



**TAPIOLA LIFE'S INVESTMENT ACTIVITIES  
AND RISK MANAGEMENT  
2011**

## Tapiola Life

Tapiola Life's investment assets, which amount to EUR 2.6 billion, are managed by dozens of investment professionals at Tapiola. Most of the investments made by Tapiola Life are managed by professionals at Tapiola Asset Management and Tapiola Real Estate.

Meet some of Tapiola Life's investment professionals:

- 1 *Esa Torkko*  
Portfolio Manager,  
Tapiola Real Estate
- 2 *Outi Kalpio*  
Assistant Director, equity and fixed-income  
investments, Tapiola Asset Management
- 3 *Lauri Saraste*  
Balance Sheet Manager,  
Group investment services



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# Investment operations

## 1. Allocation

In 2011, the return on Tapiola Life's investment portfolio at current value was 3.7 per cent (4.9% in 2010). Investment assets at current value totalled EUR 2,582.3 million (EUR 2,586.6 million), and net investment income at current value came to EUR 94.9 million (EUR 123.2 million).

The average five-year annual return on investment was 3.6 per cent and the average ten-year annual return was 5.2 per cent. Compared to 2010, return on investment remained almost unchanged or improved in all areas, with the exception of listed equity investments. In 2011, allocations remained at the levels seen in 2010 in terms of the distribution of investments across asset classes. In fixed-income investments, the corporate loan allocation was increased. In its investment operations, Tapiola Life uses asset managers who have signed the United Nations' Principles for Responsible Investment.

### 1. Allocation development

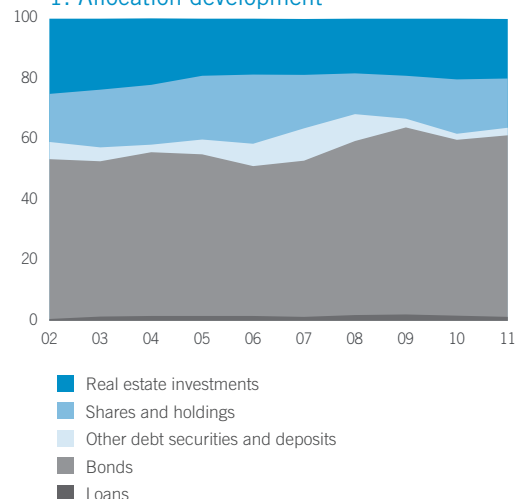


Table 1: Allocation and returns

	Distribution, EUR m	Distribution, %	Return, %
Loan receivables	37.5	1.4	1.9
Bonds	1,510.0	58.5	5.7
Other debt securities and deposits	67.9	2.6	3.4
<b>Fixed-income investments</b>	<b>1,615.4</b>	<b>62.5</b>	<b>5.5</b>
Listed shares	260.1	10.1	-11.4
Private equity funds	108.6	4.2	20.5
Unlisted shares	60.5	2.3	8.9
<b>Equity investments</b>	<b>429.2</b>	<b>16.6</b>	<b>-2.9</b>
Direct real estate investments	432.1	16.7	6.2
Real estate mutual funds and collective investments	97.8	3.8	5.3
<b>Real estate investments</b>	<b>529.9</b>	<b>20.5</b>	<b>5.9</b>
Absolute return investments	7.8	0.3	-9.7
<b>Other investments</b>	<b>7.8</b>	<b>0.3</b>	<b>-9.7</b>
<b>Total investments</b>	<b>2,582.3</b>	<b>100.0</b>	<b>3.7</b>

## 2. Equity investments

The worsening of the global economic outlook and the escalation of the European debt crisis in 2011 led to a decline in share prices. Prices fluctuated – often wildly – as news broke. Share prices declined by 8.6 per cent in Europe and by as much as 24.9 per cent in Finland. The year started off on a rather positive note, but problems began to mount during the spring. In the third quarter, share prices fell sharply as companies reported poor results. The last quarter saw an improvement on the low point of August, but uncertainty remained for the rest of the year. Rising costs put margins under pressure, and it began to show in companies' results already in the spring, although turnover continued to grow. The slowdown in economic growth also began to affect turnover, which is why European companies lowered their profit forecasts significantly during the autumn. In 2011, profit growth in Europe was modest. In the US, companies have posted better earnings and profitability has remained high.

