default swap indices. A credit default swap provides insurance to the debt holder against a default of the debt issuer. It is traded over-the-counter and itself underlies the collateral management process described above. The credit default swap index is a hedge on credit risk of a basket of counterparties and is an over-the-counter derivative. A put option on a credit default swap index provides protection against adverse credit spread movements in the underlying basket of counterparties and is traded over-the-counter.

The Group is also exposed to credit risk associated with reinsurance recoverables. As a consequence, the financial strength of reinsurers is monitored. The creditworthiness of reinsurers is considered on an annual basis by reviewing their financial strength and also prior to any contract being signed. The general policy of the Swiss Life Group is to reinsure its insurance risks only with counterparties rated A– or above (Standard & Poor's or equivalent). In exceptional cases, reinsurers with a lower rating may be considered. Additionally, the Group holds substantial collateral under related reinsurance agreements in the form of deposited funds and securities.

No single reinsurer is a material reinsurer to the Group, nor is the Group's business substantially dependent upon one single reinsurer.

For fixed-income assets the total exposure per counterparty is aggregated and reported to the Group Risk Committee. Ratings and single positions above a certain level with regard to fixed-income assets are reported to management on a regular basis. The exposure to individual counterparties is also managed by other mechanisms, such as the right to offset where counterparties are both debtors and creditors of the Group. In addition, limits regarding single counterparty exposure are in place which depend on the rating and amount of exposure in relation to total investments. Information reported to management includes assessment of bad debts. Where there exists a certain exposure to individual policyholders due to size of the contract, or homogenous groups of policyholders, a financial analysis equivalent to that conducted for reinsurers is carried out.

The non-rated loans primarily comprise mortgages and policy loans. For the bulk of the mortgages a risk class system is in place which allows the company to identify, measure, monitor and manage the risks at the level of portfolios, borrowers and loans at all times. The risk class system also enables a risk-adequate pricing of the loans. Implementation, parametrisation and control of the system are set out in an internal directive which has been approved by the Group Chief Investment Officer.

In certain countries, specific additional guidelines and rules have been defined locally to monitor credit risk. Such guidelines cover investments in fixed-income securities which are mostly based on the average rating of the issuers (calculated by weighting default probabilities). Minimum and maximum thresholds apply with regard to permitted investments in non-government bonds. For investments in government bonds with a rating lower than AA– (according to Standard & Poor's or equivalent) and non-government bonds, additional exposure limits are in place. For certain businesses, credit risk is monitored and controlled with a risk limit framework whereby maximum limits are reviewed and approved at least annually. The majority of the bond portfolio is invested in government bonds (including supranational and sovereigns) and bonds issued by the financial sector covered by collateral or government guarantees.

Maximum exposure to credit risk

In CHF million	For the account and risk of the Swiss Life Group		For the account and risk of the Swiss Life Group's customers		Total	
	31.12.2015	31.12.2014	**31.12.2015**	31.12.2014	**31.12.2015**	31.12.2014
DEBT SECURITIES						
Debt securities at fair value through profit or loss	**635**	595	**5 785**	6 240	**6 421**	6 835
Debt securities available for sale	**84 884**	90 038	**–**	–	**84 884**	90 038
Debt securities pledged as collateral	**2 109**	2 763	**–**	–	**2 109**	2 763
Debt securities classified as loans	**4 392**	6 088	**–**	–	**4 392**	6 088
TOTAL DEBT SECURITIES	**92 020**	99 483	**5 785**	6 240	**97 805**	105 723
LOANS AND RECEIVABLES						
Mortgages	**7 073**	6 145	**–**	–	**7 073**	6 145
Corporate and other loans	**1 732**	3 171	**–**	–	**1 732**	3 171
Note loans	**6 758**	7 944	**–**	–	**6 758**	7 944
Receivables	**4 379**	4 600	**–**	–	**4 379**	4 600
TOTAL LOANS AND RECEIVABLES	**19 942**	21 860	**–**	–	**19 942**	21 860
OTHER ASSETS						
Cash and cash equivalents	**2 671**	3 753	**2 625**	2 309	**5 296**	6 062
Derivatives	**2 113**	2 358	**–**	–	**2 113**	2 358
Reinsurance assets	**376**	397	**–**	–	**376**	397
TOTAL OTHER ASSETS	**5 159**	6 509	**2 625**	2 309	**7 784**	8 818
UNRECOGNISED ITEMS						
Financial guarantees	**29**	42	**–**	–	**29**	42
Loan commitments	**320**	242	**–**	–	**320**	242
TOTAL UNRECOGNISED ITEMS	**349**	283	**–**	–	**349**	283
TOTAL EXPOSURE TO CREDIT RISK	**117 470**	128 135	**8 410**	8 549	**125 880**	136 684

The following table shows the extent to which collateral and other credit enhancements mitigate credit risk in respect of the maximum exposure to credit risk.

