Interim management report

Report on economic position

Business development

- Positive half-yearly result
- Currency-adjusted gross premium development as planned
- Both business groups deliver good profit contributions
- Pleasing investment income despite difficult environment

Hannover Re's reinsurance business developed satisfactorily in the first half of 2016.

Both business groups – namely Property & Casualty and Life & Health reinsurance – largely lived up to our expectations despite the ongoing intensely competitive environment. In view of the sustained rate erosion in property and casualty reinsurance we consistently adhered to our margin-oriented underwriting policy with respect to inadequately priced treaties. Against this backdrop, gross premium income contracted slightly.

Gross written premium in total business declined by 3.5% as at 30 June 2016 to EUR 8.3 billion (EUR 8.6 billion). Significant growth had been booked in the comparable period, although this was driven in part by a strong US dollar. At constant exchange rates a decrease of 1.5% would have been recorded. For the first half of the year we are thus in line with our expectations for the full financial year. The level of retained premium rose to 89.8% (88.3%). Net premium earned climbed slightly by 2.1% to EUR 7.2 billion (EUR 7.0 billion). At constant exchange rates growth would have come in at 4.3%.

In view of the volatile environment we are thoroughly satisfied with the development of our investments. Building on the already appreciable rise in 2015, our portfolio of assets under own management increased again to reach EUR 39.8 billion (31 December 2015: EUR 39.3 billion). Factoring out a positive special effect recorded in life and health reinsurance in the previous year, ordinary investment income would have remained stable at EUR 568.0 million (EUR 598.7 million). This performance is also gratifying because we successfully offset the inhibiting effect of the protracted low interest rate environment on potential returns through higher income from dividends, private equity investments and real estate. Interest on funds withheld and contract deposits retreated to EUR 175.6 million (EUR 197.4 million). Net realised gains rose to EUR 79.5 million (EUR 66.6 million). Our financial assets measured at fair value through profit or loss gave rise to net gains of EUR 20.5 million (-EUR 1.6 million) in the period under review. In addition to scheduled depreciation on real estate, somewhat higher impairments were taken due to appreciable price losses on equity markets – especially following the Brexit referendum. They amounted to EUR 48.1 million (EUR 14.7 million) in the period under review. Income from investments under own management totalled EUR 569.2 million (EUR 601.3 million) as at 30 June 2016. We are highly satisfied with this figure in light of the low interest rate level, increased impairment losses and the elimination of the special effect.

Despite the absence of the aforementioned special effect in life and health reinsurance, the operating profit (EBIT) for the first half-year 2016 was also positive at EUR 745.2 million (EUR 789.4 million). Group net income contracted by 8.6% to EUR 486.1 million (EUR 531.9 million). We are nevertheless satisfied with this result since we remain on course to achieve our full-year target. Earnings per share stood at EUR 4.03 (EUR 4.41).

Hannover Re's equity base remained robust as at 30 June 2016 on a level of EUR 8.4 billion (31 December 2015: EUR 8.1 billion) in spite of the dividend payment of EUR 572.8 million. The book value per share amounted to EUR 69.83 (31 December 2015: EUR 66.90). The annualised return on equity decreased to 11.8% (31 December 2015: 14.7%) owing to the further rise in shareholders' equity in the first half of the year.

Results of operations, financial position and net assets

Property and casualty reinsurance

- Property and casualty reinsurance remains intensely competitive
- Major loss budget almost fully utilised in the first half-year
- Underlying underwriting result adversely impacted by high claims level in the second quarter

Property and casualty reinsurance continues to be fiercely competitive; the supply of reinsurance coverage still far exceeds demand. While a number of sizeable loss events were recorded on the regional level, they failed to bring about any fundamental hardening on the markets. It remains the case that the healthy capital resources enjoyed by ceding companies, which enable them to retain more risks for own account, as well as the additional capacities originating from the ILS market – especially in US natural catastrophe business – are both factors exerting sustained pressure on prices and conditions.

In the treaty renewals as at 1 April we nevertheless achieved a satisfactory outcome thanks to our broad diversification. It is on this date that business in Japan is traditionally renegotiated; in addition, more modest treaty renewals – in terms of volume – are conducted in the markets of Australia, New Zealand, Korea and North America. While the price decline in some markets and segments was appreciable, we were still able to safeguard good profitability for our portfolio on the basis of our selective underwriting and our focus on existing client relationships. Furthermore, in some areas we were again able to act on attractive business opportunities, as a consequence of which the premium volume for the portfolio renewed as at 1 April grew by 9%.

The gross written premium for our total portfolio declined by 6.9% as at 30 June 2016 to EUR 4.6 billion (EUR 5.0 billion). At constant exchange rates the decrease would have been 5.6%. The level of retained premium was lower than in the corresponding period of the previous year at 88.2% (89.6%). Net premium earned contracted slightly to EUR 3.8 billion (EUR 3.9 billion); on a currency-adjusted basis it was unchanged at EUR 3.9 billion.

The major loss experience was considerably more intensive than in the previous year's period. This was particularly true of the second quarter, in which losses were substantially higher than our quarterly budget of EUR 167 million. We benefited, however, from loss reserves constituted with the unused major loss budget for the first quarter. Net expenditure on large losses for the first six months came in at altogether EUR 352.7 million, compared to just EUR 197.4 million in the previous year. The most expensive single loss event was the devastating wildfires in the Canadian province of Alberta at EUR 131.6 million. The severe earthquake in Ecuador resulted in a charge of EUR 56.9 million for our account. A number of smaller natural catastrophe events and man-made losses were also incurred.

Owing to the increased loss expenditure, the underwriting result for total property and casualty reinsurance fell by 2.6% to EUR 166.4 million (EUR 170.9 million); it nevertheless remains on an acceptable level. The combined ratio of 95.4% (95.4%) is positive and in line with our goal of staying below the 96% mark.

The investment income booked for property and casualty reinsurance from assets under own management retreated by a modest 2.5% to EUR 404.5 million (EUR 415.0 million).