In Europe, large companies with stable outlooks fared best as the focus was on dividends and predictable profit performance rather than growth. Sectors which reported good returns were health care, energy, consumer companies

and mobile phone operators. The weakest performers were banks and cyclical industries, such as basic industry, industrial services and technology. Share valuations are attractive, both in relation to interest rates and in absolute terms. Strong balance sheets and steady cash flows will also enable companies to pay good dividends in 2012. Although share prices are currently low, expected returns during the ongoing year are weighed down by the uncertain economic outlook in Europe.

At the end of 2011, Tapiola Life's equity investments totalled EUR 429.2 million (EUR 466.8 million), accounting for 16.9 per cent (18.0%) of its investments. Direct investments in listed companies amounted to EUR 207.3 million (EUR 268.4 million), of which Finnish shares accounted for 16.8 per cent. Equity investments yielded a return of -2.9 per cent (14.2%). There were no major changes in the weightings across different sectors.

Table 2. Largest equity investments

	Market value, EUR m	% of equity investments
REED ELSEVIER NV	6.35	3.1
TECHNIP SA	5.81	2.8
Fortum Oyj	5.72	2.8
Lassila & Tikanoja Oyj	5.40	2.6
Hennes & Mauritz Ab	5.21	2.5
Mednax Inc	4.95	2.4
Carl Zeiss Meditec AG	4.90	2.4
STADA ARZNEIMITTEL AG	4.77	2.3
Svenska Cellulosa Ab	4.76	2.3
Sanofi	4.76	2.3

## 2.1. Tapiola Life's investments in private equity funds

At the end of 2011 there were a total of 39 funds in Tapiola Life's private equity fund portfolio with a total current value of about EUR 108.6 million (EUR 77.3 million). One new fund commitment was made in 2011.

During the year, investment activity in the funds remained at the level seen in 2010 and the portfolio's companies continued to develop favourably, which was also reflected in the companies' valuations.

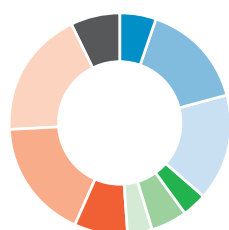
The return on private equity funds rose clearly from the previous year, standing at 20.5 per cent (8.8 per cent).

## 2.2. Direct investments in non-listed Finnish companies

At the end of 2011, there were a total of 20 portfolio companies in the direct investment portfolio, their current value totalling approximately EUR 30.7 million (EUR 30.7 million). All but three of the portfolio companies were Finnish. No new initial investments were made last year, and no additional investments were made in existing portfolio companies. A final exit was completed from one portfolio company, and partial exits were made from two portfolio companies.

Non-listed equity investments yielded a return of 8.9 per cent (2.8%) during 2011.

2. Direct investments by industry



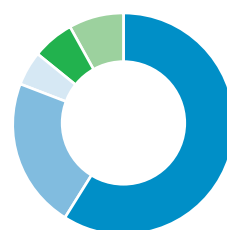
Services to consumers	5.5%
Utilities	15.5%
Consumer goods	15.6%
Basic industry	3.4%
Financial services	5.3%
Technology	3.8%
Telecommunications	7.8%
Industrial services	17.3%
Health care	18.8%
Energy	7%

3. Direct investments by region



Finland	16.8%
Rest of the eurozone	37.1%
Rest of Europe	20.2%
Sweden	7.1%
Norway	5.3%
United States	13.5%

4. Private equity investments by type



Buyout	59%
Direct investments	22%
Mezzanine	5%
Secondary	6%
Venture	8%

5. Private equity investments by region



Finland	27%
Germany	20%
United States	11%
France	10%
United Kingdom	9%
Sweden	7%
Norway	3%
Other	13%

### 3. Fixed-income investments

In 2011, the European fixed-income market was affected by the spread of the financial crisis from small, peripheral countries to large Southern European economies, Italy and Spain. During the summer, the debt risk premiums for Italy quadrupled compared to German government bonds within a short time, peaking at above 500 basis points for 10-year bonds. This resulted in an annual yield of more than seven per cent on Italy's long-term debt. The spread of the crisis led to investors turning to German bonds, seen as a safe haven, and yields on 10-year bonds fell rapidly, from three per cent to below two per cent. Uncertainty continued in the autumn, and the yield on German 10-year bonds came to 1.83% at year-end, after having been around three per cent at the beginning of the year. Risk premiums for the peripheral countries remained close to their widest levels at year-end. Meanwhile, the yield on Finnish government bonds was close to that for German bonds.