Credit risk mitigation – collateral held and other credit enhancements as at 31 December 2015

In CHF million	Debt securities	Loans and receivables	Cash and cash equivalents	Derivatives (assets)	Reinsurance assets	Financial guarantees and loan commitments	Total
SECURED BY							
Cash collateral	–	–	–	1 939	90	–	2 029
Securities collateral	–	444	–	–	181	69	694
Mortgage collateral	9 213	9 294	–	–	–	274	18 781
Other collateral	–	298	–	–	–	4	302
Guarantees	624	554	212	–	–	–	1 389
Netting agreements	–	147	–	11	–	–	159
TOTAL SECURED	9 837	10 736	212	1 950	272	347	23 353
UNSECURED							
Governments and supranationals	46 612	4 103	350	–	–	–	51 065
Corporates	35 451	2 245	2 109	163	104	2	40 075
Other	120	2 858	–	–	–	–	2 978
TOTAL UNSECURED	82 183	9 206	2 459	163	104	2	94 117
TOTAL	92 020	19 942	2 671	2 113	376	349	117 470

Credit risk mitigation – collateral held and other credit enhancements as at 31 December 2014

In CHF million	Debt securities	Loans and receivables	Cash and cash equivalents	Derivatives (assets)	Reinsurance assets	Financial guarantees and loan commitments	Total
SECURED BY							
Cash collateral	–	–	–	1 756	95	–	1 851
Securities collateral	–	479	–	–	230	74	782
Mortgage collateral	9 991	8 511	–	–	–	202	18 703
Other collateral	–	254	–	–	–	4	258
Guarantees	779	1 179	600	–	–	–	2 558
Netting agreements	–	134	–	571	–	–	706
TOTAL SECURED	10 769	10 557	600	2 327	324	280	24 858
UNSECURED							
Governments and supranationals	46 671	4 444	634	–	–	–	51 749
Corporates	41 881	3 776	2 519	31	73	4	48 284
Other	161	3 084	–	–	–	–	3 245
TOTAL UNSECURED	88 713	11 304	3 153	31	73	4	103 277
TOTAL	99 483	21 860	3 753	2 358	397	283	128 135

Exposure to credit risk of debt instruments – credit rating by class as at 31 December 2015

In CHF million

	AAA	AA	A	BBB	Below BBB	Not rated	Past due or impaired	Total
DEBT SECURITIES								
Supranational	**2 000**	**436**	**18**	**32**	**–**	**–**	**–**	**2 486**
Governments	**21 117**	**16 560**	**2 201**	**753**	**279**	**3**	**–**	**40 914**
Sovereign	**192**	**782**	**1 163**	**926**	**149**	**–**	**–**	**3 212**
Covered/guaranteed	**7 983**	**1 235**	**448**	**170**	**–**	**–**	**–**	**9 837**
Corporates	**523**	**4 329**	**14 537**	**13 850**	**2 172**	**0**	**39**	**35 451**
Other	**–**	**63**	**33**	**16**	**8**	**–**	**–**	**120**
TOTAL DEBT SECURITIES	**31 815**	**23 406**	**18 400**	**15 748**	**2 608**	**3**	**39**	**92 020**
MORTGAGES								
Commercial	**–**	**–**	**–**	**–**	**–**	**2 537**	**1**	**2 537**
Residential	**–**	**–**	**–**	**–**	**–**	**4 519**	**17**	**4 536**
TOTAL MORTGAGES	**–**	**–**	**–**	**–**	**–**	**7 056**	**17**	**7 073**
OTHER LOANS AND RECEIVABLES								
Governments and supranationals	**1 820**	**1 999**	**138**	**73**	**34**	**0**	**–**	**4 063**
Corporates	**1 361**	**754**	**972**	**773**	**63**	**1 132**	**0**	**5 055**
Other	**4**	**6**	**19**	**74**	**1**	**3 600**	**48**	**3 751**
TOTAL OTHER LOANS AND RECEIVABLES	**3 184**	**2 759**	**1 128**	**920**	**98**	**4 732**	**48**	**12 869**

Exposure to credit risk of debt instruments – credit rating by class as at 31 December 2014

In CHF million

	AAA	AA	A	BBB	Below BBB	Not rated	Past due or impaired	Total
DEBT SECURITIES								
Supranational	2 091	160	–	32	–	–	–	2 283
Governments	16 277	20 092	2 915	1 151	176	2	–	40 613
Sovereign	210	1 156	816	1 486	107	–	–	3 775
Covered/guaranteed	8 093	1 721	662	248	42	2	–	10 769
Corporates	494	4 763	17 923	16 496	2 171	1	33	41 881
Other	22	62	61	–	15	–	–	161
TOTAL DEBT SECURITIES	27 186	27 956	22 377	19 413	2 512	6	33	99 483
MORTGAGES								
Commercial	–	–	–	–	–	2 306	1	2 307
Residential	–	–	–	–	–	3 816	23	3 838
TOTAL MORTGAGES	–	–	–	–	–	6 122	23	6 145
OTHER LOANS AND RECEIVABLES								
Governments and supranationals	1 769	2 341	212	84	36	0	–	4 444
Corporates	1 442	1 164	2 493	492	68	1 649	1	7 309
Other	3	7	60	5	0	3 813	73	3 962
TOTAL OTHER LOANS AND RECEIVABLES	3 215	3 512	2 766	581	104	5 463	74	15 715

