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Group life reporting 2016: transparency report

Foreword

The abridged English version of this report contains the key points and the glossary. The full version of the report is available in German and French at https://www.finma.ch/en/documentation/finma-publications/reports/insurance-reports/.

Since the glossary entries for each language version are in alphabetical order, the figures included in each version of the glossary may be numbered differently.

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APPENDIX

Key points

Occupational pension schemes: the role of private life insurers

Occupational pension schemes are managed and safeguarded by occupational pension institutions which are legally autonomous and subject to the Swiss Federal Act on Occupational Retirement, Survivors' and Disability Pension Plans (OPA).

Private life insurers who take on the risks and capital management responsibilities of occupational pension institutions in full or in part (group life insurers) are subject to the Insurance Supervision Act (ISA). They assume part or all of the risk coverage and capital management from occupational pension institutions by reinsuring and providing full or partial coverage of the risks which the latter cannot or do not want to assume. These group life insurers manage approximately one fifth of all pension assets totalling CHF 983 billion, insure almost half of the 4.07 million active insured persons, serve around one fifth of the 1.09 million pensioners and satisfy small and medium-sized enterprise (SME) demand for full coverage insurance solutions.[1] In doing so, group life insurers play an important role in the occupational pension system.

Group life insurers operate in a strictly regulated area of social insurance. In this context, FINMA is mandated to ensure that the assets entrusted to them for occupational pensions are secure. Guaranteed insurance obligations are comprehensively covered by separate tied assets which are subject to strict investment requirements in terms of quality, risk diversification, permitted asset classes, risk management and administration.

Group life reporting and minimum ratio

The group life reporting prepared by life insurers active in the occupational pensions sector focuses solely on this part of their business and does not include other lines of business.

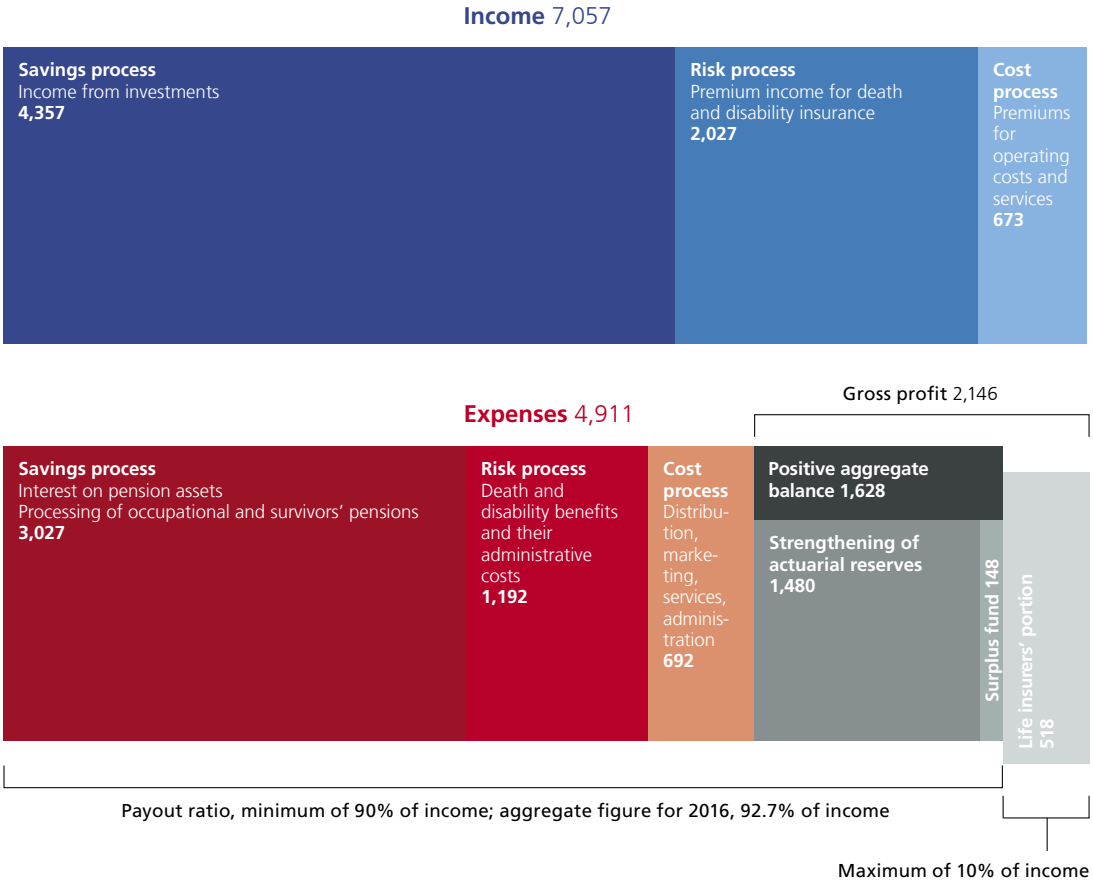
Group life reporting comprises the balance sheet items, income statement items, a technical breakdown, statistics and other information. The technical breakdown splits the income, expenses and gross result across three processes: the savings process, the risk process and the cost process. The technical breakdown delivers increased transparency concerning income and expenses in occupational pensions, particularly regarding compliance with the rules on calculating and distributing the surplus.

The income and expenses for the three processes are set out in Figure 1. The gross result is broken down into the positive overall balance (which is allocated to the insured occupational pension institutions and their insured persons) and the collective life insurers' share. The minimum ratio is the share which must be allocated by law to the community of insured persons. The Federal Council has ruled that 90% of income – i.e. at least 90% of premium income (excluding savings premiums) and investment income – must normally be allocated to the community of insured persons (Art. 147 AVO). Savings premiums are credited in their entirety to the insured persons.

[1] Allianz Life Insurance, AXA Life Insurance, Basler Life Insurance, Helvetia Life Insurance, PAX and Swiss Life still offer full coverage insurance (as at 2016).

Distribution of the gross result from group life business: at least 90% of the income goes to the community of insured persons and at most 10% to the life insurers (Figure 1)

Figures for business subject to the minimum ratio from the 2016 group life reporting (in CHF millions)



Income, expenses and result 2007-2016 (Figure 2)

In CHF millions	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Savings process										
Income	4,767	5,186	5,351	4,951	5,213	4,170	4,135	4,223	915	4,217
Expenses	3,271	3,329	3,354	2,798	3,012	3,183	3,076	3,003	3,498	3,391
Result	1,496	1,857	1,997	2,152	2,201	987	1,059	1,221	–2,583	826
Risk process										
Income	2,528	2,594	2,624	2,621	2,723	2,778	2,898	2,900	3,047	3,129
Expenses	1,452	1,418	1,395	1,429	1,403	1,375	1,502	1,464	1,298	1,529
Result	1,076	1,176	1,229	1,192	1,320	1,404	1,396	1,436	1,748	1,600
Cost process										
Income	754	757	744	729	730	751	765	731	754	790
Expenses	757	797	824	823	840	840	894	928	923	976
Result	–3	–40	–80	–94	–110	–89	–129	–196	–169	–186
Summary of the three results										
Savings process result	1,496	1,857	1,997	2,152	2,201	987	1,059	1,221	–2,583	826
Risk process result	1,076	1,176	1,229	1,192	1,320	1,404	1,396	1,436	1,748	1,600
Cost process result	–3	–40	–80	–94	–110	–89	–129	–196	–169	–186
Gross result (group life reporting)	2,569	2,994	3,146	3,250	3,411	2,301	2,326	2,460	–1,003	2,240
Strengthening technical reserves [a]	–1,592	–1,847	–1,651	–1,797	–1,978	–738	–948	–890	532	–290
Net result	977	1,147	1,494	1,453	1,433	1,563	1,378	1,570	–471	1,950
Breakdown of the net result										
Assignment to surplus fund	375	509	808	775	772	935	764	940	434	1,257
Operating result [b]	602	638	686	678	661	628	614	630	–904	693
Net result	977	1,147	1,494	1,453	1,433	1,563	1,378	1,570	–471	1,950

[a] Strengthening actuarial reserves minus release from strengthening of technical reserves.
[b] The operating result corresponds to the life insurer's share of the net result.

Income, expenses and result for 2016: sharp fall in investment income

2016 is the twelfth consecutive year in which private life insurers have accounted for their occupational pension schemes activity in their group life reporting. The key focus of business in the year under review was on financial stability and on ensuring that insurers are able to meet their commitments in the long term. Following the difficulties encountered in 2008, they have reported an overall positive result for the eighth consecutive time. Figure 2 shows the results of the three processes: the savings process, the risk process and the cost process. These give an aggregate gross result of CHF 2,569 million, representing a year-on-year fall of CHF 425 million. This is due to poorer results from both the savings and the risk processes.

Life insurers strengthened their technical provisions by an aggregate sum of CHF 1,592 million (2015: CHF 1,847 million). This gives a net result of CHF 977 million, of which CHF 375 million goes to the surplus fund, leaving an operating result of CHF 602 million.