The European Central Bank (ECB) raised its key interest rate twice in the first half of the year, from one to one-and-a-half per cent, but it had to lower the rate back to one per cent due to the crisis. In addition, the ECB announced that it would provide European banks with liquidity over an unprecedented three-year period, which calmed the financial markets. The ECB has also actively purchased bonds issued by countries in crisis on the secondary market, as well as covered bonds.

Money markets were relatively calm in 2011, although there were also signs of a crisis beginning in the financial sector: the spread between collateralised and uncollateralised money-market rates grew, and in many European countries

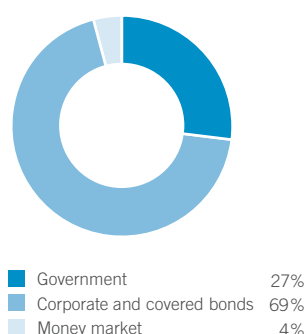
banks had difficulty in obtaining interbank financing in currencies other than the euro.

The corporate loan market was fairly stable in the first half of the year. After the summer, however, risk premiums began to widen as a result of the instability of the peripheral European economies. Risk premiums paid by banks rose to a record high. The performance of other companies was steadier, although the trend was negative.

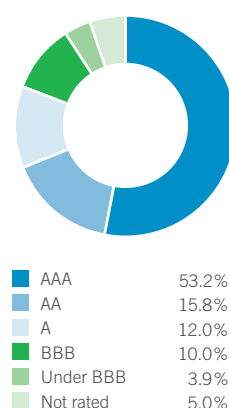
After the summer, the financial position of banks became so poor that most banks could receive longer-term financing only from the covered bond market. The covered bond market functioned well throughout 2011, when a record number of new issues were made. The ECB's support purchases mentioned above also contributed to the operation of the covered bond market. Insurance companies' durations were shorter than the benchmark index in 2011. European peripheral countries were significantly underweighted, whereas covered bonds were overweighted. Overall, the allocation was weighted towards defensive investments.

The market value of Tapiola Life's fixed-income portfolio, including fixed-income funds and money-market investments, stood at EUR 1,578.3 million (EUR 1,555.8 million), or 61.1 per cent (60.1%) of investments. Government bonds accounted for 27 per cent (33%) of fixed-income investments; corporate bonds, collateralised corporate loans and other public sector loans accounted for 69 per cent (64%); and money-market investments accounted for 4 per cent (3%). The modified duration of the portfolio, which measures its interest rate risk, was 5.0 years (5.1 yrs). The yield on fixed-income investments was 5.5 per cent (3.6%).

6. Fixed-income investments by type



7. Fixed-income investments by credit rating



### 3.1. Customer loans

The proportion of loan receivables in Tapiola Life's total investments decreased. Loan receivables yielded a return of 1.9 per cent in 2011.

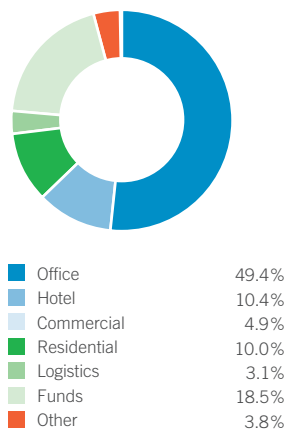
## 4. Real estate investments

Uncertainty dominated international real estate markets in 2011. In Southern Europe – Greece, Italy and Spain – real estate markets plummeted as the economic crisis deepened. In strong economies, such as Germany and France, real estate markets remained positive. In Sweden, trading volumes grew sharply and return expectations decreased. In many European submarkets, the future direction was uncertain at the end of the year as the economic outlook worsened and financing became less available. In the Finnish real estate market, transaction volumes remained at record lows for this century. In the early part of the year, the mood in the market was still slightly positive, but uncertainty about the economic climate coupled with challenges in the financial markets made prospects gloomier during the autumn. The return requirements for the best pieces of real