Financial assets past due (not impaired) – age analysis as at 31 December 2015

In CHF million	Up to 3 months	3–6 months	6–12 months	More than 1 year	Total
MORTGAGES					
Residential	**7**	**1**	**2**	**5**	**16**
TOTAL	**7**	**1**	**2**	**5**	**16**
OTHER LOANS AND RECEIVABLES					
Other	**7**	**6**	**6**	**9**	**28**
TOTAL	**7**	**6**	**6**	**9**	**28**

Financial assets past due (not impaired) – age analysis as at 31 December 2014

In CHF million	Up to 3 months	3–6 months	6–12 months	More than 1 year	Total
MORTGAGES					
Residential	11	2	2	4	20
TOTAL	11	2	2	4	20
OTHER LOANS AND RECEIVABLES					
Other	11	8	6	17	42
TOTAL	11	8	6	17	42

Financial assets individually determined as impaired

In CHF million	Gross amount		Impairment losses		Carrying amount	
	31.12.2015	31.12.2014	**31.12.2015**	31.12.2014	**31.12.2015**	31.12.2014
DEBT SECURITIES						
Corporates	**103**	102	**–63**	–69	**39**	33
TOTAL	**103**	102	**–63**	–69	**39**	33
MORTGAGES						
Commercial	**1**	1	**0**	0	**1**	1
Residential	**1**	3	**0**	0	**1**	3
TOTAL	**2**	4	**0**	–1	**2**	3
OTHER LOANS AND RECEIVABLES						
Corporates	**0**	1	**0**	0	**0**	1
Other	**31**	39	**–11**	–8	**20**	31
TOTAL	**31**	40	**–11**	–8	**20**	32

Financial assets individually determined as impaired – impairment loss allowance for the year 2015

In CHF million	Balance as at 1 January	Impairment losses/ reversals	Write-offs and disposals	Foreign currency translation differences	Balance as at end of period
DEBT SECURITIES					
Corporates	**69**	**0**	**–6**	**0**	**63**
TOTAL	**69**	**0**	**–6**	**0**	**63**
MORTGAGES					
Commercial	**0**	**0**	**–**	**–**	**0**
Residential	**0**	**0**	**0**	**0**	**0**
TOTAL	**1**	**0**	**0**	**0**	**0**
OTHER LOANS AND RECEIVABLES					
Corporates	**0**	**–**	**–**	**0**	**0**
Other	**8**	**3**	**0**	**–1**	**11**
TOTAL	**8**	**3**	**0**	**–1**	**11**

Financial assets individually determined as impaired – impairment loss allowance for the year 2014

In CHF million	Balance as at 1 January	Impairment losses/ reversals	Write-offs and disposals	Foreign currency translation differences	Balance as at end of period
DEBT SECURITIES					
Corporates	51	18	–	–	69
TOTAL	51	18	–	–	69
MORTGAGES					
Commercial	1	–1	–	–	0
Residential	1	0	–1	0	0
TOTAL	2	0	–1	0	1
OTHER LOANS AND RECEIVABLES					
Corporates	0	–	–	0	0
Other	7	3	–1	0	8
TOTAL	7	3	–1	0	8

The criteria used for the assessment of financial assets for impairment are described in note 2.8.

Exposure to credit risk of other assets

In CHF million

	AAA	AA	A	BBB	Below BBB	Not rated	Total
CREDIT RATING AS AT 31 DECEMBER 2015							
Cash and cash equivalents	**358**	**737**	**1 333**	**155**	**0**	**87**	**2 671**
Derivatives	**369**	**717**	**855**	**131**	**–**	**40**	**2 113**
Reinsurance assets	**–**	**212**	**114**	**14**	**–**	**36**	**376**
TOTAL	**727**	**1 666**	**2 302**	**300**	**0**	**164**	**5 159**
CREDIT RATING AS AT 31 DECEMBER 2014							
Cash and cash equivalents	640	1 182	1 861	4	0	68	3 753
Derivatives	543	726	894	3	–	192	2 358
Reinsurance assets	–	228	115	18	–	35	397
TOTAL	1 183	2 136	2 870	25	0	295	6 509

At 31 December 2015 and 2014, no reinsurance assets were past due or impaired.

Exposure to credit risk of unrecognised items

In CHF million

	AAA	AA	A	BBB	Below BBB	Not rated	Total
CREDIT RATING AS AT 31 DECEMBER 2015							
Financial guarantees	**–**	**–**	**–**	**–**	**–**	**29**	**29**
Loan commitments	**–**	**–**	**–**	**–**	**–**	**320**	**320**
TOTAL	**–**	**–**	**–**	**–**	**–**	**349**	**349**
CREDIT RATING AS AT 31 DECEMBER 2014							
Financial guarantees	–	–	–	–	–	42	42
Loan commitments	–	–	–	–	–	242	242
TOTAL	–	–	–	–	–	283	283

Currency risk

The Swiss Life Group operates internationally and its exposures to currency risk primarily arise with respect to the euro, US dollar, British pound and Canadian dollar. Most of the investments and liabilities are denominated in Swiss francs, euros and US dollars, the values of which are subject to exchange rate fluctuations. The Group operates with various functional currencies (predominantly Swiss francs and euros). Its financial position and earnings could be significantly affected by a weakening of said foreign currencies against the Swiss franc.