The operating profit (EBIT) booked by the Property & Casualty reinsurance business group as at 30 June 2016 contracted slightly by 3.9% to EUR 560.9 million (EUR 583.7 million). Standing at 14.6% (15.0%), the EBIT margin again surpassed our minimum target of 10%. Group net income decreased to EUR 376.2 million (EUR 418.4 million). Earnings per share amounted to EUR 3.12 (EUR 3.47).

Key figures for property and casualty reinsurance

in EUR million	2016					2015	
	1.1.–31.3.	1.4.–30.6.	+/– previous year	1.1.–30.6.	+/– previous year	1.4.–30.6.	1.1.–30.6.
Gross written premium	2,502.1	2,125.2	-9.8%	4,627.4	-6.9%	2,355.1	4,972.2
Net premium earned	1,961.3	1,877.1	-6.7%	3,838.4	-1.4%	2,011.9	3,894.2
Underwriting result	100.3	66.1	-29.9%	166.4	-2.6%	94.3	170.9
Net investment income	207.2	208.9	-9.2%	416.1	-2.1%	230.1	425.2
Operating result (EBIT)	299.7	261.3	-20.5%	560.9	-3.9%	328.5	583.7
Group net income	204.3	171.9	-30.4%	376.2	-10.1%	247.0	418.4
Earnings per share in EUR	1.69	1.43	-30.4%	3.12	-10.1%	2.05	3.47
EBIT margin [1]	15.3%	13.9%		14.6%		16.3%	15.0%
Combined ratio [2]	94.7%	96.1%		95.4%		95.0%	95.4%
Retention	87.9%	88.5%		88.2%		90.3%	89.6%

[1] Operating result (EBIT) / net premium earned
[2] Including funds withheld

Life and health reinsurance

- Very good overall profitability partially overshadowed by negative risk experience in US mortality business of prior underwriting years
- Increasingly fierce competition and more exacting regulatory requirements necessitate innovative and customised reinsurance concepts

All in all, we are satisfied with the development of our life and health reinsurance business in the first half of 2016. Following a very good first quarter, the second quarter also lived up to our expectations.

In Germany the return on 10-year sovereign bonds turned negative for the first time. In addition, the reduction of the maximum actuarial interest rate to 0.9% for endowment life insurance and annuity products effective 1 January 2017 was officially announced. These developments clearly demonstrate the protracted difficult situation in the German life insurance market. Life insurers are coming under more and more pressure to adapt their product range in order to maintain the appeal of life insurance policies. By delivering individually tailored reinsurance solutions we strive to efficiently support our customers.

In the other markets of Northern and Western Europe conditions were similarly challenging. In these circumstances, we are satisfied with the development of our business. Our expectations in Eastern European markets were also fulfilled, and we take an upbeat view of the business prospects for the second half of the year.

In Asian markets developments varied widely from country to country. Japan, for example, finds itself – very much like Germany – facing an ageing population and a low interest rate environment. In China local regulatory requirements for the (re)insurance sector continue to become more exacting. In Malaysia, on the other hand, the launch of a new lifestyle insurance concept reflects the dynamic growth of the market. In India, too, the business development is pleasing. As an innovative reinsurer, we have successfully brought to completion various critical illness product solutions that are individually tailored to the needs of our customers.

The longevity sector is seeing continued growth in international activities. This can be attributed in part to the progressive global demographic shift and increasing awareness of the need to provide for old age. At the same time, more and more insurers and pension funds also find themselves in need of reinsurance solutions for their longevity portfolios. The competitive state of the UK market remains unchanged. Here, however, our long-standing expertise and extensive data resources give us a significant competitive advantage, hence enabling us to enjoy a thoroughly satisfactory development in the reporting period just ended.

The performance of our US mortality business fell short of expectations in the period under review due to specific effects in various blocks of business. Financial solutions business, on the other hand, developed better than planned. Furthermore, the health and special risk portfolio surpassed our expectations and made a pleasing positive contribution to what adds up to a solid result from our US business.

We booked a gross premium volume of EUR 3.7 billion (EUR 3.6 billion) as at 30 June 2016, corresponding to an increase of 1.2%. At unchanged exchange rates growth would have come in at 4.2%. The retention rose slightly to 91.8% (86.5%). Net premium earned climbed 6.5% to EUR 3.3 billion (EUR 3.1 billion). At constant exchange rates the increase would have been as much as 9.7%.

Investment income from assets under own management fell by 11.9% to EUR 158.1 million (EUR 179.4 million) in the reporting period just ended, although it should be borne in mind that the previous year's figure included a non-recurring special effect of EUR 39 million. Income from securities deposited with ceding companies amounted to EUR 164.1 million (EUR 187.3 million).

The operating result (EBIT) in life and health reinsurance as at 30 June 2016 reached a level of EUR 179.1 million (EUR 200.0 million). Profitability therefore declined by 10.5% compared to the previous year's period. Financial solutions business generated an EBIT margin of 16.3%, comfortably surpassing the target of 2%. Longevity business reached its targeted 2% EBIT margin at 2.1%. Mortality and morbidity business delivered an EBIT margin of 4.3%, hence missing the stated EBIT margin of 6%. Group net income totalled EUR 130.6 million (EUR 145.6 million). Earnings per share amounted to EUR 1.08 (EUR 1.21).

Key figures for life and health reinsurance

in EUR million	2016					2015	
	1.1.–31.3.	1.4.–30.6.	+/– previous year	1.1.–30.6.	+/– previous year	1.4.–30.6.	1.1.–30.6.
Gross written premium	1,761.4	1,895.0	+3.5%	3,656.4	+1.2%	1,831.2	3,614.5
Net premium earned	1,580.7	1,747.5	+10.9%	3,328.1	+6.5%	1,575.2	3,124.8
Investment income	157.6	164.6	+11.7%	322.2	-12.1%	147.3	366.7
Operating result (EBIT)	105.5	73.6	+175.5%	179.1	-10.5%	26.7	200.0
Net income after tax	77.9	52.7	+191.5%	130.6	-10.3%	18.1	145.6
Earnings per share in EUR	0.65	0.44	+191.5%	1.08	-10.3%	0.15	1.21
Retention	90.5%	93.0%		91.8%		85.0%	86.5%
EBIT margin [1]	6.7%	4.2%		5.4%		1.7%	6.4%

[1] Operating result (EBIT)/net premium earned

Investments

- High-quality diversified investment portfolio maintained
- Ordinary investment income stable after factoring out a special effect in the previous year
- Return on investment in line with expectations at 2.9%

The investment climate was once again challenging in the period under review and notable for considerable uncertainty associated with the UK referendum on leaving the European Union ("Brexit") which was to be held at the end of the quarter. At the end of June the uncertainty surrounding the outcome of this vote gave way to political and legal doubts over how exactly the process of leaving the EU will take place. On the whole, this situation led to sustained volatility and a generally low level of interest rates in most Western nations, and particularly in the United Kingdom, the European Union and the United States. All in all, fresh declines in yields were observed for German, UK and US fixed-income securities across virtually all durations. German government bonds are now being sold at clearly negative returns right through to the ten-year maturity segment.