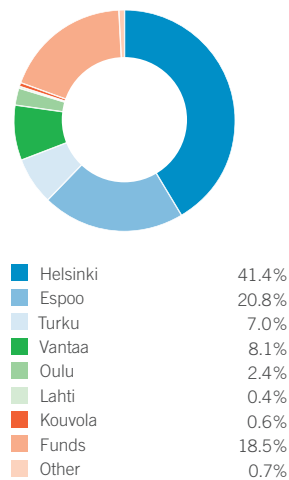
estate decreased in 2011, but this trend had come to a halt by the end of the year. The demand for prime property remained strong among both Finnish and foreign investors. Investors are unwilling to take significant risks, so the pricing of higher-risk real estate is moderate and trading is low. In Finland's prime areas, the trends in the level of rents and occupancy rate were positive in 2011. However, the poor state of the real economy is reflected in the property market. The outlook is weak for the office submarket in the Helsinki Metropolitan Area where the location and quality of premises do not meet tenants' needs.

At the end of 2011, the market value of Tapiola Life's real estate portfolio totalled EUR 529.9 million (EUR 519.3 million). The allocation to real estate investments rose to 20.5 per cent (20.1%). Real estate investments yielded 5.9 per cent (3.7%) in 2011. The most significant additions to the real estate portfolio were further investments in projects under construction. The most important construction projects were Asunto Oy Helsingin Vanhalinna and Kiinteistö Oy Metsänpojankuja 4 in Espoo. There were no significant sales in 2011. The average vacancy rate rose to 8.7 per cent (8.9%).

8. Real estate investments by type



9. Real estate investments by region



# Market risk management

## 5. Operating principles

The aim of Tapiola Life Group's investment operations is to secure its solvency and maximise returns with a managed risk position. Asset allocation is guided by the limits set by solvency, the structure of technical provisions and eligibility for the solvency margin, as well as the return requirements. In the long term, investment returns must exceed the total return targets required by the customer bonus policy. Investment operations aim to reach a high and stable return in the long term in all conditions while avoiding the risk of losing capital.

Investments are diversified sufficiently across and within the various classes of instruments. Individual risks and responsibilities are controlled by establishing investment limits and criteria. Investment operations must ensure adequate liquidity under all circumstances. In addition, the investment portfolio must be sufficiently simple.

## 6. Organisation of market risk management

Tapiola Life Group set up an Asset and Liability Committee (ALCO) in 2007. The Committee is an expert organ whose task is to manage and monitor balance-sheet risks. It reports directly to the Board of Directors. It is responsible for ensuring that the company's balance-sheet risk management is appropriately organised. At regular intervals, ALCO prepares a proposal for the Board of Directors on strategic market risk-taking and associated limits. The limits cover investment price and interest-rate risks, as well as the characteristics and requirements of technical provisions. ALCO monitors the defined risk limits as well as the results of risk-taking.

The Board of Directors appoints an Investment Control Committee, which is responsible for the practical organisation of investment operations and the operational supervision of market risks. The Investment Control Committee includes the investment manager, the CEOs of the insurance companies, the actuarial managers and members appointed from among Tapiola Group companies by the Board of Directors.

The Risk Management Committee is responsible to the Board of Directors for the organisation of risk management and the monitoring of solvency.

Compliance with investment guidelines is monitored by internal audit.

## 7. Risk management processes

The risk management process is based on instructions (investment plan, derivatives policy and the ALCO investment plan frameworks) and monitors the implementation of the instructions in operations, regular risk reporting and self-assessment.

The company's Board of Directors annually confirms an investment plan that determines the targeted allocation of investments and expected returns, instrument-specific ranges, diversification and liquidity targets, and powers of decision.