The following table shows the Group's sensitivity of monetary items to foreign currency exchange rate fluctuations.

1% decrease in rate

In CHF million	Gain (+)/loss (–)[1]	
	2015	2014
EUR/CHF	–1	–1
USD/CHF	–11	–10
GBP/CHF	–4	–2
CAD/CHF	0	0

[1] Before policyholder and income tax impact

Additionally, foreign currency translation of the Group's equity would be affected by a strengthening/weakening of foreign currency exchange rates. If at the balance sheet date the euro exchange rate had been 1% higher/lower, total equity would have been higher/lower by approximately CHF 34 million.

The Swiss Life Group's European insurance and investment operations (excluding Switzerland) generally invest in assets denominated in the same currency as their insurance and investment contract liabilities, which mitigates the currency risk for these operations. As a result, currency risk arises from recognised assets and liabilities denominated in other currencies and net investments in foreign operations. Although the Swiss Life Group actively engages in currency management to reduce the effect of exchange rate fluctuations on its assets and liabilities, particularly by hedging against the risk of such movements in relation to part of its investments denominated in euros and in US dollars, significant movements in exchange rates could adversely affect the Swiss Life Group's earnings and financial position, including the value of its investment portfolio. Foreign exchange exposure is hedged to a large extent in line with the strategic asset allocation. The instruments which the Swiss Life Group uses to hedge exposure may not be perfectly correlated to the related assets, so the Group will still be exposed to losses if the value of the hedge and the value of the underlying asset or liability do not correspond appropriately.

Due to the limitations of the Swiss capital market with regard to liquidity and duration, investments in Switzerland are also made in currencies other than the Swiss franc.

The balance sheet currency exposure is to a large extent hedged using foreign currency derivatives. Hedging is done on an overall basis for monetary and non-monetary items.

Liquidity risk

Liquidity risk is the risk that not enough cash resources may be available to pay obligations when due (primarily obligations arising from the insurance business and debt) at a reasonable cost. The Swiss Life Group is exposed to liquidity risk which primarily arises on calls on its cash resources from claims, amounts payable at maturity and surrenders arising from insurance and investment contracts. The Swiss Life Group faces the risk of not being able to refinance its debt obligations due to unexpected long-term market disruptions.

At the operational level, rolling forecasts are in place to address situational liquidity risk, which primarily arises on unexpected calls on cash resources from claims, amounts payable at maturity and surrenders arising from insurance and investment contracts. To overcome unexpected liquidity shortfalls at times asset disposals are not desired, repurchase agreements are used to ensure short-term refinancing at minimal cost.

At the strategic level, the Swiss Life Group holds substantial liquidity and uses active debt maturity planning to ensure financial flexibility and efficient liquidity management.

The liquidity analysis of financial liabilities and commitments is based on undiscounted cash flows by remaining contractual maturities, whereas insurance and policyholder participation liabilities are analysed by estimated timing of net cash outflows. Cash outflows of derivative liabilities designated as cash flow hedging instruments are analysed on the basis of expected settlement dates for forward starting swaps, and on the basis of contractual maturity for forward starting bonds. The analysis is made for amounts for the account and risk of the Swiss Life Group.

Exposure to liquidity risk as at 31 December 2015

In CHF million	Cash flows							Carrying amount
	Up to 1 month	1–3 months	3–12 months	1–5 years	5–10 years	More than 10 years	Total	
FINANCIAL LIABILITIES								
Derivatives designated as cash flow hedges	–	–	163	71	–	391	625	3
Investment contracts with discretionary participation	22	38	203	2 272	1 683	5 711	9 929	9 929
Investment contracts without discretionary participation	0	0	0	2	3	185	190	190
Borrowings	156	19	668	1 766	2 248	–	4 856	4 078
Other financial liabilities	3 697	779	4 864	348	230	374	10 292	10 216[1]
TOTAL	3 875	836	5 899	4 458	4 163	6 662	25 893	24 417
INSURANCE AND POLICYHOLDER PARTICIPATION LIABILITIES								
Insurance liabilities	216	209	2 589	6 279	12 571	83 126	104 990	104 990
Policyholder participation liabilities	86	126	3 406	4 876	29	1 542	10 065	10 065
TOTAL	302	335	5 995	11 155	12 600	84 669	115 056	115 056
GUARANTEES AND COMMITMENTS								
Financial guarantees	29	–	–	–	–	–	29	–
Loan commitments	96	72	122	28	0	2	320	–
Capital commitments	544	–	–	96	–	–	640	–
TOTAL	669	72	122	124	0	2	989	–