Credit spreads on European and US corporate bonds widened in most rating classes, although they remained on a low level overall relative to the historical mean. In total, the unrealised gains on our fixed-income securities increased sharply to EUR 1,919.5 million (EUR 1,046.7 million). After the already significant growth recorded in 2015, our portfolio of assets under own management increased again in 2015 to EUR 39.8 billion (31 December 2015: EUR 39.3 billion). We adjusted the allocation of our assets to the individual classes of securities in the first half-year such that we further expanded our holding of fixed-income instruments rated BBB or lower while at the same time enlarging the proportion of government bonds in our portfolio. In this way we are able to increase the liquidity of our portfolio while maintaining the overall risk level of our fixed-income holdings virtually unchanged and continuing to generate stable returns. In addition, we had already streamlined our private equity portfolio in the first quarter by selling older investments. The modified duration of our portfolio of fixed-income securities changed only negligibly relative to the previous year at 4.5 (4.4).

The development of our ordinary investment income was highly gratifying in spite of the low interest rate environment: factoring out the special effect of EUR 39 million recognised in the previous year from life and health reinsurance, it remained on the level of the previous year's period at EUR 568.0 million (EUR 598.7 million). Interest on funds withheld and contract deposits fell to EUR 175.6 million (EUR 197.4 million).

Impairments of altogether EUR 48.1 million (EUR 14.7 million) were taken. This includes an amount of EUR 24.8 million (EUR 0.0 million) attributable to equities as a consequence of lower prices following the Brexit decision. Impairments of EUR 8.6 million (EUR 1.3 million) were taken on alternative investments. The impairments on fixed-income securities amounted to just EUR 0.7 million (EUR 2.4 million). Scheduled depreciation on directly held real estate increased to EUR 14.0 million (EUR 10.8 million), a reflection of our growing involvement in this area. The write-downs were not opposed by any write-ups (EUR 0.0 million).

The net balance of gains realised on disposals stood at EUR 79.5 million (EUR 66.6 million) and was in large measure attributable to regrouping activities as part of regular portfolio maintenance and to the streamlining of our private equity portfolio through the sale of older investments.

We recognise a derivative for the credit risk associated with special life reinsurance treaties (ModCo) under which securities deposits are held by cedants for our account; the performance of this derivative in the period under review gave rise to fair value changes of -EUR 1.6 million (-EUR 6.4 million) recognised in investment income. In economic terms we assume a neutral development for this item over time, and hence the volatility that can occur in specific quarters is of minimal relevance. Altogether, the positive fair value changes in our assets recognised at fair value through profit or loss amounted to EUR 20.5 million. This contrasted with negative fair value changes of EUR 1.6 million in the corresponding period of the previous year. The increase can be attributed principally to fair value changes in a bifurcated derivative as a consequence of repercussions of the Brexit vote on pound sterling interest rates.

Our investment income of EUR 744.8 million came in below the comparable period (EUR 798.8 million). In view of the low level of interest rates and the elimination of the positive effects recorded in the previous year, the result is nevertheless pleasing. Income from assets under own management accounted for an amount of EUR 569.2 million (EUR 601.3 million), producing an annualised average return of 2.9%; this corresponds exactly to our target for the full financial year.

Net investment income

in EUR million	2016					2015	
	1.1.–31.3.	1.4.–30.6.	+/– previous year	1.1.–30.6.	+/– previous year	1.4.–30.6.	1.1.–30.6.
Ordinary investment income [1]	268.5	299.6	+4.6%	568.0	-5.1%	286.5	598.7
Result from participations in associated companies	0.7	1.0	-53.4%	1.7	-64.2%	2.1	4.6
Realised gains/losses	43.6	35.9	+66.1%	79.5	+19.3%	21.6	66.6
Appreciation [2]	13.8	34.3		48.1	+226.8%	6.5	14.7
Change in fair value of financial instruments [3]	10.5	10.1	+11.8%	20.5		9.0	(1.6)
Investment expenses	26.7	25.8	-8.0%	52.5	+0.4%	28.0	52.3
Net investment income from assets under own management	282.7	286.5	+0.6%	569.2	-5.3%	284.7	601.3
Net investment income from funds withheld	83.5	92.1	-6.5%	175.6	-11.1%	98.4	197.4
Total investment income	**366.2**	**378.5**	**-1.2%**	**744.8**	**-6.8%**	**383.1**	**798.8**

[1] Excluding expenses on funds withheld and contract deposits
[2] Including depreciation/impairments on real estate
[3] Portfolio at fair value through profit or loss and trading

Opportunity and risk report

Risk report

- We are well capitalised, and our available capital comfortably exceeds the required capital
- We are convinced that our Group-wide risk management system gives us a transparent overview of the current risk situation at all times and that we fulfil the requirements placed on the risk management system by Solvency II

Risk landscape of Hannover Re

In the context of its business operations the Hannover Re Group enters into a broad variety of risks. These risks are deliberately accepted, steered and monitored in order to be able to act on the associated opportunities. The parameters and decisions of the Executive Board with respect to the risk appetite of the Hannover Re Group, which are based on the calculations of risk-bearing capacity, are fundamental to the acceptance of risks. Through our business operations on all continents and the diversification between our Property & Casualty and Life & Health reinsurance business groups we are able to effectively allocate our capital in light of opportunity and risk considerations and generate a higher-than-average return on equity. Along with our principal business operations as a reinsurer of property & casualty and life & health business, we also transact primary insurance in selected niche markets as a complement to our core reinsurance business. With this approach we are well positioned for further profitable growth. In this context crucial importance attaches to our risk management in order to ensure that, among other things, risks to the reinsurance portfolio remain calculable and even exceptional major losses do not have an unduly adverse impact on the result. The risk landscape of Hannover Re encompasses:

- underwriting risks in property & casualty and life & health reinsurance which originate from our business activities and manifest themselves inter alia in fluctuations in loss estimates as well as in unexpected catastrophes and changes in biometric factors such as mortality,
- market risks which arise in connection with our investments and also as a consequence of the valuation of sometimes long-term payment obligations associated with the technical account,
- counterparty default risks resulting from our diverse business relationships and payment obligations inter alia with clients and retrocessionaires,
- operational risks which may derive, for example, from deficient processes or systems and
- other risks, such as reputational and liquidity risks.

At the present time our most significant risks are the credit and spread risks within the market risks, the reserving and catastrophe risks within the underwriting risks of property and casualty reinsurance and the risk of changes in mortality within the underwriting risks of life and health reinsurance.

Strategy implementation

Our current corporate strategy encompasses ten guiding principles that safeguard the realisation of our vision “Long-term success in a competitive business” across the various divisions. The following principles of the corporate strategy constitute the key strategic points of departure for our Group-wide risk management:

- We manage risks actively.
- We maintain an adequate level of capitalisation.
- We are committed to sustainability, integrity and compliance.

The risk strategy is derived from our corporate strategy. It forms the core element in our handling of opportunities and risks. The risk strategy specifies more closely the goals of risk management and documents our understanding of risk. We have defined ten overriding principles within our risk strategy:

1. We adhere to the risk appetite set by the Executive Board.
2. We integrate risk management into value-based management.
3. We promote an open risk culture and the transparency of our risk management system.
4. We strive for the highest ERM rating and a comfortable level of capital adequacy under Solvency II.
5. We determine a materiality threshold for our risks.
6. We make use of appropriate quantitative methods.
7. We apply well-suited qualitative methods.
8. We allocate our capital risk-based.
9. We ensure the necessary separation of functions through our organisational structure.
10. We assess the risk contribution from new business areas and new products.

The risk strategy is similarly specified with an increasing degree of detail on the various levels of the company.

The risk strategy and the major guidelines derived from it, such as the Framework Guideline on Risk Management and the central system of limits and thresholds, are reviewed at least once a year. In this way we ensure that our risk management system is kept up-to-date.

We manage our total enterprise risk such that we can expect to generate positive Group net income with a probability of 90% p. a. and the likelihood of the complete loss of our economic capital and shareholders' equity does not exceed 0.03% p. a. These indicators are monitored using our internal capital model and the Executive Board is informed quarterly about adherence to these key parameters as part of regular reporting. The necessary equity resources are determined according to the requirements of our economic capital model, solvency regulations, the expectations of rating agencies with respect to our target rating and the expectations of our clients. Above and beyond that, we maintain a capital cushion in order to be able to act on new business opportunities at any time.

Major external factors influencing risk management

Regulatory developments: The reform of insurance supervision law in Europe took place on 1 January 2016. Along with redefining capital requirements, Solvency II places additional demands on companies' internal management systems and on the information to be disclosed by undertakings to the regulator and the public at large. Hannover Re has implemented the new requirements. In view of our internal target capitalisation with a confidence level of 99.97%, which comfortably exceeds the level of 99.5% envisaged for target capitalisation under Solvency II, the capital requirements of Solvency II do not present any additional hurdle for our company. The core functions of Solvency II – the risk management function, the actuarial function, the compliance function and the internal audit function – have been implemented along existing processes and organisational structures at Hannover Re. Additional staff had to be taken on and extra systems deployed as part of the launch phase, first and foremost in order to be able to meet internal and external reporting requirements.

Parallel to the regulatory developments in Europe, we are seeing adjustments worldwide to the regulation of (re)insurance undertakings. It is often the case that various local Supervisory authorities take their lead from the principles of Solvency II or the requirements set out by the International Association of Insurance Supervisors (IAIS). On the other hand, insurance companies in Switzerland, Australia, Bermuda, Brazil, Canada, Mexico and the United States have been granted equivalence status for their insurance supervision standards relative to Solvency II for the purpose of conducting their business activities in the EU. In return, EU insurance undertakings are able to adopt the regulatory regimes of the aforementioned countries for their business transacted in such markets in order to comply with Solvency II.

Above and beyond this, further capital requirements for large, internationally operating (re)insurance groups are to be anticipated in the future. These requirements are under development by the IAIS and the Financial Stability Board (FSB).

In the event of the United Kingdom leaving the European Union we would initially anticipate a transitional period in which the contracts existing between British and EU companies can continue under the same legal conditions. For this reason we do not expect any immediate implications for our customer relationships. It is currently impossible to foresee what role the UK might take in the EU after such a transitional period. On the investment side we expect to see increased volatility on equity and credit markets right across Europe. We take the view, however, that we are suitably prepared with our rather defensively oriented investment posture.

Risk capital

In the interests of our shareholders and clients we strive to ensure that our risks remain commensurate with our capital resources. Our quantitative risk management provides a uniform framework for the evaluation and steering of all risks affecting the company as well as of our capital position. In this context, the internal capital model is our central tool. The internal capital model of the Hannover Re Group is a stochastic enterprise model. It covers all subsidiaries and business groups of the Hannover Re Group. The central variable in risk and enterprise management is the economic capital, which is calculated according to market-consistent measurement principles and in many respects corresponds to the own funds under Solvency II. Hannover Re's internal capital model reflects all risks that influence the development of the economic capital. They are split into underwriting risks, market risks, counterparty default risks and operational risks. For each of these risk classes we have identified a number of risk factors for which we define probability distributions. These risk factors include, for example, economic indicators such as interest rates, exchange rates and inflation indices, but also insurance-specific indicators such as the mortality of a particular age group within our portfolio of insureds in a particular country or the number of natural catastrophes in a certain region and the insured loss amount per catastrophe. The specification of the probability distributions for the risk factors draws upon historical and publically available data as well as on the internal data resources of the Hannover Re Group. The process is further supplemented by the know-how of internal and external experts. The fit of the probability distributions is regularly checked by our specialist departments, although more importantly it is also verified in the context of the regular, company-wide use of the capital model when assessing risks and allocating the cost of capital. Hannover Re calculates the required risk capital as the Value at Risk (VaR) of the economic change in value over a period of one year with a confidence level of 99.97%. This reflects the goal of not exceeding a one-year ruin probability of 0.03%. The internal target capitalisation of the Hannover Re Group is therefore significantly higher than the confidence level of 99.5% required under Solvency II.