Falling profits in the savings process are offset by continuing positive results from the risk process. In particular, the result from the savings process was insufficient to finance the necessary strengthening of actuarial reserves for old-age and survivors' pensions (savings process and risk process).

For this reason, life insurers scaled back their growth in the full coverage insurance sector and concentrated instead on reinsuring the risks of death and disability.

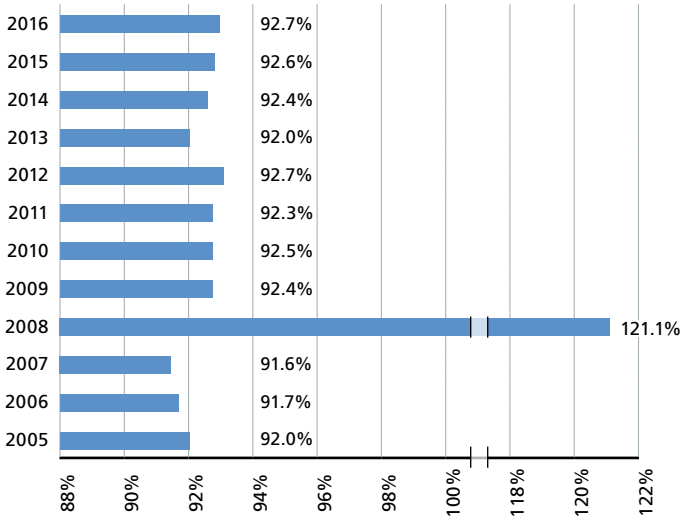
Payout ratio for 2016

For group insurance contracts with a statutory minimum ratio, the aggregated payout ratio in 2016 was 92.7% and therefore remained at a stable level above the statutory minimum of 90%.

An aggregate sum of CHF 375 million (2015: CHF 509 million) went to the surplus fund for the benefit of insured occupational pension institutions and the persons they insure. The reduction compared with last year is due primarily to the decline in the results from the savings and risk processes.

Life insurers active in the occupational pension scheme sector reported an aggregate annual result before tax of CHF 602 million for 2016 (2015: CHF

Payout ratios since 2005 (Figure 3)

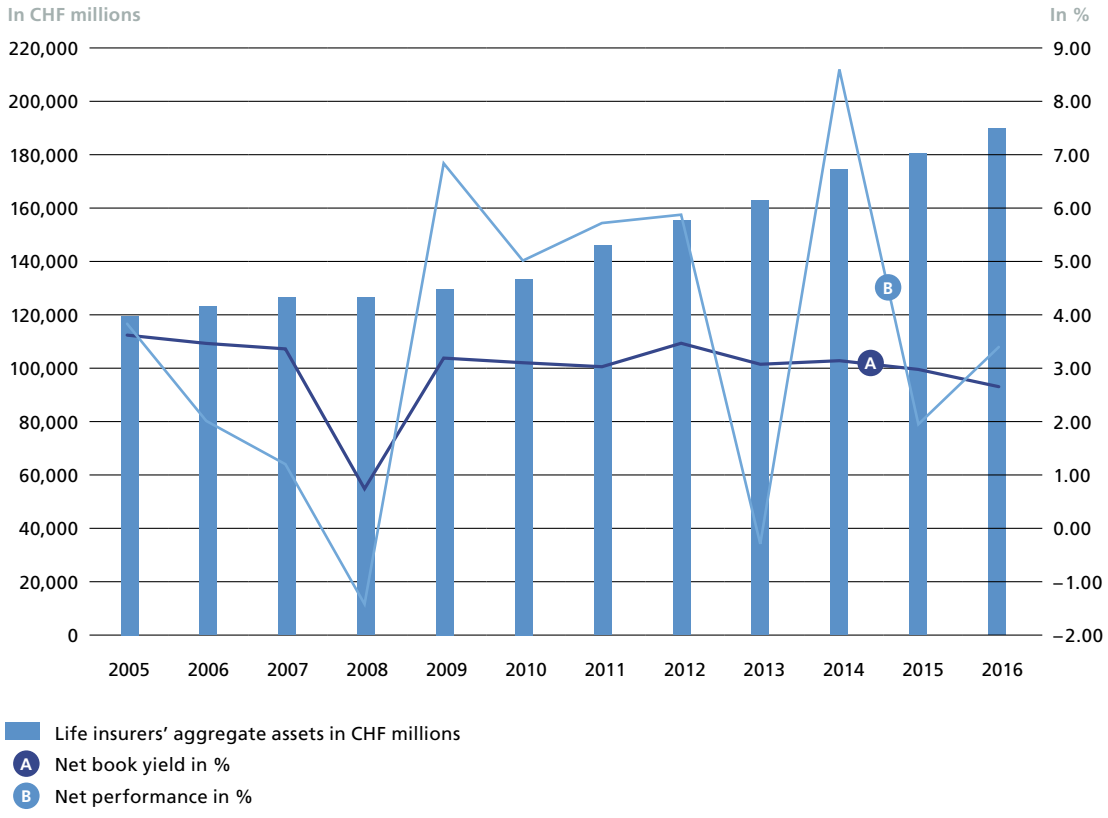


638 million) in their occupational pension business. The annual result from the occupational pension business is incorporated in the enterprise result; a decision on the appropriation of the result is then made at corporate level.

Savings process burdened by the need to strengthen actuarial reserves for annuities

The savings process produced positive results for life insurers in 2016, with revenues minus expenses yielding CHF 1,496 million (2015: CHF 1,857 million). However, it was necessary to reserve CHF 1,629 million (2015: CHF 1,847 million) to strengthen the actuarial reserves for old-age and survivors' pensions and to close coverage gaps in the case of pension conversions. Due to these additional requirements for pension payments, active insured persons, who account for 57% of the insurance obligations, were left with less than 30% of the return on pension assets.

Aggregate assets, net book yield and net performance of group life insurers, 2005-2016 (Figure 4)



At 2.62%, the net return on investments (book yield) was slightly lower than in previous years. Between 2005 and 2016, the average return was 2.96% (2015: 2.99%). Taking account of the changes in the value of the investments, performance stood at 3.3% after 1.9% in 2015, following the high figure of 8.6% posted in 2014. Such substantial fluctuations show how exposed insurers providing full coverage insurance are to investment risks. FINMA's main task here is thus to focus on identifying major risks, monitor control mechanisms and, where necessary, require additional security measures to be taken for which it uses a range of supervisory tools; most importantly, investments made by group life insurers may not involve uncovered risks which would jeopardise the long-term fulfilment of obligations arising from insurance policies.

The high proportion of fixed-interest securities (78%) is indicative of the types of investment made. As returns on new investments have gone down considerably since 2010, it is becoming ever more difficult, when reinvesting pension scheme assets, to finance the statutory prescribed interest guarantees on retirement assets (minimum interest rate), as well as on the actuarial reserve (previously referred to as guaranteed pension conversion rates) with low-risk investments in the capital market.

The longer this situation persists, the more pressing these challenges will be for life insurers and for the occupational pensions system in general.

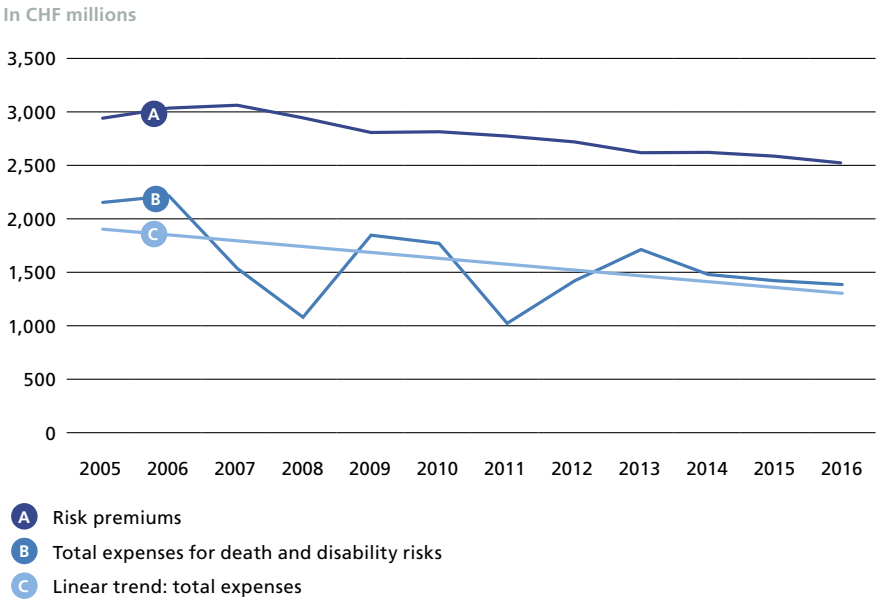
In the year under review, asset management costs rose by 35 basis points from 0.210% in 2015 to 0.245% of the market value of the investments. This reflects an increase in costs of CHF 86 million to CHF 495 million in 2016. Most of the increase can be attributed to a single group life insurer.