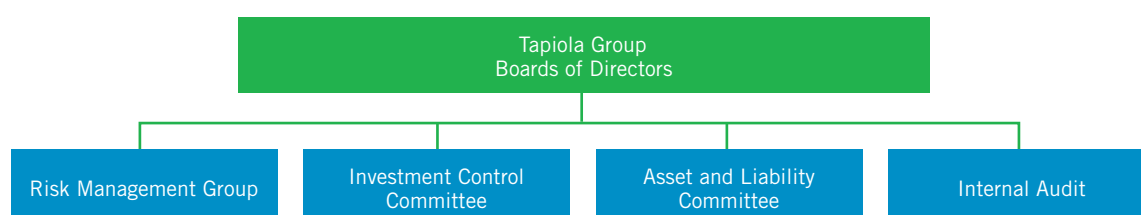
The purpose of diversification is to secure a sufficient level of return regardless of market conditions, both within and between instrument categories. The diversification principle applies to various business sectors, countries and investment targets. Individual risks and responsibilities are controlled by establishing limits and investment criteria. Sufficient liquidity is ensured by the structure of the investment portfolio.

As regards derivatives, a more detailed policy approved by the Board of Directors is used. The policy sets out the principles governing the use of derivatives. Derivatives can be used to reduce risks relating to equity, foreign exchange and fixed-income investments, among others.

In-depth analysis, diversification, derivatives and counterparty risk limits are used with the aim of securing freedom of action in all market conditions. Real estate investment risks are analysed separately.

Investment risks and returns are monitored using standard market risk and reporting methods. The reports are used to regularly monitor the development of fixed-income, real estate and equity investments, as well as any risks related to them. The reports also ensure compliance with the operational principles defined in the investment plan.

## 10. Market risk management organisation





### 7.1. Market risk and solvency management

The effect of market risks on the company's solvency is monitored and managed in accordance with two separate systems. One is the current solvency practice (Solvency I) and the other is the Solvency II framework, which is expected to come into force between 2013 and 2014. Furthermore, solvency is monitored in compliance with the solvency regulations applied to conglomerates. In the short term, the current solvency practice is the more significant and limiting system.

The most significant change in solvency calculation is that, under Solvency II, in addition to assets, technical provisions will also be assessed at their fair value. Hence, the value of technical provisions will be particularly dependent on interest rates, and the significance of interest-rate risk management will increase. The company has been monitoring its solvency in accordance with Solvency II in the reporting currently required by the authorities (life insurance companies' proactive solvency test and quantitative impact studies) since the beginning of 2008. Extensive projects are underway in the company to develop internal Solvency II models to meet the needs of both risk management and business operations.

The basis for market-risk management is that the company's solvency is secure for the next twelve months with sufficient probability. The risk of investment value changes is continuously monitored with a probabilistic model based on historic investment values and the correlation of value changes between different investment classes. The risk is monitored using both long-term average values for volatility and estimated key risk figures from a shorter period of time. The volatility of fixed-income and equity investments and the expected short-term risks increased during the year.

When necessary, investment operations are controlled more strictly, in accordance with what is known as the traffic light principle, and are based on continuous market-risk monitoring. A green light indicates a situation where asset managers are able to operate within the normal limits of the investment plan.

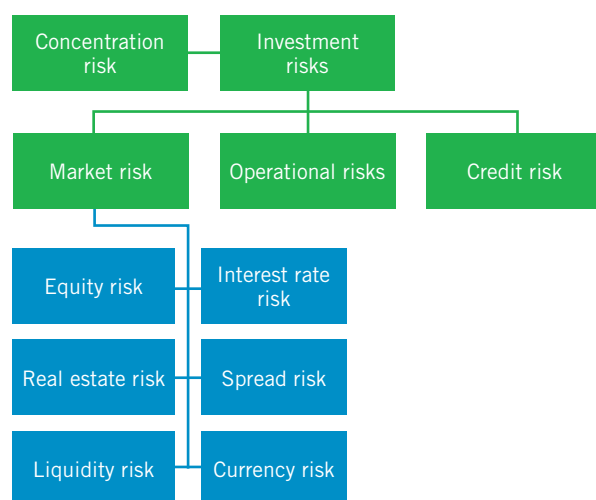
A yellow light indicates a situation where any increases in investment-market risk or a neutral investment allocation within the investment plan are no longer acceptable in view of the risk content of the balance sheet. A red light indicates a situation in which the balance sheet risks are too high and risk reduction measures are required. In the yellow and red light risk positions, stricter limits for investment risks, as well as possible risk reduction measures, are defined. The total risk is defined in such a manner that the solvency margin remains secure, also in the event of any of the risks occurring.