[1] excluding accrued interest

Exposure to liquidity risk as at 31 December 2014

In CHF million	Cash flows							Carrying amount
	Up to 1 month	1–3 months	3–12 months	1–5 years	5–10 years	More than 10 years	Total	
FINANCIAL LIABILITIES								
Derivatives designated as cash flow hedges	–	–	301	612	–	–	913	–
Investment contracts with discretionary participation	24	41	229	2 322	1 818	5 435	9 869	9 869
Investment contracts without discretionary participation	0	0	1	3	4	87	95	94
Borrowings	1	20	585	2 478	1 291	–	4 376	3 798
Other financial liabilities	3 396	2 067	5 643	353	245	408	12 113	12 000[1]
TOTAL	3 421	2 129	6 759	5 768	3 357	5 931	27 366	25 761
INSURANCE AND POLICYHOLDER PARTICIPATION LIABILITIES								
Insurance liabilities	241	221	2 779	6 632	12 796	80 707	103 376	103 376
Policyholder participation liabilities	116	170	3 699	6 145	36	1 986	12 152	12 152
TOTAL	358	391	6 478	12 777	12 832	82 693	115 529	115 529
GUARANTEES AND COMMITMENTS								
Financial guarantees	42	–	–	–	–	–	42	–
Loan commitments	76	58	98	8	0	2	242	–
Capital commitments	453	–	42	79	32	–	606	–
TOTAL	571	58	139	87	32	2	889	–

[1] excluding accrued interest

Current and non-current assets and liabilities

The table below shows the expected recovery or settlement of assets and liabilities. Assets are classified as current if they are expected to be realised within twelve months after the balance sheet date. Liabilities are classified as current if they are due to be settled within twelve months after the balance sheet date. All other assets and liabilities are classified as non-current.

In CHF million	Current		Non-current		For the account and risk of the Swiss Life Group's customers		Total	
	31.12.2015	31.12.2014	**31.12.2015**	31.12.2014	**31.12.2015**	31.12.2014	**31.12.2015**	31.12.2014
ASSETS								
Cash and cash equivalents	**2 671**	3 753	–	–	**2 625**	2 309	**5 296**	6 062
Derivatives	**623**	577	**1 490**	1 781	–	–	**2 113**	2 358
Assets held for sale	**4**	–	–	–	–	–	**4**	–
Financial assets at fair value through profit or loss	**3 095**	1 420	**3 202**	1 994	**27 293**	28 975	**33 590**	32 389
Financial assets available for sale	**6 177**	6 306	**89 848**	90 857	–	–	**96 026**	97 162
Loans and receivables	**6 533**	9 041	**17 801**	18 907	–	–	**24 334**	27 948
Financial assets pledged as collateral	**22**	72	**2 086**	2 691	–	–	**2 109**	2 763
Investment property	–	–	**21 557**	19 596	–	–	**21 557**	19 596
Investments in associates	–	–	**67**	284	–	–	**67**	284
Reinsurance assets	**303**	333	**73**	64	–	–	**376**	397
Property and equipment	–	–	**407**	442	–	–	**407**	442
Intangible assets including intangible insurance assets	–	–	**2 840**	2 972	–	–	**2 840**	2 972
Current income tax assets	**17**	14	–	–	–	–	**17**	14
Deferred income tax assets	–	–	**47**	34	–	–	**47**	34
Other assets	**179**	203	**292**	228	–	–	**471**	431
TOTAL ASSETS	**19 624**	21 719	**139 710**	139 851	**29 918**	31 285	**189 252**	192 854
LIABILITIES								
Derivatives	**389**	1 288	**601**	876	–	–	**989**	2 165
Financial liabilities at fair value through profit or loss	**1 359**	468	**1 137**	622	**22 615**	24 325	**25 111**	25 415
Investment contracts	**264**	296	**9 856**	9 667	**3 995**	4 107	**14 115**	14 070
Borrowings	**690**	461	**3 388**	3 338	–	–	**4 078**	3 798
Other financial liabilities	**9 401**	11 135	**884**	921	–	–	**10 284**	12 056
Insurance liabilities	**3 014**	3 241	**101 977**	100 135	**3 167**	2 760	**108 157**	106 136
Policyholder participation liabilities	**3 618**	3 985	**6 447**	8 167	–	–	**10 065**	12 152
Employee benefit liabilities	**143**	140	**1 834**	1 681	–	–	**1 976**	1 821
Current income tax liabilities	**104**	78	–	–	–	–	**104**	78
Deferred income tax liabilities	–	–	**1 720**	1 913	–	–	**1 720**	1 913
Provisions	**37**	52	**65**	76	–	–	**101**	128
Other liabilities	**271**	265	**22**	25	–	–	**293**	289
TOTAL LIABILITIES	**19 288**	21 408	**127 930**	127 422	**29 777**	31 192	**176 994**	180 023

5.5 Insurance risk management objectives and policies

Insurance contracts are contracts under which one party (the insurer) agrees to compensate the other party (the policyholder) if a specified uncertain future event affects the policyholder. The Group's insurance entities neither generally accept nor generally deny insurance coverage to applicants, but ensure that all the insurance risks are identified and thoroughly assessed, and that the insurance premiums accurately reflect the risk taken. The amount and type of risk taken must be in line with the Group's risk policy and strategy, and must also meet the profitability targets.