Risk process: relatively stable results for death and disability risks

The risk process once again showed a positive result relative to the previous year owing to the small drop in claims expenses linked to slightly discounted risk premiums. Over the years, the reduction in claims expenses has been passed on to the insured persons in the form of reduced premiums. Life insurers used the majority of the aggregate earnings totalling CHF 1,076 million to strengthen technical provisions and to distribute surplus participations to the insured persons. The remainder, i.e. the operating earnings, is used by group life insurers to build up equity capital and further compensate the equity capital providers.

In 2016, the risk process will be used for the first time to finance the strengthening of reserves in the savings process.

Premiums and total expenses in the risk process, 2005-2016 (Figure 5)



Cost process virtually in balance

For the first time, the results for the cost process aggregated over the group life insurers were almost balanced in 2016. While in 2008 life insurers reported a cumulative cost deficit of CHF 168 million, this deficit in 2016 fell to just CHF 3 million (2015: CHF 40 million; 2014: CHF 80 million), parallel to an increase of 11.8% in the pool of insured persons. The reported operating costs per capita for 2016 were reduced even further than in previous years to CHF 314 (2015: CHF 337).

As management costs for active insured persons, pensioners' collectives and vested benefits policies can be different, FINMA has divided up the operating costs since 2012 according to cost unit. For 2016, the per capita values were:

Active insured persons	CHF 400
Pensioners	CHF 425
Vested benefits policies	CHF 70

However, per capita costs differ considerably for each life insurer, with reported management costs per capita varying substantially depending on the life insurer's business model.

Distribution and advisory costs totalling CHF 232 million can be broken down as follows:

Broker commission	CHF 106m
In-house sales force commission	CHF 80m
Other acquisition costs	CHF 46m

The breakdown of distribution and advisory service costs – data which FINMA has been collecting since 2013 – has shown that group life insurers generally use internal and external distribution channels, although to varying degrees. On average, group life insurers spend 26% of their costs on distribution, advisory services, marketing and advertising, and 74% on management, claims processing and services performed, as illustrated in Figure 6.

In 2016, distribution and advisory service costs fell to CHF 126 for each active insured person. They accounted for less than 1% of the gross premium volume generated in 2016.

The decline in distribution and advisory costs is due to reductions in commission paid to in-house sales forces.

Technical provisions: significance and function

All life insurers must ensure that they have technical provisions which are sufficient to meet the commitments they have entered into (Art. 16 ISA). The provisions consist of retirement assets, actuarial reserves for current pensions, and further provisions allocated to the insured persons. Insufficient technical provisions must be strengthened. The extra funds added to provisions must be such that obligations arising from insurance contracts can be met over the long term. This requirement offers the most sustainable protection to insured persons and underpins confidence in the insurance benefits offered by the Pillar 2 pension system under the Insurance Supervision Act (ISA). One of FINMA's core responsibilities is to ensure that this requirement is always met.

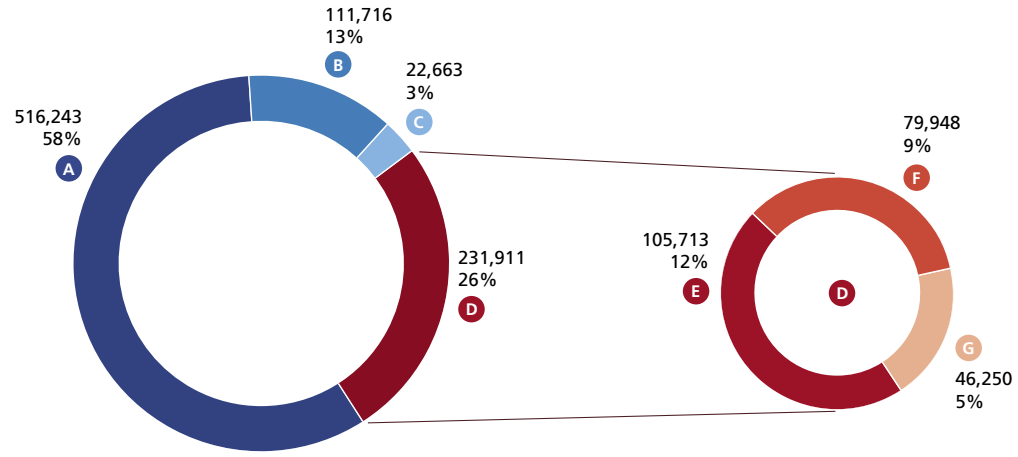
If technical provisions are not sufficient, they must be strengthened in line with the insurer's approved business plan, using results from the three processes. Risk pooling across the processes is fundamentally important to any insurance activity. It enables insurers to assign funds to areas in which there is risk exposure. Group life insurers must review their technical provisions at least once a year to confirm that they have been correctly calculated in actuarial terms and that they are sufficient to meet the insurers' contractual obligations in a sustainable, permanent and secure way. Assignments may only be made to the surplus fund once the technical provisions have been adequately covered.

Technical provisions: falling interest rates have necessitated strengthening measures

Actuarial reserves for annuities and other technical provisions (with the exception of retirement assets) were valued based on current biometric bases and valuation interest rates, which on average stood at 1.43% at the end of 2016 (2015: 1.6%).

Breakdown of distribution and advisory services costs, 2016 (Figure 6)

in CHF thousands



A Administrative costs
B Benefits management costs
C Marketing and advertising costs
D includes E, F and G
E Broker and agent commissions
F Commissions for own sales force
G Other acquisition costs

In 2016, retirement assets rose by almost CHF 2 billion, giving a year-end total of CHF 100 billion. The interest rate for mandatory pension was 1.25%, while on average that for supplementary pension was 0.79% (2015: 1.03%). Participation in the surplus generated must also be included.

Actuarial reserves for current old-age and survivors' pensions have risen substantially (by 8.1%) for the eighth consecutive year and now total CHF 43.1 billion. Part of this increase can be attributed to the fact that group life insurers are required to strengthen their actuarial reserves as a result of increased life expectancy and the drop in the level of interest rates. This affects current pension benefits, as well as any losses from future conversions into pension owing to conversion rates being too high.

The surplus fund: function and trends

A surplus fund is an actuarial balance sheet item to free up surplus dividends for occupational pension institutions and their insured persons. In 2015, they were allocated a total of CHF 673 million, i.e. 50% of the assets accumulated in various surplus funds. This shows that the surpluses generated in one year were passed on rapidly to those insured. An allocation of CHF 556 million to insured occupational pension institutions and their insured persons is planned for 2017. This substantially exceeds the assignment of CHF 375 million.

Transparency facilitates market comparison

Transparency achieved through the disclosure report produces a positive effect. Key indicators (e.g. for costs, dividend policy and investments) highlight the strengths and weaknesses of market participants and make it possible to compare competing companies. This is all to the advantage of companies looking for retirement fund cover with private life insurers, and to their employees. Nonetheless, the limited offerings available from group life insurers mean that many occupational pension institutions find it difficult to switch provider or even find a full-value insurance solution at all. Practically all group life insurers have cut back on writing new business; in some cases, pools are being actively reduced. In 2016, this was also made clear by the market premium volume, which fell for the first time since 2009 (2016: CHF 23.3 billion; 2015: CHF 24.8 billion; 2014: CHF 24.7 billion; 2013: CHF 24.3 billion; 2012: CHF 22.5 billion). Insurers are not looking to take on new business, presumably because the risk-to-return ratio is not attractive for investors.

Glossary

Acquisition costs
These are the costs involved in selling pension planning solutions and providing advisory services.

Actuarial reserves
Actuarial reserves quantify the individually calculated contractual obligations of life insurers towards insured persons. The calculation is based on biometric data such as mortality rates (mortality tables) and the technical interest rate. Trends in the biometric data of a community of insured persons and in market interest rates may lead to a situation in which the reserve becomes inadequate, in which case the actuarial reserves must be strengthened (strengthening the actuarial reserves).

When a group life insurance contract is terminated or employment ends prior to retirement, the actuarial reserves, calculated in accordance with the revolving-door rule, are surrendered. When retirement assets are converted into a pension, the statutory conversion rate (OPA Art. 14) is applied to the mandatory portion, while the conversion rate approved by FINMA which is set out in the business plan is applied to the supplementary portion. The technical provisions for annuities are calculated so that they are sufficient to finance pensions (FINMA Circular 2008/43, margin no. 5 ff.).

Actuarial reserves for annuities
See Actuarial reserves.

Actuary responsible
Insurance enterprises supervised by FINMA must appoint an actuary responsible. This person ensures that the insurance enterprise forms sufficient technical provisions, uses appropriate assumptions in its calculations and manages its tied assets in accordance with the supervisory rules (Art. 24 ISA).

Aggregate (aggregation)
This refers to the total number of life insurers who provide occupational pension schemes. "Aggregation" is the term used for the total sum.