The Hannover Re Group uses an internal capital model approved by the Federal Financial Supervisory Authority (BaFin) to calculate its solvency requirements. This model has already been used successfully for several years in the risk management and enterprise management of the Hannover Re Group. In contrast to a standard model, our internal capital model enables us to optimally map the risk structure of our reinsurance business and hence also to continue to efficiently fulfil our regulatory capital requirements under Solvency II. Our excess capital coverage at the target confidence level of 99.97% is currently very comfortable. Hannover Re is well capitalised and our available capital comfortably exceeds the currently required capital.

We hold additional capital above all to meet the requirements of the rating agencies for our target rating and to be able to act flexibly on business opportunities. We strive for a rating from the rating agencies most relevant to our industry that facilitates and secures our access to all reinsurance business worldwide. Hannover Re is analysed by the rating agencies Standard & Poor's (S & P) and A.M. Best as part of an interactive rating process, meaning that both these rating agencies are also given access to confidential information about Hannover Re. The current financial strength ratings are assessed as "AA-" (Very Strong, stable outlook) by Standard & Poor's and "A+" (Superior, stable outlook) by A.M. Best. Standard & Poor's evaluates Hannover Re's risk management as "Very Strong", the best possible rating. The ratings highlight, in particular, the company's very good risk management, the consistent and systematic implementation of corporate strategy by management and the excellent capital resources. Hannover Re's internal capital model is also examined as part of the rating. Based on this review, Standard & Poor's factors the results of the internal capital model of the Hannover Re Group into the determination of the target capital for the rating.

Organisation and processes of risk management

Hannover Re has set up risk management functions and bodies Group-wide to safeguard an efficient risk management system. The organisation and interplay of the individual functions in risk management are crucial to our internal risk steering and control system. The central functions of risk management are closely interlinked in our system and the roles, tasks and reporting channels are clearly defined and documented in terms of the so-called "3 lines of defence". The first line of defence consists of risk steering and the original risk responsibility on the divisional or company level. The second line of defence consists of the core functions of risk management, the actuarial function and the compliance function. These units are responsible for monitoring and control. The third line of defence is the process-independent monitoring performed by the internal audit function. The chart on the following page provides an overview of the central functions and bodies within the overall system as well as of their major tasks and powers.

The risk management functions meet regularly in order to support Group-wide risk communication and establish an open risk culture.

Key elements of the risk management system

Our risk strategy, the Framework Guideline on Risk Management and the system of limits and thresholds for material risks of the Hannover Re Group describe the central elements of our risk management system. The risk management system is subject to a constant cycle of planning, action, control and improvement. Systematic risk identification, analysis, measurement, steering and monitoring as well as risk reporting are especially crucial to the effectiveness of the system as a whole.

The Framework Guideline on Risk Management describes, among other things, the major tasks, rights and responsibilities, the organisational framework conditions and the risk control process. The rules, which are derived from the corporate strategy and the risk strategy, additionally take account of the regulatory requirements set out in the amended Insurance Supervision Act for risk management as well as international standards and developments relating to appropriate enterprise management.