Nature of insurance risk

When designing a new product or reviewing an existing one, care has to be taken that the product neither includes systemic risk nor provides incentives for adverse selection. The product should meet the market's needs. The Swiss Life Group favours transparent and simple product design with a reliable pricing basis with sufficient statistical data available. Insurance risk arises when biometric parameters deviate adversely from expectations. The uncertainty in the estimation of future benefit payments and premium receipts for long-term insurance contracts is due to the unpredictability of long-term changes in overall levels of mortality and disability, for instance. Furthermore, deviations from the expected outcome of a portfolio can also arise because of random fluctuations. The impact of random fluctuations depends on the extent of diversification within a portfolio of contracts: that is, on the size of the portfolio.

The quantification of life insurance risk is based on a sensitivity analysis. Insurance risk is thus measured as the deviation of (the realisations of) the insurance risk factors from the corresponding best estimate values. Life insurance risk factors include mortality rates, disability rates and longevity, among others.

The nature of insurance risk can be summarised as follows:

Mortality and longevity

Mortality and longevity risks reflect the financial consequences of insured people dying sooner or living longer than expected, respectively. For example, a life insurer with an annuity portfolio making payments to the policyholders until their death is financially exposed to those individuals who live longer than expected. Conversely, an insurer writing life insurance business that pays out amounts contingent on death of the policyholders is exposed to increases in mortality levels.

The Swiss occupational pensions (BVG) segment of the group life insurance business in Switzerland is a significant part of the Group's overall life insurance business. The BVG business provides an example of a minimum return guarantee. The guarantee takes the form of the right to convert an assured sum into a life annuity at a guaranteed conversion rate: The prevalent annuity conversion rate for the mandatory part of the BVG business is set at 6.8% for men (retirement age 65) and 6.8% for women (retirement age 64).

With regard to mortality, morbidity and longevity risk, the most important annuities payable (annuities in payment phase) or insured (annuities in deferral phase) as well as sums insured are as follows.

Annuities payable per annum by type of annuity – individual life

In CHF million

	31.12.2015	31.12.2014
Life annuities – in payment	**586**	593
Life annuities – deferred	**529**	604
Annuities certain – in payment	**6**	8
Annuities certain – deferred	**41**	41
Disability income and other annuities – in payment	**219**	237
Disability income and other annuities – deferred	**7 045**	7 526
TOTAL INDIVIDUAL LIFE	**8 427**	9 008

Annuities payable per annum by type of annuity – group life

In CHF million

	31.12.2015	31.12.2014
Retirement annuities – in payment	**847**	778
Retirement annuities – deferred	**376**	410
Survivors' annuities – in payment	**135**	126
Survivors' annuities – deferred	**2 599**	2 537
Disability income and other annuities – in payment	**369**	368
Disability income and other annuities – deferred	**14 979**	15 000
TOTAL GROUP LIFE	**19 305**	19 219

Life benefits insured by type of insurance – individual life

In CHF million

	31.12.2015	31.12.2014
Whole life and term life	**24 277**	25 571
Disability lump-sum payment	**26**	30
Other	**4 594**	5 046
TOTAL INDIVIDUAL LIFE	**28 897**	30 647

Life benefits insured by type of insurance – group life

In CHF million

	31.12.2015	31.12.2014
Term life	**54 671**	60 760
Disability lump-sum payment	**479**	465
Other	**1 069**	1 119
TOTAL GROUP LIFE	**56 219**	62 344

Morbidity and disability

Disability risk reflects the financial consequences of groups of individuals getting disabled more often and/or recovering less quickly than expected. With regard to morbidity, the most significant risk factors are epidemics, widespread changes in lifestyle, such as eating, smoking and exercise habits, and economic effects.

Embedded options

The ability of a policyholder to pay reduced or no future premiums under a contract, to terminate the contract completely or to exercise a guaranteed annuity option means that the insurer's liability is also subject to policyholder behaviour to a certain extent. On the assumption that a certain group of policyholders will make decisions rationally, overall insurance risk can be aggravated by such behaviour. For example, it is conceivable that policyholders whose health has deteriorated significantly will be less inclined to terminate contracts insuring disability or death benefits than those policyholders remaining in good health, thus resulting in an increasing trend in the expected mortality of policyholders, as the portfolio of insurance contracts is reduced due to surrender.

Underwriting strategy

Underwriting is the process of selecting and classifying insurable risks. The underwriting strategy attempts to ensure that the risks underwritten are profitable and well diversified in terms of type of risk and level of insured benefits. Life insurance underwriting is performed to ensure that the premiums and the general conditions of the insurance policies are adequate for the risks to be insured. The first step in the underwriting process is to determine which individual risks can be accepted. The second step is to place the accepted risks into groups of similar levels of risk. Both processes must be conducted objectively and consistently. The Group sets limits for the acceptance of insurance coverage arising from new and renewal business. Medical selection is part of the Group's underwriting procedures, whereby premiums are charged to reflect the health condition and family medical history of the applicants. The limits relate to sums at risk, maximum insured losses or present value of premiums at the contract or insured person level. Depending on the type of business and the limit exceeded, the new or renewed contract must be approved by the corresponding risk committee or senior management. Contracts exceeding the set limits are tested individually for profitability according to predefined procedures before approval. Certain contracts which include specific risks relating to derivatives or demographic risk factors for which no reliable data is available must be submitted for approval irrespective of the amount of coverage offered. Insurance coverage exceeding set limits is subject to regular internal reporting requirements. Additionally, the underwriting practices must be in line with local laws.