Annualised
The annual income from investments as a percentage of the invested capital is referred to as the "return". If the return is measured over a number of years (e.g. seven years), the annualised return is the average return for the seven years. The geometric mean is used in this case. The formula for the annualised return over seven years (e.g. 2006 to 2012) is:

$$\left(\prod_{i=1}^{7} (1+r_i) \right)^{\frac{1}{7}} - 1, \cdots r_i = \text{return generated in year i}$$

Antiselection
This refers to the risk of occupational pension institutions or insured persons choosing options which disadvantage the community of all insured persons; another issue is that the risk situation may not have been fully captured during the assessment phase before the contract was concluded. Life insurers may therefore find themselves being confronted with benefit claims which were not covered in the premium volume agreed.

Asset categories
In the savings process, life insurers invest the insured persons' money in capital and property markets. The following asset categories are set out in the full report:
– Fixed-income securities
– Loans to private and public entities
– Mortgages
– Cash and fixed-term deposits
– Real estate

– Shares and units in investments funds
– Private equity and hedge funds
– Other capital investments

Asset categories 1 to 4 are combined in the report under the term "fixed-income assets".

Basis points

A basis point (bp) is a unit of measure used for interest rates. It is defined as a hundredth of one per cent; in decimals: 0.0001. For instance, 50 basis points equal half a per cent.

Biometric assumptions

Biometric assumptions are used to calculate biometric characteristics such as mortality (mortality tables) and morbidity. These include variables such as mortality rates, morbidity rates and withdrawal rates following death or return to employment, and other probabilities which can be derived from measurement data from previous years. A distinction is made between measurement data from collective measurements and measurement data which are collected by life insurers. The time period used is generally five or ten years. The biometric assumptions must be approved by FINMA before they can be used.

As a matter of principle, the biometric data must be collected from the community of insured persons within which the risk is pooled – in other words, the community of insured persons subject to the insured risk (e.g. annuity, death or disability). This applies across all insurance institutions, irrespective ofwhether they are pension institutions which insure occupational pensions or insurance enterprises which reinsure occupational pensions or cover other risks. If the community of insured persons is too small to provide sufficient data, data from collective measurements must be used (where possible, data which incorporates the community's own data). This does not, however, release insurers from the obligation to collect the biometric data of their own communities. A recognised actuarial model which properly weights the collective data and the insurer's own measurement data for their credibility must then be used to determine the biometric calculation basis. Credibility in this context means combining the insurer's own data and the collective data in such a way that the collective data is predominant in measurement ranges which are insufficiently represented in the insurer's own data, and that otherwise the insurer's own data predominates. The basis for calculation produced by this process is smoothed using a further actuarial process to eliminate inconsistencies. Statistically determined safety margins are then applied to take account of trends and random fluctuations. This is the only method by which insurers can realistically anticipate the level of claims in their own community of insured persons.

The impact of some of the measured variables on the level of claims is shown below under "Book value".

Book value

The book value is the value at which an asset is carried on the balance sheet in a life insurer's financial statements under the Swiss Code of Obligations (CO).

Variable	Impact on the level of claims
Likelihood of becoming disabled	A decline reduces claims expenses.
Degree of disability	Downgrading reduces claims expenses.
Mortality among disabled persons	A decline increases claims expenses.
Likelihood of successful return to work	A decline increases claims expenses.
Likelihood that widows will remarry	A decline increases claims expenses.

It must be prudent. On the assets side, for fixed-income securities the book value is at most the value under the amortised cost method (Insurance Supervision Ordinance Arts. 88 and 89); for the other positions, the book value is at most the cost value minus any loss in value due to usage, age or other valuation adjustments (CO, Art. 960 ff.).

Book yield
The book yield is the book income generated by investments divided by the average book value of the investments. The book income consists of direct income (i.e. regular investment income such as coupon payments on bonds, dividends on equities, and rental income from real estate), the balance resulting from gains and losses on the sale of investments, the balance of write-ups and write-downs, and the foreign exchange result, minus investment-related interest expenses. For simplicity sake, the average book value of investments is calculated as the arithmetic mean of the book value at the start of the financial year and the book value at the end of the financial year. In contrast to performance, however, the book yield does not include any change in valuation reserves. This means that it is significantly less susceptible to capital market fluctuations over time. This works to the advantage of the insured persons, who expect contractually agreed constant cash flows with a high level of value guarantee.

Business plan
An insurance enterprise which is supervised by FINMA must submit a business plan. Any changes to the business plan must be reported; FINMA can initiate a supervisory review (Arts. 4 and 5 ISA).

Claims expenses
Claims expenses comprises the benefits due in death and disability cases, benefit handling costs and the change in the corresponding technical provisions.

Claims ratio
The claims ratio is calculated by dividing claims expenses by risk premiums.

Coefficient of determination
The coefficient of determination is a statistic which measures how well a statistical model replicates observed outcomes. In the case of a linear regression model, the coefficient of determination lies between 0 (no linear correlation) and 1 (full linear correlation).

Conversion rate
On retirement, accumulated retirement assets are converted into a pension. The conversion rate is the pension expressed as a percentage of the accumulated retirement assets. It is calculated on the basis of the technical interest rate and the life expectancy of the future pension recipient.

Cooperative pension institution
See Occupational pension institution.

Cost premium
See Cost process.

Cost process
The cost process is one element of the operating statement. It sets the cost premiums for the reporting year against the management and operating costs. The difference between these two is the cost result.

Credibility
When measuring biometric data such as mortality and morbidity, group life insurers are required to analyse their own portfolio statistically and to keep appropriate statistics. Group life insurers also have access to statistics from collective measurements. Insurers can use collective measurements whenever their own statistical measurements in certain ranges or for particular characteristics are insufficient for

making credible estimates. The business of deciding which measurements should be included in the insurer's calculations – and in what way – is referred to as credibility. The term means combining the insurer's own data and the data from collective measurements in such a way that the collective data is predominant in measurement ranges which are insufficiently represented in the insurer's own data, and that otherwise the insurer's own data predominates. By using this approach the insurer arrives at a credible calculation basis which adequately reflects the insurer's community of insured persons. When undertaking this weighting process, the insurer uses tried-and-tested methods such as the Bühlmann-Straub credibility model. Credibility models can be used more widely than in the weighting of measurements based on a particular community of insured persons and collective measurements. They are also used to form risk classes in the process of pricing for death and disability risks with the aim of creating incentives for loss prevention, especially in accident and health insurance.

Credit spread

The credit spread is a yield mark-up paid to investors in bonds which are exposed to the risk of default. As a rule, the credit spread is the yield differential between the issued bond and a reference bond which is free of such risk. The higher the credit spread, the lower the market price of the bond.

The credit spread compensates the investor for the counterparty risks associated with the investment. It is made up of the credit risk and the actual spread risk, but also incorporates some capital market liquidity aspects. The credit spread is expressed in basis points. A basis point is a hundredth of one per cent (i.e. 0.01%). The credit risk is linked to the bond issuer's credit rating. Rating agencies (e.g. Standard & Poor's (S&P), Moody's and Fitch Ratings) use a standardised process to assess the credit rating of issuers. The rating is the agency's assessment of the issuer's future capacity to repay its debts. Lower rating classes have higher credit spreads. The credit spreads of bonds within the same rating class may also differ substantially.

Credit risk can be broken down into migration risk and default risk. Migration risk is the risk that the bond issuer may be downgraded to a lower rating class. Default risk is the risk that the borrower may become insolvent and that the investor may only receive part of the outstanding interest payments and principal.

The credit spread varies over time even if an issuer's credit quality remains constant. Spread risk is the risk that credit spreads may increase due to heightened risk aversion on the part of capital market actors. The spread risk tends to rise sharply during capital market crises (e.g. the LTCM crisis in 1998 or the subprime crisis in 2007/2008).