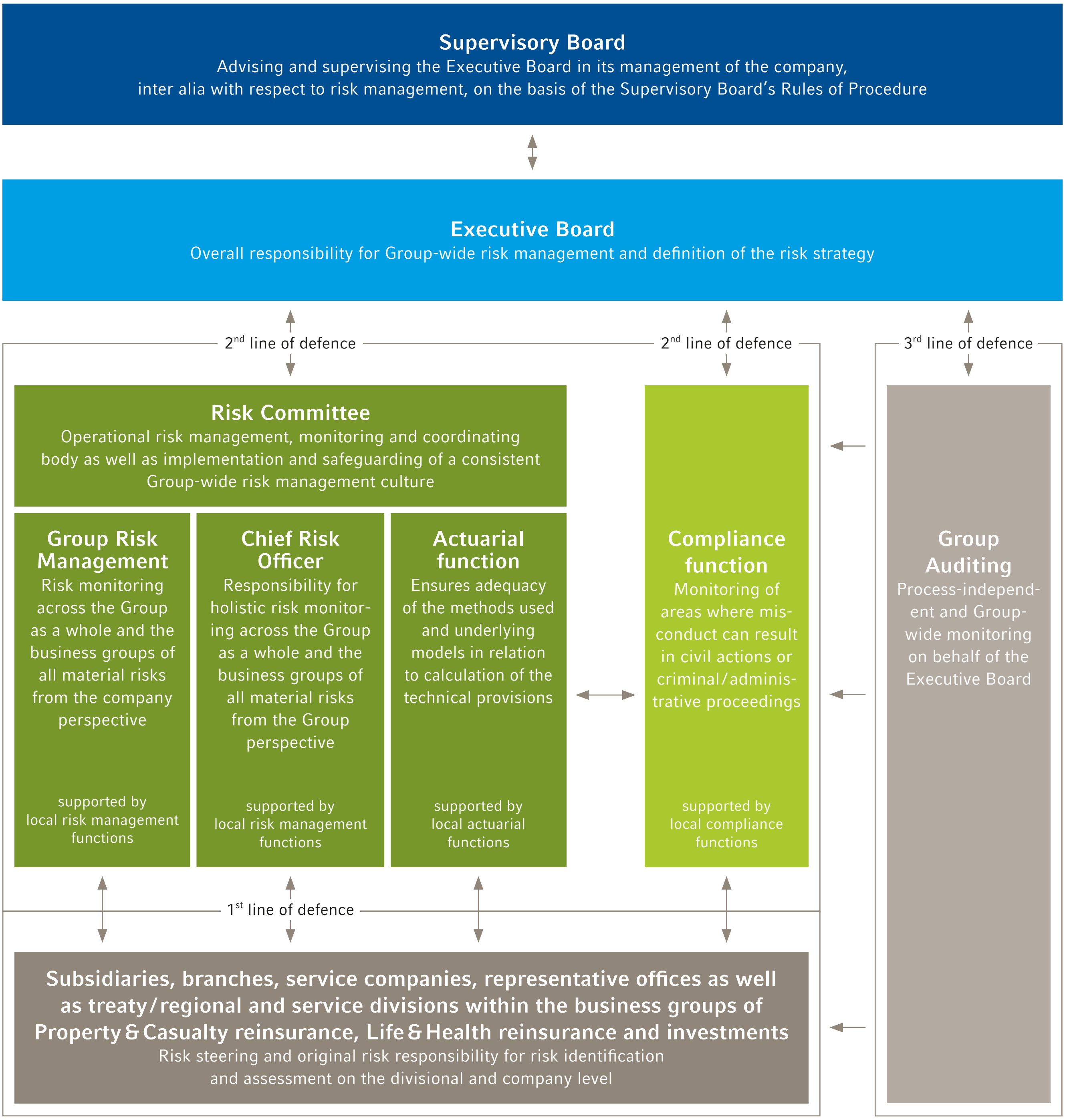
Risk-bearing capacity concept

The establishment of the risk-bearing capacity involves determining the total available risk coverage potential and calculating how much of this is to be used for covering all material risks. This is done in conformity with the parameters of the risk strategy and the risk appetite defined by the Executive Board. The quantitatively measurable individual risks and the risk position as a whole are evaluated using our risk model. A central system of limits and thresholds is in place to monitor material risks. This system incorporates – along with other risk-related key figures – in particular the indicators derived and calculated from the risk-bearing capacity. Adherence to the overall risk appetite is verified on an ongoing basis using the results of the risk model.

Risk identification

A key source of information for monitoring risks is the risk identification carried out on a rotating basis. All identified risks are documented in the central register containing all

Central functions of risk monitoring and steering



material risks. Risk identification takes the form of, for example, structured assessments, interviews or scenario analyses.

External insights such as recognised industry know-how from relevant bodies or working groups are incorporated into the process. Risk identification is important for ensuring that our risk management consistently remains up-to-date.

Risk analysis and assessment

In principle, every risk that is identified and considered material is quantitatively assessed. Only risk types for which quantitative risk measurement is currently impossible or difficult are qualitatively assessed (e.g. strategic risks or reputational risks). Qualitative assessment takes the form of inter alia expert evaluations. Quantitative assessment of material risks and the overall risk position is performed by Group Risk Management using the Hannover Re risk model. The model makes allowance as far as possible for risk accumulations and concentrations.

Risk steering
The steering of all material risks is the task of the operational business units on the divisional and company level. In this context, the identified and analysed risks are either consciously accepted, avoided or minimised. The risk/reward ratio and the required capital are factored into the division's decision. Risk steering is assisted by, among other things, the parameters of the central and local underwriting guidelines and by defined limits and thresholds.

Risk monitoring
The monitoring of all identified material risks is a core task of Group Risk Management. This includes, inter alia, monitoring execution of the risk strategy as well as adherence to the defined limits and thresholds and to risk-related methods and processes. A further major task of risk monitoring is the ascertainment of whether risk steering measures were carried out and whether the planned effect of the measures is sufficient.

Risk communication and risk culture
Risk management is firmly integrated into our operational processes. It is assisted by transparent risk communication and the open handling of risks as part of our risk culture. Risk communication takes the form, for example, of internal and external risk reports, information on current risk complexes in the intranet and training opportunities for staff. The regular sharing of information between risk-steering and risk-monitoring units is also fundamental to the proper functioning of risk management. This is rounded off by clearly defined interfaces between the various areas of the company.

Risk reporting
Our risk reporting provides systematic and timely information about all material risks and their potential implications. The central risk reporting system consists primarily of regular risk reports, e.g. on the overall risk situation, adherence to the parameters defined in the risk strategy or on the capacity utilisation of natural catastrophe scenarios. This also includes the company's annual "Own Risk and Solvency Assessment" (ORSA), which constitutes a central risk report. Complementary to the regular risk reporting, immediate internal reporting on material risks that emerge at short notice takes place as necessary. The already existing range of risk reports will be supplemented in the context of Solvency II implementation by further reports, including for example the "Regular Supervisory Report" (RSR) and the "Solvency and Financial Condition Report" (SFCR).

Process-integrated/-independent monitoring and quality assurance
The Executive Board is responsible for the orderly organisation of the company's business irrespective of internally assigned competencies. This also encompasses monitoring of the internal risk steering and control system. Process-independent monitoring and quality assurance of risk management is carried out by the internal audit function and external instances (regulators, independent auditors and rating agencies). Most notably, the independent auditors review the trigger mechanism and the internal control system, including its process-integrated procedures.

Internal control system

We organise our business activities in such a way that they are always in conformity with all legal requirements. The internal control system (ICS) is an important subsystem that serves, among other things, to secure and protect existing assets, prevent and reveal errors and irregularities and comply with laws and regulations. The core elements of Hannover Re's ICS are documented in a Framework Guideline that establishes a common understanding of the differentiated execution of the necessary controls. In the final analysis, it is designed to systematically steer and monitor the implementation of our corporate strategy. The Framework Guideline defines concepts, stipulates responsibilities and provides a guide for the description of controls. In addition, it forms the basis for the accomplishment of internal objectives and the fulfilment of external requirements imposed on Hannover Re. The ICS consists of systematically structured organisational and technical measures and controls within the enterprise.

This includes, among other things:

- the principle of dual control,
- separation of functions,
- documentation of the controls within processes,
- and technical plausibility checks and access privileges in the IT systems.