For certain group life business, local law is relevant with regard to medical examinations required before any business is written. For certain individual life business, agreements exist with regard to medical examinations of applicants before business is written. If the risk is assessed as high, exclusion of specific risks, premium adjustments and reinsurance are considered or the application may be rejected.

In the accident and health business, the underwriting strategy comprises biometric and financial data of the persons to be insured, type of contract and experience.

Non-life

The Swiss Life Group has non-life operations, mainly in France, covering risks associated with accident and health (disability) as well as property and casualty.

Claims arising from the accident and health business primarily cover refunds for medical treatment, daily allowances in the case of sick leave, annuities and long-term medical care. The most significant factors that could increase the overall liabilities in health insurance are the increase in the claim frequency due to an increase in the average age of the insured persons and negative economic and social factors. The insurance liabilities arising from accident and health insurance contracts must consider outstanding claims and claims incurred but not reported (IBNR). A large part of the insurance liabilities arising from these contracts relates to IBNR, and experience shows that health insurance contracts are sensitive to late reporting of claims in both number of claims and amounts.

The Group manages the risks arising from these contracts by means of its underwriting strategy and reinsurance arrangements.

Development of claims under non-life insurance contracts

In CHF million	Estimate of ultimate claim costs by year of loss occurrence										
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
At end of year of loss occurrence	447	416	345	392	323	311	303	335	342	296	n/a
1 year later	403	383	387	373	369	362	330	361	346	–	n/a
2 years later	365	353	310	320	314	324	331	296	–	–	n/a
3 years later	350	296	275	293	286	336	285	–	–	–	n/a
4 years later	292	272	259	276	301	300	–	–	–	–	n/a
5 years later	266	261	242	297	265	–	–	–	–	–	n/a
6 years later	256	239	232	263	–	–	–	–	–	–	n/a
7 years later	231	260	225	–	–	–	–	–	–	–	n/a
8 years later	268	228	–	–	–	–	–	–	–	–	n/a
9 years later	240	–	–	–	–	–	–	–	–	–	n/a
CURRENT ESTIMATE OF CUMULATIVE CLAIMS	240	228	225	263	265	300	285	296	346	296	2 746
Cumulative payments to date	–225	–211	–206	–227	–232	–228	–217	–217	–203	–113	–2 080
LIABILITIES BEFORE DISCOUNTING	15	18	19	36	33	72	67	79	143	182	666
Effect of discounting	–	–	–	–	–	–	–	–	–	–	–
LIABILITIES FOR THE CURRENT AND 9 PREVIOUS YEARS	15	18	19	36	33	72	67	79	143	182	666
Liabilities for prior years											206
TOTAL GROSS CLAIMS UNDER NON-LIFE INSURANCE CONTRACTS											872

The development of claims under non-life insurance contracts comprises the non-life business in France. A minor part of the non-life business is very short-tailed. The claims incurred for this minor part are almost completely settled within one year. The amount of unpaid claims as at the balance sheet date is therefore not material and does not underlie any significant variation in its temporal development. The claims data regarding this type of business is not included in the figures above.

Acceptance rules for risks are consistent with both the Code des Assurances and the French regulations. Underwriting guidelines and tariffs are reviewed on an annual basis.

The monitoring of the risks taken is made on a monthly basis with regard to related premiums and claims. An automated claims supervision system is used for the adjustment of tariffs for risks with loss ratios above a certain level.

Reinsurance

Reinsurance is used to limit the Group's exposure to insurance risk. This does not, however, discharge the Group's liability as a primary insurer, and, if a reinsurer fails to pay a claim, the Group remains liable for the payments to the policyholder. A loss allowance would be recognised for any estimated unrecoverable reinsurance.

In addition, the Group holds substantial collateral under related reinsurance agreements in the form of deposited funds and securities. Amounts recoverable from reinsurers are estimated in a manner consistent with the assumptions used for the underlying policy benefits and are presented in the balance sheet as a component of the reinsurance assets.

Management reviews reinsurance programmes covering treaty, type, risks covered and retention on a regular basis. A process, competencies and limits are set up for the approval of reinsurance programmes and their modification. To ensure that the Group's principles are observed, guidelines on reinsurance are in place.

In accordance with its retention policy for mortality and disability benefits, the Group limits its exposure to CHF 5 million per life. Retention limits can be lower for other products (e.g. critical illness or long-term care) or for exposure in international markets. In addition, catastrophe reinsurance is in place to protect against accumulation of losses from a single event or a series of connected events.

The reinsurance team at Group level is responsible for implementing the retention policy by way of intra-group reinsurance. Intra-group reinsurance is transacted at arm's length.