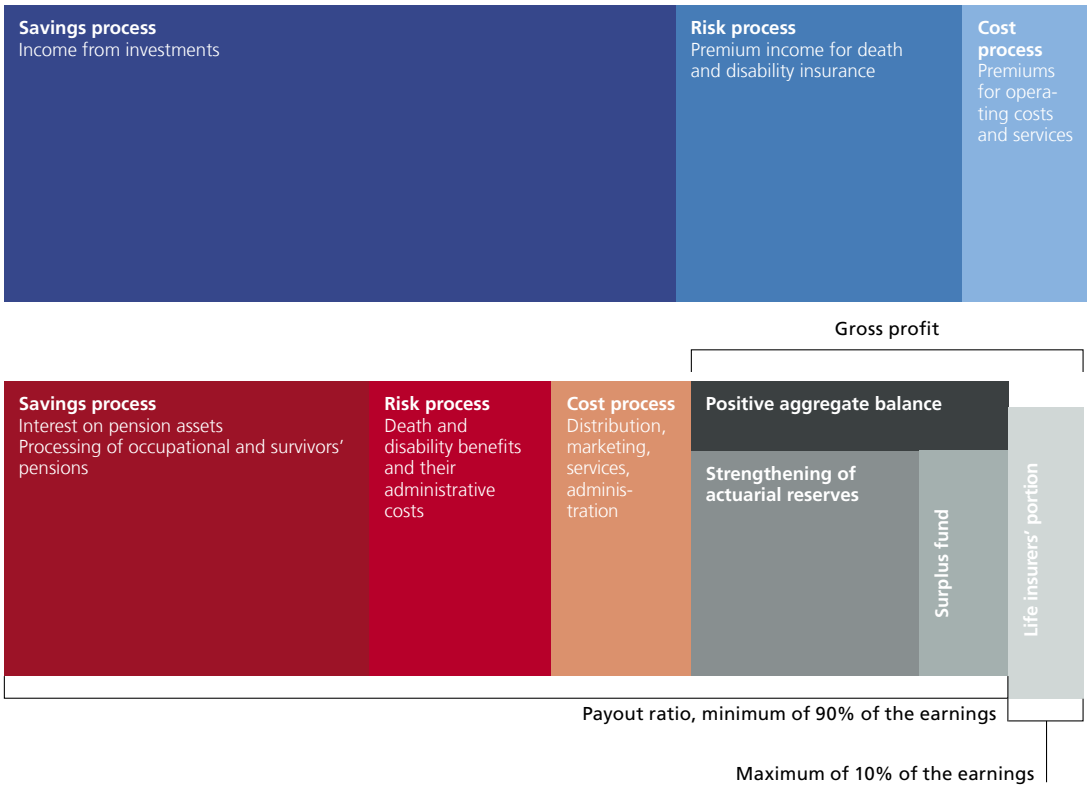
Disclosure

All private life insurers which insure occupational pension schemes must provide the insured occupational pension institutions with an annual disclosure report. At the very least this must include the disclosure schedule defined by FINMA along with other information and explanations which are reviewed by FINMA before the report is issued.

Disclosure schedule

The disclosure schedule is a clearly structured matrix defined by FINMA containing key figures from the operating statement. FINMA publishes this schedule for each individual life insurer operating in group insurance of occupational pensions and also makes the relevant details available in aggregated form together with its group life reporting for private insurers.

Payout ratio using the earnings-based method (Figure 7)



Duration

The fall in price of a fixed-income security in response to a rise in interest rates is described roughly by duration. If interest rates rise by 1%, the valuation of the security will fall by an amount, expressed as a percentage, approximately equivalent to the duration. For Pillar 2 pensions, life insurers assume an average residual term of around seven years, which produces a duration of around 6.5 at an interest rate of 0.3%. Therefore, if interest rates rise by 50 basis points, the valuation of the fixed-income securities in the life insurers' portfolio will fall by approximately 3%. Given an investment volume of CHF 140 billion, this amounts to around CHF 4 billion. Other factors (e.g. restructuring or the credit spread of the fixed-income securities and real estate valuation trends) can also have an impact. It is therefore essential that life insurers keep valuation reserves on fixed-income securities available as a hedge against the potential loss in value that would occur if market interest rates were to rise.

Earnings-based method

The earnings-based method is one of the two methods for applying the minimum ratio. In the case of the earnings-based method (also referred to as the gross method), the total earnings, which result from the savings, risk and cost processes, are taken as the assessment basis for applying the minimum ratio of 90%. The earnings-based method is the method that is normally used.

Economies of scale
These arise when the fixed costs are distributed across a larger number of cost units, producing cost savings per cost unit.

Equity capital
The equity capital of a life insurer consists essentially of its share capital, statutory and voluntary reserves, the result brought forward from the previous year, and the year's earnings. It is provided for the entire legal entity. No separate equity capital is provided for group insurance of occupational pensions as listed in the group life reporting.

A life insurer's equity capital forms the core of its solvency capital. Other components (e.g. subordinated loans) may also be counted towards solvency capital. However, equity capital must make up at least half of solvency capital.

Financial reporting
Enterprises are obliged to publish accounts for the information of their shareholders. In Switzerland this process is regulated in the Swiss Code of Obligations (SCO). Assets and liabilities are reported at book value Art. 960 ff. CO). Enterprises which are listed on a stock exchange must apply the financial reporting standards (e.g. IFRS, US GAAP) specified by the exchange. As a rule, these standards state that assets and liabilities should be reported at market values.

Fixed-income assets
See Asset categories.

Floating average (Swiss federal bonds with a maturity of seven years)
The floating average of Swiss federal bond yields with seven years to maturity approximately represents the yield on a portfolio of equally weighted Swiss federal bonds with seven years to maturity. A seventh of this portfolio is replaced every year so that the entire portfolio is fully renewed in seven years.

Consequently, this virtual portfolio will generate a higher return than is currently possible on the capital market using similar investments. However, the returns from this virtual portfolio will further decline in the foreseeable future.
This behaviour is generally true for all investments with a fixed interest rate. The assumption of seven years to maturity is a rule of thumb, whereby it is assumed that the retirement savings remain in the portfolio for seven years on average before being transferred due to vesting or dissolution of the contract. Had a duration of 10 years or more been chosen for the construction of the virtual portfolio, the qualitative properties would be completely analogous: while the decline in yield would manifest itself more slowly, the liquidity of longer duration Swiss federal bonds in the capital market would be lower than the liquidity of medium duration bonds.

Fluctuation reserves
Occupational pension institutions form fluctuation reserves as a means of balancing price fluctuations on their investments. This is done to prevent shortfalls in cover due to short-term movements on the financial markets which would oblige the insurers to take unpleasant restructuring measures.

The various economic crises of past years have demonstrated the importance of such reserves. Many different methods are used to calculate the level of reserves required. The occupational pension institutions are responsible for using a method which is appropriate to their risk and which incorporates a sufficient level of complexity. The formation of fluctuation reserves is also a quantitative expression of internal risk management and corporate governance.

Under Article 48e OPO 2, the rules for forming fluctuation reserves must be clearly defined. Additional qualitative requirements for the method used to quantify the reserves are set out in Section 15 of Swiss GAAP FER 26. (https://www.bsv.admin.ch/bsv/fr/home/sozialversicherungen/bv.html).

Forming additional reserves
This activity is also referred to as strengthening. This becomes necessary when the assumptions used are no longer sufficient to enable insurance obligations to be met at the end of the contract period (e.g. because of demographic trends or changes in other biometric assumptions or the level of interest rates).

Full coverage insurance
This refers to reinsurance contracts where a life insurer reinsures all forms of risk. This means the occupational pension institution bears no risks itself (either biometric or investment-related). In particular, the life insurer assumes full ownership of the capital investments, manages them and bears the investment risk. The life insurer grants the occupational pension institution and those insured in it a capital guarantee, a guaranteed level of interest on retirement assets (the statutory minimum interest rate on the mandatory portion and a fair market interest rate on the supplementary portion) along with a share of any surplus. It also guarantees to provide the recipients of old-age, survivors' and disability pensions with the guaranteed pensions to which they are entitled. Full coverage insurance is still offered by Allianz Life, AXA Life, Basler Life, Helvetia Life, PAX and Swiss Life (as of 2016).

Generational table
A generational table is based on the current period table (= basic table) and period tables from previous measuring periods. The tables can also come from a different population provided that this population either contains the basic table's population or has a mortality pattern similar to the basic table. Mathematical techniques (e.g. logarithmic regression) are used to forecast future trends for each age cohort. A generational table is a two-dimensional representation of these trends. One axis shows ages, while the other shows years, starting with the base year. In a generational table of this kind the mortalities are measured longitudinally (i.e. across the years). To find the mortality of a person who is $x+1$ years old, both the age x and the year t are increased by 1. This allows the observed trend towards a change in mortality over time to be taken into account. Over the past 200 years, there has been an uninterrupted decline in mortality rates among men and women of all ages in Switzerland.

Gross method
See Earnings-based method.

Gross result
See Operating result.

Group life reporting
The legal basis which states that the business of occupational pensions is to be kept separate from other business is set out in Article 39 ISA. Various income statement items such as premiums, claims, costs, withdrawals from the surplus fund, etc. must be disclosed. In addition, separate tied assets for this business have to be disclosed with the corresponding values provided in accordance with Article 139 ISO. FINMA defines the group life reporting requirements and provides a standard template for the report, which is submitted annually. It contains a pro forma balance sheet and income statement, technical splitting to determine the surplus, portfolio statistics, balancing principles, valuation reserves and disclosure schedule.

Group insurance of occupational pension schemes
Group insurance of occupational pensions includes the cover that private life insurers provide against the risks in occupational pension schemes which the occupational pension institution assumes under a group insurance contract. Group insurance of occupational pensions must be reported in a separate accounting area and disclosed to FINMA and the insured occupational pension institutions in the group life insurer's operating statement.

Group life insurer
Group life insurers are Swiss life insurers offering full coverage insurance models and risk insurance against death and disability for group pension schemes and occupational pension schemes in Pillar 2. Group life insurers are subject to FINMA supervision, which seeks to protect insured persons against group life insurers going bankrupt as well as excessive premiums and improper contractual provisions. FINMA also monitors compliance with the principles of good corporate governance. To this end, FINMA has an appropriate range of supervisory tools, as set out in the legislation on financial market and insurance supervision.