The proper functioning of the ICS necessitates the involvement of management, executive staff and employees on all levels. The financial reporting of the parent company and the Group must satisfy international and national financial reporting standards as well as regulatory requirements. This is safeguarded in the area of accounting and financial reporting by processes with integrated controls which ensure the completeness and accuracy of the annual and consolidated financial statements. A structure made up of differentiated criteria, control points and materiality thresholds assures our ability to identify and minimise the risk of material errors in the annual and consolidated financial statements at an early stage.

We use a central IT solution with standardised accounting and consolidation processes, posting rules and interfaces for data delivery in order to draw up the consolidated financial statement. Access rights for the reporting systems are assigned through an approval process. All components of the accounting-related internal control system, the processes for the organisation and implementation of consolidation tasks and for the preparation of the consolidated financial statement as well as the accompanying controls are consistently documented. In order to safeguard and continuously improve the adequacy of the control system it is subject to regular review and evaluation. In this regard, the internal audit function ensures that the quality of the control system is constantly monitored. All relevant accounting principles are collated in a Group Accounting Manual that sets out uniform Group-wide rules for the recognition, measurement and reporting of items in the consolidated financial statement. The process for updating and, if necessary, adjusting these rules is clearly regulated with respect to information channels, responsibilities and period of validity. Not only that, we provide prompt Group-wide notification of significant developments and modified requirements in Group financial reporting.

Within the scope of our control system the Group companies are responsible for Group-wide adherence to the accounting policies and the internal control guidelines. The managing directors and chief financial officers of the Group companies defined as material in our control system affirm to the Executive Board of Hannover Rück SE at each closing date the completeness, correctness and reliability of the financial data that they pass on to Group Accounting. Data for the preparation of the consolidated financial statement is delivered using a Web-based IT application. The relevant data for Group financial reporting is collected in a database and processed via automatic interfaces in a consolidation system. As part of the financial reporting process we perform preventive and detective checks on the reported figures in order to minimise the probability and reduce the impacts of a potentially incorrect disclosure. Depending upon the results of our checks, these figures can be corrected if necessary. Given that our Group financial reporting is heavily dependent on IT systems, these systems also need to be subject to controls. Authorisation concepts regulate system access and for each step content-based as well as system-side checks have been implemented, by means of which errors are analysed and promptly eliminated.

Internal risk assessment

Hannover Re calculates the economic equity as the difference between the market-consistent value of the assets and the market-consistent value of the liabilities. While fair values are available for most investments, the market-consistent valuation of reinsurance treaties necessitates a specific valuation model. We establish the market-consistent value of technical items as the present value of projected payments using actuarial methods. This is adjusted by a risk loading that factors in the fluctuation in future payments. Such fluctuations result from risks that cannot be hedged by means of capital market products, such as underwriting risks. We use risk-free interest rates derived from yields on the highest-quality government bonds for discounting of our future cash flows. Market prices for options and guarantees embedded in insurance contracts are determined or approximated using option valuation models from the field of financial mathematics. The significance of these options and guarantees in our portfolio is, however, minimal.

The available economic capital, which is available as liable capital for policyholders, is composed of the economic equity and the hybrid capital. The internal capital model is based on current methods from actuarial science and financial mathematics. In the case of underwriting risks, we are able to draw on a rich internal data history to estimate the probability distributions, e.g. for the reserve risk. For risks from natural perils we use external models, which are adjusted in the context of a detailed internal review process such that they reflect our risk profile as closely as possible. In the area of life and health reinsurance long-term payment flows are modelled under various scenarios. With respect to all the aforementioned risks we use internal data to define scenarios and probability distributions. The internal data is enhanced by way of parameters set by our internal experts. These parameters are especially significant in relation to extreme events that have not previously been observed.

When it comes to aggregating the individual risks, we make allowance for dependencies between risk factors. Dependencies arise, for example, as a consequence of market shocks, such as the financial crisis, which simultaneously impact multiple market segments. What is more, several observation periods may be interrelated on account of market phenomena such as price cycles. In dealing with these dependencies, however, it is our assumption that not all extreme events occur at the same time. The absence of complete dependency is referred to as diversification. Hannover Re's business model is based inter alia on building up the most balanced possible portfolio so as to achieve the greatest possible diversification effects and in order to deploy capital efficiently. Diversification exists between individual reinsurance treaties, lines, business segments and risks. We define the cost of capital to be generated per business unit according to the capital required by our business segments and lines and based on their contribution to diversification.

Underwriting risks in property and casualty reinsurance

Risk management in property and casualty reinsurance has defined various overall guidelines for efficient risk steering. These include, among other things, the limited use of retrocessions to reduce volatility and conserve capital. It is also crucially important to consistently maximise the available risk capacities on the basis of the risk management parameters of the Hannover Re Group and to steer the acceptance of risks systematically through the existing central and local underwriting guidelines. Our conservative reserving level is a crucial factor in our risk management. We make a fundamental distinction between risks that result from business operations of past years (reserve risk) and those stemming from activities in the current or future years (price/premium risk). In the latter case, special importance attaches to the catastrophe risk. Diversification within the Property & Casualty reinsurance business group is actively managed through allocation of the cost of capital according to the contribution made to diversification. A high diversification effect arises out of the underwriting of business in different lines and different regions with different business partners.

The reserve risk, i. e. the risk of under-reserving losses and the resulting strain on the underwriting result, is the overriding priority in our risk management. We attach the utmost importance to a conservative reserving level and therefore traditionally have a high confidence level. In order to counter the risk of under-reserving we calculate our loss reserves based on our own actuarial estimations and establish, where necessary, additional reserves supplementary to those posted by our cedants as well as the segment reserve for losses that have already occurred but have not yet been reported to us.

Statistical run-off triangles are another monitoring tool used by our company. They show the changes in the reserve over time as a consequence of paid claims and in the recalculation of the reserves to be established as at each balance sheet date. Their adequacy is monitored using actuarial methods.

In order to partially hedge inflation risks Hannover Re has taken out bonds with inflation-linked coupon payments that protect parts of the loss reserves against inflation risks. An inflation risk exists particularly inasmuch as the liabilities (e. g. loss reserves) could develop differently than assumed at the time when the reserve was constituted because of inflation.