## 8. Tapiola Life Group's market risks

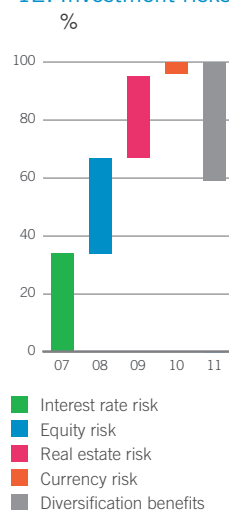
Tapiola Life Group's most significant market risks are the equity risks, interest risks and credit risks associated with fixed-income investments, as well as real estate investment risks in accordance with figure 11. Market risks may be realised as lower-than-expected income cash flow or as decreased asset values. Within the Solvency II framework, market risks are related to technical provisions in market terms and in terms of the capital adequacy requirement in addition to investment assets. Tapiola Life Group's market-risk distribution in accordance with Solvency II is presented in figure 12. Risk values are based on the risk models and parameters prescribed by the current official regulations. The benefit of diversification is realised as asset values move in different directions, creating a situation in which the total risk of the investment assets is lower than the sum of individual risks. The sensitivity of investments and solvency to market changes is shown in table 2.

Market risk is managed by adequate diversification of investments by asset class, geographical location and industry sector. A key tool for controlling investment activities is basic asset class allocation. Allocation trends are presented in figures 1 and 13. In addition, Solvency II risk can be reduced by changing the sensitivity of the investment assets to interest rates in accordance with technical provisions, as well as by using derivatives hedging.

### 11. Tapiola Life's market risks



### 12. Investment risks,



An estimate of Tapiola Life Group's market-risk distribution on 31 December 2011

**Table 2: Sensitivity of Tapiola Life Group's investments and solvency to market scenarios as of 31 December 2011**

	31 Dec 2011	Impact of change		
		Share quotations -20%	Value of real estate -10%	Interest rate +1 percentage point
Solvency capital, EUR m	453.6	-87.3	-53.0	-80.1
Solvency ratio, %	19.5	-3.7	-2.3	-3.4
Return on investment, %	3.7	-3.4	-2.1	-3.2

### 8.1. Equity risks

The objective of equity investments is to achieve a higher return than the benchmark index in the long term, at a lower risk level. Additionally, investments aim to secure the value of capital. For this reason, a value investment philosophy has been selected as the guiding investment principle. It requires, among other things, a thorough knowledge of investment targets. In the main, equity investments are made in profitable and solvent growth companies. The equity portfolio must also be sufficiently diversified to avoid individual risk concentrations. Diversification concerns individual companies, geographical areas and industries. Further information on equity investments and allocations is given in section 2.

Equity investments are controlled with allocation and diversification limits. These include the following, among others:

- The total amount of listed equity may add up to a maximum of 15 per cent of the company's investments.
- One company's shares in the equity portfolio may not account for more than 5 per cent of the portfolio's value.
- The equity portfolio must contain the shares of at least 30 companies and the shares of 100 companies at the most.
- The 50 largest equity investments account for at least 90 per cent of the value of equity investments.
- The proportion of any one industry sector must be under 20 per cent.

Investments in listed shares are handled by Tapiola Asset Management Ltd.

Investments in unlisted limited companies (private equity investments) are made when they are seen to have particularly high return potential. The operative targets of these investments are confirmed annually by the investment committee and the operations are controlled with investment plan limits. The total amount of private equity investments in the form of shares may total a maximum of 5 per cent of the company's investment assets.

### 8.2. Fixed-income risks

The primary objective of Tapiola Life Group's fixed-income investments is to secure the value of invested funds and thus ensure that customers can be rewarded with a return that is at least equivalent to their minimum requirement. A secondary objective is to seek a return exceeding the benchmark index with moderate risk allocation within the fixed-income portfolio.

Fixed-income investment risks consist of interest rate fluctuations and the investment target's credit risks. In addition to the general interest-rate level of government bonds and the intra-bank interest rate, interest rate risk is also affected by fluctuations in individual corporate bond interest premiums (spread).