Group pension scheme
Group pension schemes are a special type of occupational pension scheme which employers and their staff can join if an employer is unable or unwilling to manage its own pension fund. The various employers receive affiliation contracts. An occupational benefits fund, within which the occupational pensions are managed and reported, is set up for them. There are autonomous group pension schemes which bear all the risks themselves, semi-autonomous group pension schemes which reinsure some of their risks (reinsurance), and other such schemes which cover all their risks through a group insurance contract with a life insurer (full coverage insurance).

Guaranteed pension conversion rate
See Conversion rate.

Hidden reserves
See Valuation reserves.

Interest arbitrage
Interest arbitrage is the profitable exploitation of interest rate differentials on various capital markets and among various currencies. In free capital markets, interest arbitrage tends to eliminate differences between interest rates on different markets. It ensures that the available funds are borrowed in locations with cheap money (i.e. low interest rates) and lent in locations with dear money (i.e. high interest rates). Interest arbitrage therefore helps ensure that interest rate differentials are equalised nationally and internationally.

Life expectancy
Life expectancy is the statistically estimated period of time remaining to an individual from a defined date until death. In life insurance, this period is estimated for the members of a community of insured persons using mortality tables.

Mandatory pension
Funding for the occupational pensions of employees is based on a percentage of the employee's salary. In the OPA mandatory pension, this percentage applies to the portion of the employee's salary between the minimum of CHF 21,150 (entry threshold) and the maximum of CHF 84,600 (as of 2016). Any salary above the OPA maximum can be included by the employer. Contributions based on this portion of the salary form the supplementary pension.

Minimum interest rate
The retirement assets in the mandatory pension earn interest at the minimum interest rate set by the Federal Council (Art. 15 OPA). See OPA minimum interest rate.

Minimum ratio
The minimum ratio is a tool developed by the legislature which is used to divide the result shown in the operating statement between the community of insured persons and the life insurer. It is used to limit profit-making in an area of social insurance in which insured persons are compelled to participate and in which they have limited influence as individuals.

In concrete terms, the minimum ratio is a percentage which is used to divide the net result between the community of insured persons and the life insurer. It has been set by law at 90% in favour of the community of insured persons. The life insurer is therefore entitled to no more than 10%.

The minimum ratio can be calculated in two ways: earnings-based or result-based. Under the earnings-based method, the total earnings are taken as the basis for applying the percentage; under the result-based method, the net result is used.

If the life insurer's risk capacity permits, it may grant the community of insured persons more than the statutory 90%. The percentage actually paid out to a community of insured persons in a given year is referred to as the payout ratio.

Monitoring
A supervisory measure taken by the supervisory authority to ensure compliance with previously issued requirements. As a rule, it involves issuing a mandate to an audit company to carry out additional auditing tasks. The audit company then makes regular reports to FINMA on its progress. The mandate remains in force until the measures have been implemented in such a way that monitoring can be replaced by normal supervisory activities.

Mortality tables
Mortality tables are one element of biometric data. They are required for calculating the conversion rate and the actuarial reserves of pension benefits. Anyone wishing to insure life-time pensions for old age requires insurance which covers this risk for an entire group of individuals. To achieve maximum accuracy, actuaries rely on past experience and use a so-called mortality table which shows the likelihood that an insured person will die at a given age. Life expectancy at retirement age is an especially important indicator for assessing the remaining life span of insured persons. A distinction is made between period tables and generational tables.

Multi-employer pension fund
Frequently, trade and professional associations organise occupational pension provision for their members in the form of multi-employer pension funds (occupational pension institution).

Net investment income
Net investment income is gross investment income minus investment expenses.

Net method
See Result-based method.

Net result
See Operating result.

Occupational pension institution
An occupational pension institution is a legal entity which provides occupational pensions. It can opt to cover some or all of the risks (partial or full coverage) with a life insurer. Occupational pension schemes can be set up as pension schemes, group pension

schemes, cooperative pension institutions, or multi-employer pension funds. In the case of cooperative institutions, the same regulations apply to all affiliated enterprises. The individual enterprises are not assigned to separate occupational benefits funds with their own affiliation contract, as is the case with group pension schemes. Their employees are all insured using the same range of occupational benefits plans. Multi-employer pension funds are group pension schemes that are managed by trade and professional associations.

Occupational Pension Supervisory Committee (OPSC) schedule

The Occupational Pension Supervisory Committee (OPSC) has regulated the reporting of management costs in the annual financial statements of pension schemes with its Directive 02/2013. As stipulated in this directive, asset management costs are to be broken down in line with Figure 8.

A differentiation is made between TER, TTC and SC costs as well as between direct investments and single-level and multi-level collective investments.

– TER costs: asset management costs;
– FTTC costs: these are incurred when buying and selling investments and do not count as TER costs, including transaction-based taxes and duties;
– FSC costs: set-up costs that cannot be allocated to an individual investment (e.g. internal costs, advisor fees, investment controlling, global custody).

In particular, investments for which the associated asset management costs cannot be reported in the annual financial statements must be listed individually in the notes to the annual financial statements and are thus deemed not to be transparent.

OPSC scheme for the differentiated reporting of asset management costs (Figure 8)

	Total	Direct investments	One-level collective investment schemes	Multi-level collective investment schemes	Non-cost transparent investment schemes
Investment book value					
Cost categories					
TER costs Administrative and management costs (internal and external)					
TTC costs Transaction costs					
SC costs Supplementary costs which cannot be allocated to investments					

OPA minimum interest rate
The OPA stipulates a minimum interest rate to be applied to retirement credits (retirement assets) relating to the mandatory pension. This is set by the Federal Council in consultation with the OPA Commission and the social partners, and is reviewed every two years. The review looks at the performance of marketable investments, particularly Swiss federal bonds, equities, government bonds and real estate.

Operating result
The operating result is the total of the savings, risk and cost processes. Life insurers must ensure that they have adequate technical provisions. Inadequate technical provisions must be strengthened, and provisions that are no longer required must be released. This produces the net result.

The life insurer must determine how much of this amount belongs to the community of insured persons under the minimum ratio regulations. The share belonging to the insured persons is allocated to the surplus fund.

The remaining portion, which belongs to the life insurer (operating result), is used primarily to improve the insurer's solvency capital.

Partial coverage
See Reinsurance.

Payout ratio
The payout ratio is that part of the surplus which is used for the benefit of the occupational pension institutions and those insured with them. It is based on the results of the savings, risk and cost process and must be at least 90% (minimum ratio) of these components.

Pension conversion
See Conversion rate.

Pension conversion rate
See Conversion rate.

Performance
Performance (also referred to as market yield) is the return on investments plus the change in valuation reserves expressed as a percentage of the arithmetic mean of the market value of the investments at the beginning and end of the year.

Period table
This is another name for the traditional mortality table which is based on the following elements:
– observation of the population, generally over a period of five years;
– table of mortality rates (mortality rates = ratio of deceased descendents over survivors) for all ages, broken down by gender.

Using appropriate statistical methods, the mortality rates are smoothed and, using data from a joint table, weighted for lowly populated ages. These rates are also extrapolated to high ages.

Pooling
Risk pooling in the community of insured persons and over time in accordance with the law of large numbers is the fundamental principle on which insurance operates. Risk pooling means that policyholders insure themselves against contractually defined risks, pay a rate-based premium and receive a contractually defined benefit if the insured event occurs. A life insurer covers a whole range of different risks for which cover can be selected in the insurance contracts. The insurer also pools the risks of fluctuation between

the individual risks. This stabilises the overall result and helps keep solvency capital and the associated capital costs to a minimum.

Pricing
FINMA reviews the submitted group life insurance premium rates to ensure that they are within a range that protects insured persons against abuse, on the one hand, and potential insolvency on the part of the insurance enterprise, on the other. The law allows the level of premium rates within this framework to be determined by supply and demand. FINMA does not therefore check whether premium rates are appropriate.

Pricing is the instrument used for calculating risk and cost premiums, pension conversion rates, the rate of interest earned on the supplementary contributions in the retirement assets, and transfer values under the revolving-door rules. It contains a statistical data basis for assessment and a formula for calculation.

The pricing process produces premium rates, which are generally presented in table form.

To set the rates for risk premiums, life insurers require biometric data such as mortality rates (mortality tables), the expected age of survivors on death, disability rates, reactivation rates, etc.

To set the rates for cost premiums, life insurers require cost statistics and a cost-centre statement with appropriate cost allocation keys for expenses which cannot be directly attributed to the cost units.

In this way, it is possible to assign probabilities to the contractually agreed future cash flows resulting from the risk and cost assumptions. Life insurers also need a technical interest rate in order to discount the cash flows to which the probabilities have been assigned. The sum total of the discounted cash flows is referred to as the cash value. The benefit cash value is the cash value of future benefits calculated in this way; the premium cash value is the cash value of future premiums calculated in this way.

The actuarial equivalence principle states that, in pricing, the benefit cash value must be equal to the premium cash value.