As far as property and casualty insurance is concerned, the reinsurance arrangements mostly include non-proportional coverage on any single risk and/or event, and are adapted to the specific exposure. This includes excess of loss, stop-loss and catastrophe coverage, as well as facultative reinsurance for protection against specific risks.

Approximately 1.0% in terms of earned insurance premiums was ceded as at 31 December 2015 (2014: 1.4%).

Other risk transfer

Risk transfer primarily takes the form of reinsurance. Alternative forms of risk transfer (such as securitisation) require the formal approval of the Group Risk Committee. No significant alternative form of risk transfer is used by the Group at present.

Insurance risks are regularly reported to the Group Risk Committee.

Sensitivity analysis

The Swiss Life Group uses the market consistent embedded value (MCEV) following the guidelines of the European Insurance CFO Forum Market Consistent Embedded Value Principles©[1], as an important management tool, for its sensitivity analysis with regard to insurance risk and market risk. From the shareholders' point of view, the embedded value serves as an indicator of the value of the existing insurance portfolios. It is composed of two components: the net asset value (NAV) attributable to shareholders and the value of in-force business (VIF). Future new business is not included.

The market consistent embedded value of the Swiss Life Group amounted to CHF 12.5 billion as at 31 December 2015 (2014: CHF 12.9 billion). Due to different valuation principles, changes in the embedded value are typically not reflected to the same extent in the consolidated balance sheet and consolidated statement of income of the Swiss Life Group and vice versa.

The market consistent embedded value calculations are based on economic scenarios which are calibrated to market conditions at valuation date. Best estimate assumptions were made regarding a number of factors, in particular asset allocation, policyholder participation, development of costs and claims, policyholder behaviour, mortality and morbidity. Business is assumed to be continuing at the same level (going concern) and the current cost ratios – adjusted for inflation – are thus assumed to hold good for the future as well. Future costs from taxation and investment management expenses on assets backing solvency capital funded by the shareholders and which underpins the insurance business are charged to the MCEV. The Swiss Life Group calculates the embedded value for all its life and health insurance companies. All other companies are taken into account at their IFRS net asset value. As a consequence, embedded value sensitivities do not affect the value of these companies.

An analysis of sensitivity indicates to what extent the embedded value is affected by variations in risk factors. The analysis is based on changes in the assumptions used in the embedded value calculation whereby a specific risk factor is changed while holding all other assumptions constant (unless they are directly associated). In practice, this is unlikely to occur and changes in some of the assumptions may be correlated. In the event of a change in a specific risk factor, the effect of anticipated management actions, such as different allocations to policyholder participation and dynamic policyholder behaviour, as a consequence is considered in the analysis. The changes in a specific risk factor are applied to the entire projection period.

The sensitivity analysis with regard to insurance risk is as follows:

Higher mortality would have a significant positive effect on the embedded value of life annuities (survival risk), whereas the negative effect on the embedded value of contracts with death cover (mortality risk) is comparatively limited due to corresponding reductions in policyholder bonuses. Therefore, this sensitivity is considered not significant as an adverse risk for the embedded value.

At 31 December 2015, if mortality rates (annuities) had decreased by 5%, the embedded value would have been CHF 163 million lower (2014: CHF 118 million lower).

At 31 December 2015, if morbidity had been 5% higher, the embedded value would have been CHF 41 million lower (2014: CHF 59 million lower).

At 31 December 2015, if morbidity had been 5% lower, the embedded value would have been CHF 40 million higher (2014: CHF 54 million higher).

The sensitivity analysis with regard to market risk is as follows:

The MCEV calculations of the Swiss Life Group are based on economic scenarios which are calibrated to market conditions at valuation date.

At 31 December 2015, if the interest rates had been 100 basis points higher, the embedded value would have been CHF 987 million higher (2014: CHF 530 million higher).

At 31 December 2015, if the interest rates had been 100 basis points lower, the embedded value would have been CHF 1428 million lower (2014: CHF 1068 million lower).

At 31 December 2015, if the swaption implied volatilities (interest rates) had been 10% higher, the embedded value would have been CHF 37 million higher (2014: CHF 61 million lower).

At 31 December 2015, if the swaption implied volatilities (interest rates) had been 10% lower, the embedded value would have been CHF 121 million lower (2014: CHF 79 million lower).

At 31 December 2015, if the market value of equity securities and property had been 10% higher, the embedded value would have been CHF 811 million higher (2014: CHF 722 million higher).

At 31 December 2015, if the market value of equity securities and property had been 10% lower, the embedded value would have been CHF 958 million lower (2014: CHF 818 million lower).

At 31 December 2015, if the equity securities and property implied volatilities had been 25% higher, the embedded value would have been CHF 338 million lower (2014: CHF 322 million lower).

At 31 December 2015, if the equity securities and property implied volatilities had been 25% lower, the embedded value would have been CHF 273 million higher (2014: CHF 263 million higher).

The sensitivity of insurance liabilities is also analysed on an economic basis for internal risk management purposes and to satisfy regulatory requirements (Swiss Solvency Test).