Corporate bonds are used to achieve a higher return on the fixed-income portfolio. Investments are made in stable companies with good credit ratings. Primarily, investments are weighted towards bonds with short maturities, which are generally held to maturity. Credit risk is minimised by diversifying investments across many issuers and by setting a maximum for the proportion of a single issuer in the portfolio.

Fixed-income investments are controlled by the following allocation and diversification limits, among other factors. Investment limits are based on companies' official credit ratings. As regards countries, the credit ratings used are primarily those estimated by Tapiola

- Government bonds must make up at least 20 per cent of the fixed-income investment portfolio.
- The proportion of corporate bonds and commercial paper may not exceed 40 per cent.
- Other bonds issued by public corporations and collateralised bonds may not account for more than 50 per cent of the portfolio.
- At least 50 per cent must be invested in bonds with the highest credit ratings (AAA-AA).
- Country risk must be diversified across the entire eurozone, and excessive concentration in any single country is to be avoided.

Fixed-income investments are handled by Tapiola Asset Management Ltd. Further information on fixed-income investments and allocations is given in section 3.

### 8.3. Real estate risks

In the domestic market, real estate investments are mainly direct investments in real estate. The objectives of indirect real estate investments, such as real estate funds, can include diversification of the real estate investment portfolio, thus reducing the portfolio's risk, as well as making investments in international real estate markets or in domestic special targets.

Real estate investments are handled by Tapiola Real Estate Ltd.

The return on direct real estate investments consists of changes in net operating income and capital appreciation. Real estate risks may be realised as both loss in value or decreased income cash flow.

Real estate is a long-term investment covering very long liabilities, as lease agreements are often linked to inflation. The risk-to-return ratio of the real estate portfolio is kept low by ensuring well-founded purchases and a consistent sale programme. The real level of the cash flow and related location-specific risks are managed by an active and result-oriented lease and agreement policy. An economical life cycle for the assets is ensured by professional real estate management. New investments are made in positively developing submarkets, mainly in the largest cities. The multi-purpose usability and sales potential of targets is taken into account when making investments. Besides the healthy economic structure of municipalities, additional criteria include the inhabitant base and user demand. At least 70 per cent of real estate investments must be in Finland.

The total amount of real estate investments may total a maximum of 25 per cent of the company's investment assets. Further information on real estate investments and allocations is given in section 4.

### 8.4. Currency risks

SA direct currency risk is related to investments quoted in foreign currencies while the business operations are euro-denominated. In addition, exchange-rate fluctuations may affect the business operations of individual companies and industries and thus have an indirect impact on changes in equity asset values.

A maximum value has been set for unhedged currency risk (currency position). The minimum hedging ratio of a currency position is also determined by more detailed, company-specific investment limits and legislation. At the end of 2011, the company's unhedged currency position totalled EUR 115.8 million. The open currency position allocation is presented in figure 14.

## 9. Liquidity risks

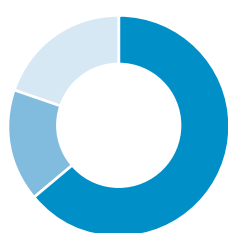
Liquidity risk is realised if companies cannot liquidate their assets to cover their due payment obligations. Liquidity risk may, for instance, be caused by surrendering life insurance liabilities, as well as by unexpected changes in premium income behaviour or new sales.

The purpose of short-term money market investments is to secure the required liquidity for the company under all circumstances. To secure sufficient liquidity in the longer term, 2–20 per cent of assets must be in money-market investments. Investments required by liquidity limits are made in instruments that can be converted into cash quickly, usually without incurring capital loss.

The main instruments for money-market investments and cash management are bank deposits and certificates of deposit issued by banks operating in Finland. An investment analysis is conducted annually concerning money market counterparties, and the bank counterparty risk is diversified.

### 13. Investment allocation

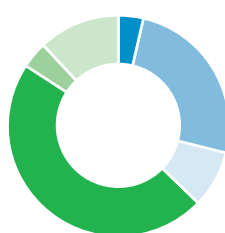
31 Dec 2011



Fixed-income investments	64%
Equities	16.3%
Real estate	19.7%

### 14. Currency allocation

31 Dec 2011



DKK	3.7%
GBP	25.4%
SEK	8.3%
USD	47%
CHF	3.7%
NOK	11.9%
Other	0%