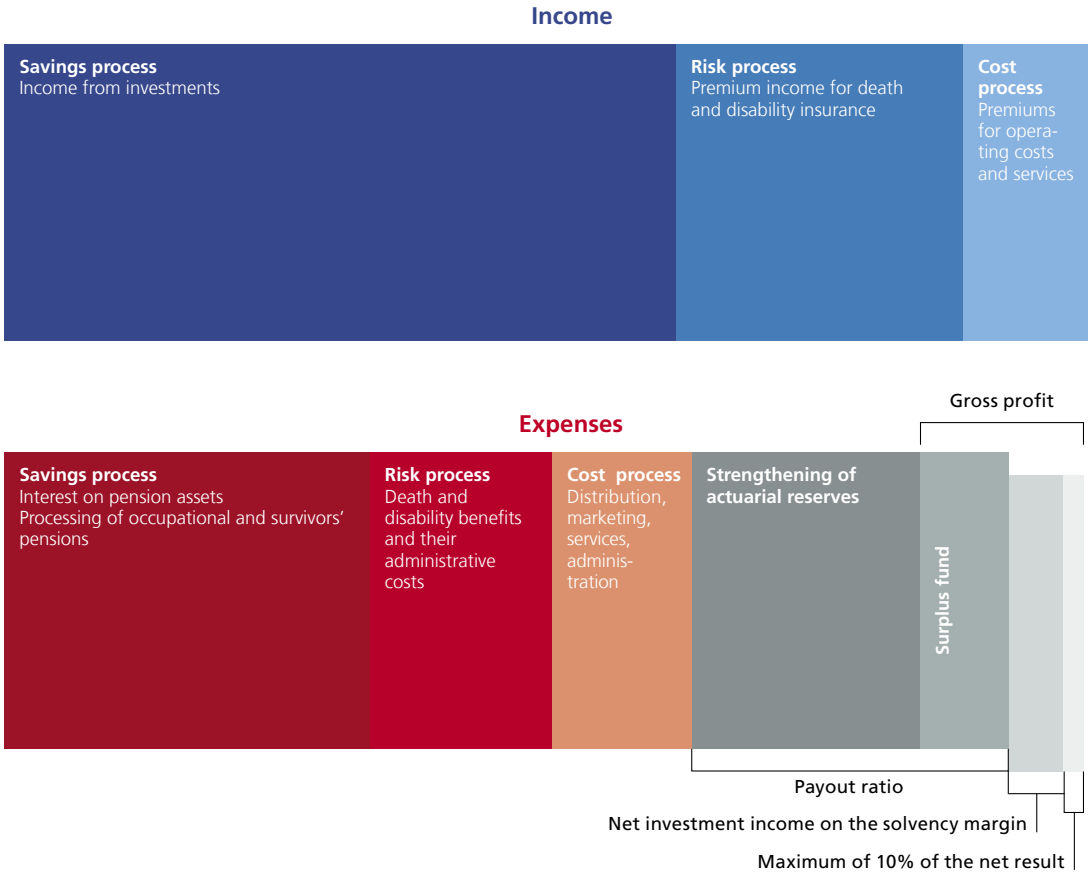
Pricing must be disclosed in the business plan, which has to be approved by FINMA. In view of the guarantee provided, the assumptions must be set prudently (i.e. they have to include a safety margin).

Realisation; proceeds of realisation
If assets are carried on a life insurer's balance sheet at a value lower than the price at which they are traded on the capital market, this gives rise to a valuation reserve. If a life insurer sells an asset with a high valuation reserve, it releases the valuation reserve and records it as investment income on its income statement. This process is referred to as realisation and the returns are the proceeds of realisation.

Reinsurance
Occupational pension institutions do not have to bear all the risks they cover. If the community of insured persons is too small, they may even be unable to do so. If an occupational pension institution devolves part of its risks to another risk carrier (e.g. a private life insurer), this is referred to as reinsurance. An occupational pension institution can devolve the biometric risks of death and disability (risk reinsurance), transfer pension portfolios or opt only to reinsure peak risks (e.g. general excess loss, stop loss).

Result-based method
This is one of the two methods for applying the minimum ratio. Under the result-based method (also re-

Payout ratio under the result-based method (Figure 9)



ferred to as the net method), the net result from the operating statement is taken as the assessment basis for applying the minimum ratio of 90%. When the net result from the operating statement is being shared out, the life insurer's share is 10% of the net result plus the net investment income on the solvency margin.

The result-based method is used in exceptional circumstances, for instance when investment returns are high and the minimum interest rate is relatively low. Specifically, the result-based method is used when the following two conditions are met:

– The savings component (i.e. earnings from the savings process) is 6% or more of the actuarial reserves.
– The minimum interest rate under the OPA is two thirds or less of this percentage.

This is demonstrated in Figure 9.

Retention of profits

Retention of profits refers to the accumulation of funds in a bank account, investment fund or (in an accounting context) liability account.

Retirement assets

Mandatory Pillar 2 pension schemes are based on an individual savings process which begins at the age of 25. A percentage of the employee's monthly salary is paid into this scheme (monthly retirement credits) which is financed equally by the employer and the employee.

Retirement credits contribution scale:

25-34 years:	7%	10 x 7	=	70
35-44 years:	10%	10 x 10	=	100
45-54 years	15%	10 x 15	=	150
55-65 years	18%	10 x 18	=	180
(percentage of salary)			=	Total 500

The savings process ends once retirement age has been reached. The retirement assets accumulated in the insured persons' accounts during their working lives are used to finance an old-age pension. A conversion factor is used to calculate the annual pension based on the pension capital accrued (conversion rate).

Revolving-door rule

If group insurance contracts (between a life insurer and an occupational pension institution) or affiliation agreements (between a group pension scheme and an enterprise) are terminated, the old and new occupational pension institutions must come to an agreement on whether the pension recipients should remain with the old institution or switch to the new one, in so far as the contract contains no specific provisions for this eventuality (Art. 53e OPA).

Life insurers generally include the following rules in group insurance contracts:

– Old-age and survivors' pensions remain with the life insurer and continue to be paid by it.
– Disability annuities are transferred to the new occupational pension institution along with active insured persons.

The revolving-door rule (Art. 16a BVV2) applies to pension portfolios which are passed on when a group insurance contract is terminated.

The actuarial reserves to be transferred are equal to the amount which life insurers would ask from an occupational pension institution on conclusion of a new contract for the same portfolio of insured persons and pensioners with the same benefits.

The revolving-door principle is detailed in FINMA Circular 2008/12.

Risk annuity

A pension which arises from the risk process (i.e. a disability pension or a pension for the survivors of deceased active insured persons or deceased recipients of an old age or disability pension).

Risk premium

See Risk process.

Risk process

The risk process is one element of the operating statement. It sets the risk premiums for the reporting year against the expenses from death and disability cases. The difference between these two is the risk result.

Safety margin

Safety margins at a predefined level must be included using the appropriate statistical method when setting premium rates and calculating sufficient technical provisions in the following cases:

– errors and random fluctuations in the statistical data basis;
– the risk that unpredictable external influences (e.g. legal practice, technology or changes in values) could affect the expected claims expenses;
– the risk of antiselection, i.e. the risk that occupational pension institutions or insured persons may make choices to the detriment of the community of insured persons.

Savings premium

The savings premium is the contribution made by the employer and the employee towards retirement assets.

Savings process
The savings process is one element of the operating statement. It sets the net investment income in the reporting year against the expenses for technical interest at the guaranteed interest rate and the processing of current old-age pensions and vested benefits policies. The difference between these two is the savings result.

Settlement in life insurance
In the life insurance industry, settlement refers to the entire process triggered by an insured event (such as retirement, death or disability), i.e. submitting a claim, determining the nature and extent of the benefit entitlement and everything required to manage the benefits. The latter may be delegated to a third party, in which case the cost of the services provided forms an integral part of the cost of claims. For this reason, the costs incurred by insurers in managing benefits themselves are not booked under administrative costs but under cost of claims.

Smoothing
Smoothing is the term used to describe statistical techniques which enable raw data to be used for statistical purposes or for identifying trends. Various methods are used, including floating arithmetic averages, floating geometric averages, exponential smoothing, and regression techniques. However, smoothing of the surplus allocation is not based on a statistical method. It is based on the tried-and-tested method whereby a portion of the surpluses that would normally accrue to the surplus fund in years with increased earnings is retained so that a distribution is possible even in less favourable years. Nevertheless, life insurers must ensure that inflows from any given year are distributed in full within the following five years.

Solvency capital
Solvency capital must be provided by life insurers to enable risks to be borne; some of it is made available by investors.

Solvency margin
The solvency margin is associated with the Solvency I regulations (minimum solvency) as defined in Articles 23-40 ISO. The result of dividing the available solvency margin by the required solvency margin must be at least 100%.

Spot rates for Swiss federal bonds
The Swiss Confederation regularly issues bonds on the capital market. They are regarded as extremely secure and are given a top rating by the various rating agencies. The interest rates for these bonds are used as a benchmark for risk-neutral Swiss franc interest rates.

Spot rates are interest rates for bonds which begin in the present and end at a defined time in the future. The spot rate varies depending on the term of the bond. The yield curve shows the structure of the yield over time. Interest rates which relate to future loan periods are referred to as forward rates.

Interest rates differ primarily in relation to the bond's residual term and the bond issuer's creditworthiness. Group life insurers and occupational pension institutions generally take the spot rates of Swiss federal bonds with a residual term of seven years as their benchmark. Trends for these interest rates are also used by the Federal Council as a guide when setting the minimum interest rate for mandatory retirement assets.

The time series of the spot rates for Swiss federal bonds is published on the Swiss National Bank's website. It begins on 1 January 1988 and contains the interest rates for Swiss federal bonds in Swiss francs with residual terms of 2, 3, 4, 5, 7, 10, 20 and 30 years.

Strengthening actuarial reserves
If the actuarial reserves provided by insured persons do not suffice to finance the insured benefit obligations, the reserves have to be strengthened. Group life insurers achieve this by using collective methods that are applied to all insured persons. Reserves must be reviewed annually to ensure that they remain sufficient in light of market developments during the year (e.g. interest rate levels, credit spreads) and changes affecting insured persons (e.g. movements, changes to biometric characteristics). If they are too low, they must be increased (strengthened). If they are too high, they must be decreased (released).

Strengthening technical provisions
Technical provisions are calculated at the time of their formation (e.g. when retirement assets are converted into a pension) using a defined technical interest rate and biometric assumptions. However, capital market returns and biometric data (e.g. mortality or reactivation rates) change over time, which means that life insurers have to periodically review the basis used for the calculation. If it turns out that the technical provisions no longer cover the insurer's contractual obligations with sufficient prudence, the technical provisions must be strengthened immediately, or as soon as possible, on the basis of a plan.

The extra funds added to the provisions must be such that the obligations arising from insurance contracts can be met over the long term. This requirement offers the most sustainable protection to insured persons and also strengthens confidence in the Pillar 2 pension system. One of FINMA's core responsibilities is to ensure that this requirement is always met. FINMA determines what is meant by prudently calculated technical provisions and also defines the statistical bases and actuarial methods to be used in the calculation. Insurers are obliged to submit a report to FINMA which enables FINMA to verify that insurers are in compliance with requirements. If the (bolstered) insurance provisions are inadequate, they must be strengthened immediately. On request, the enterprise can submit a plan to FINMA to strengthen technical provisions.

Supplementary pension
See Mandatory pension.

Surplus allocation
See Surplus fund.

Surplus assignment
See Surplus participation.

Surplus fund
The surplus fund is a balance sheet position for the reinvestment of surplus earnings for the benefit of all insured persons. The surplus from the operating result is allocated to this fund on an annual basis. In the following year, the occupational pension institutions and those insured with them receive their share of the surplus allocation from the surplus fund. Surpluses must be allocated in accordance with Articles 152 and 153 ISO. Specifically, allocation must take place in line with recognised actuarial methods. These methods take account of the level of the individual actuarial reserves (in the savings process), the level of claims for insured risks (in the risk process) and the administrative overheads (in the cost process).

Surplus participation
The surplus participation is the portion of the gross result which is allocated to the surplus fund for distribution to occupational pension institutions and those insured with them.

Surplus share
See Surplus fund.

Swiss Solvency Test (SST)
The SST sets out the regulations for establishing the level of risk-based solvency capital for Swiss insurance enterprises.

Target amount
See Tied assets.

Technical interest rate
The technical interest rate is the rate used for calculating the actuarial reserves required for pensions. On retirement, accumulated retirement assets are converted into a pension. Since, however, individual pensions will only become due in the future, they must bear interest from the time that they are paid out until the conversion date. The technical interest rate is the interest rate which is used for this purpose and is guaranteed for the entire duration of the pension. The higher the technical interest rate, the larger the pension that is paid out. The technical interest rate must be set prudently so that the accumulated capital, together with future investment income, is sufficient to guarantee that a pension can be paid out for life. Figure 10 shows how the invested capital (referred to as the actuarial reserves) changes if the pension is taken out at the start of the year and the remaining capital attracts interest at the technical interest rate during the year. Scenario 2 shows the pension payments if the invested capital generates exactly as much income as was projected in the conversion rate. Scenario 1 shows what happens if the invested capital generates more income than expected, and Scenario 3 shows what happens if the investment revenue falls short of expectations. In the third case, the underfinanced pensions must be financed from the assets of the community of insured persons. This is referred to as a coverage shortfall.

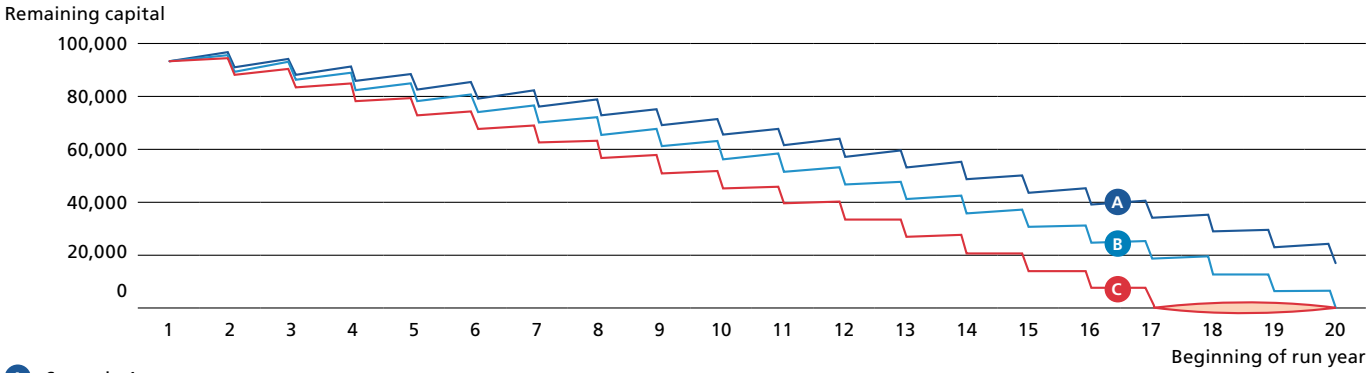
Technical provisions
Technical provisions quantify the level of obligations from life insurance contracts. They must be sufficient and are calculated using actuarial methods.

Tied assets
One of the key aims of insurance supervision is to secure the claims of insured persons and, in particular, to protect insured persons against the consequences of an insurance enterprise going bankrupt. In order to secure the contractual entitlements of insured persons, an insurance enterprise must form sufficient technical provisions on the basis of actuarial principles. The technical provisions are deemed sufficient if assumptions and methods used for their determination have been chosen such that it is ensured that all liabilities from the insurance contracts can be covered both in the present and in the future (FINMA Circular 2008/43, margin no. 5).

The technical provisions are the main component of the target amount, which under Article 18 ISA corresponds to the amount of the technical provisions and an appropriate safety margin. The target amount must be covered by the tied assets at all times. (FINMA Circular 2008/18, margin no. 16). Furthermore, any holdings in tied assets must comply with stringent requirements on risk diversification, the selection of appropriate asset categories, and the management of risk and investments.

Under Article 54 ISA, if an insurance enterprise goes bankrupt, the proceeds from tied assets are used

Actuarial reserve trends for an annuity (Figure 10)



A Scenario 1
B Scenario 2
C Scenario 3, with a coverage shortfall

primarily to satisfy claims from insurance contracts for which a guarantee is provided. In other words, eligible claimants enjoy a privileged position because, in the event of bankruptcy, their claims must be satisfied out of the proceeds of the tied assets before other claims are considered.

Total earnings
Total earnings are the sum of the earnings components from the savings, risk and cost processes.

Underwriting policy
This policy is an insurance enterprise's code of conduct that sets out which risks it can enter into and the extent to which they can be insured. It is part of the enterprise's corporate strategy and risk management, i.e. when insuring the risks entailed in occupational pensions, collective insurers must position themselves and set down the extent to which they will offer full coverage and risk reinsurance.

Valuation reserves
The accounting standards set out in the Swiss Code of Obligations (SCO) provide that assets should be valued prudently. In particular, life insurers must report their fixed-income securities which are denominated in a fixed currency and which can be repaid or amortised on a predefined date on the balance sheet at a value not greater than that derived using the scientific or linear amortised cost methods (Arts. 89 and 110 ISO). The difference between this figure and the market value must be posted as hidden reserves or hidden liabilities in the notes to the balance sheet. This report refers to hidden reserves as valuation reserves.

Vested benefits policies
If insured persons leave an occupational pension institution before a pension claim becomes due, they are entitled under the Federal Act on Vesting in Pension Plans (FZG) to the vested benefits. If the insured person transfers to a new occupational pension institution, the old occupational pension institution must transfer the vested benefits to the new one. Otherwise the insured person must receive the assets in the form of a vested benefits account or a vested benefits policy.

Yield
See Book yield.

PUBLICATION DETAILS

Published by:
Swiss Financial Market Supervisory Authority
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Laupenstrasse 27
CH-3003 Bern
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Design: evoq communications AG, Zurich

8 September 2017