Licensed scientific simulation models, supplemented by the expertise of our own specialist departments, are used to assess our material catastrophe risks from natural hazards (especially earthquake, windstorm and flood). Furthermore, we establish the risk to our portfolio from various scenarios in the form of probability distributions. The monitoring of the risks resulting from natural hazards is rounded out by realistic extreme loss scenarios. Within the scope of this process, the Executive Board defines the risk appetite for natural perils once a year on the basis of the risk strategy by specifying the portion of the economic capital that is available to cover risks from natural perils. This is a key basis for our underwriting approach in this segment. As part of our holistic approach to risk management across business groups, we take into account numerous relevant scenarios and extreme scenarios, determine their effect on portfolio and performance data, evaluate them in relation to the planned figures and identify alternative courses of action. For the purposes of risk limitation, maximum amounts are also stipulated for various extreme loss scenarios and return periods in light of profitability criteria. Adherence to these limits is continuously verified by Group Risk Management. The Risk Committee, Executive Board and P & C Executive Committee are kept regularly updated on the degree of capacity utilisation.

The price / premium risk lies primarily in the possibility of a random claims realisation that diverges from the claims expectancy on which the premium calculation was based. Regular and independent reviews of the models used for treaty quotation as well as central and local underwriting guidelines are vital management components. We have put in place a multi-step quotation process to ensure the quality of our portfolios. In addition, Hannover Re's regional and treaty departments prepare regular reports on the progress of their respective renewals. The reporting in this regard makes reference inter alia to significant changes in conditions, risks (such as inadequate premiums) as well as to emerging market opportunities and the strategy pursued in order to accomplish targets. The development of the combined ratio in property and casualty reinsurance is shown in the table below:

Combined and catastrophe loss ratio

in %	1H 2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006
Combined ratio (property and casualty reinsurance)	95.4	94.4	94.7	94.9	95.8	104.3	98.2	96.6	95.4	99.7	100.8
Thereof catastrophe losses [1]	9.2	7.1	6.1	8.4	7.0	16.5	12.3	4.6	10.7	6.3	2.3

[1] Net share of the Hannover Re Group for natural catastrophes and other major claims in excess of EUR 10 million gross as a percentage of net premium earned (until 31 December 2011: in excess of EUR 5 million gross)

Underwriting risks in life and health reinsurance

All risks directly connected with the life of an insured person are referred to as biometric risks. They include in particular the miscalculation of mortality, life expectancy, morbidity and occupational disability. Biometric risks are the material risks for our company in the area of life and health reinsurance. Our goal is to strike a balance between biometric risks. Counterparty and lapse risks are also material since we additionally prefinance our cedants' new business acquisition costs. Furthermore, we are exposed to catastrophe risks, especially catastrophes involving a high number of fatalities in our insurance portfolio.

The reserves are determined on the basis of secure biometric actuarial bases in light of the information provided by our clients. The biometric actuarial bases used and the lapse assumptions are continuously reviewed with an eye to their adequacy and if necessary adjusted. This is done using the company's own empirical data as well as market-specific insights. Our current risk profile in life and health reinsurance is dominated by mortality and longevity risks. This is due to the fact that under some of our contracts we pay death benefits, while under others we pay survival benefits. The volume of our annuity portfolios has continued to grow and contributes to diversification within life and health reinsurance.

Diversification is a central management tool for our company. We seek to spread risks as far as possible across different risk classes and different regions. In our pricing of reinsurance treaties we provide incentives to further increase diversification.

Through our quality assurance measures we ensure that the reserves established by ceding companies in accordance with local accounting principles satisfy all requirements with respect to the calculation methods used and assumptions made (e. g. use of mortality and morbidity tables, assumptions regarding the lapse rate). New business is written in all regions in compliance with underwriting guidelines applicable worldwide, which set out detailed rules governing the type, quality, level and origin of risks. These global guidelines are revised annually and approved by the Executive Board. Special underwriting guidelines give due consideration to the particular features of individual markets. By monitoring compliance with these underwriting guidelines we minimise the risk of an inability to pay or of deterioration in the financial status of cedants. Regular reviews and holistic analyses (e. g. with an eye to lapse risks) are carried out with respect to new business activities and the assumption of international portfolios. The actuarial reports and documentation required by local regulators ensure that regular scrutiny also takes place on the level of the subsidiaries. The interest rate risk, which in the primary sector is important in life business owing to the guarantees that are given, is of only minimal relevance to our company thanks to the design of our reinsurance treaties. We have confidence in the entrepreneurial abilities of our underwriters and grant them the most extensive possible powers. In our decentralised organisation we manage risks where they arise using a consistent Group-wide approach in order to obtain an overall view of the risks in life and health reinsurance. Our global underwriting guidelines provide underwriters with an appropriate framework for this purpose.

The risks arising out of life and health reinsurance are reflected in the internal capital model.

Market risks

Faced with a challenging capital market climate, particularly high importance attaches to preserving the value of assets under own management and the stability of the return. Hannover Re's portfolio is therefore guided by the principles of a balanced risk/return profile and broad diversification. Based on a risk-averse asset mix, the investments reflect both the currencies and durations of our liabilities. Market price risks include equity risks, interest rate risks, currency risks, real estate risks, spread risks and credit risks.

With a view to preserving the value of our assets under own management, we constantly monitor adherence to a trigger mechanism based on a clearly defined traffic light system that is applied across all portfolios. This system defines clear thresholds and escalation channels for the cumulative fluctuations in fair value and realised gains/losses on investments since the beginning of the year. These are unambiguously defined in conformity with our risk appetite and trigger specified information and escalation channels if a corresponding fair value development is overstepped.

The short-term loss probability measured as the "Value at Risk" (VaR) is another vital tool used for monitoring and managing market price risks. It is calculated on the basis of historical data, e.g. the volatility of the securities positions under own management and the correlation between these risks. As part of these calculations the decline in the fair value of our portfolio is simulated with a certain probability and within a certain period. The VaR of the Hannover Re Group determined in accordance with these principles specifies the decrease in the fair value of our securities portfolio under own management that with a probability of 95% will not be exceeded within ten trading days. A multi-factor model is used to calculate the VaR indicators for the Hannover Re Group. It is based on time series of selected representative market parameters (equity prices, yield curves, spread curves, exchange rates, commodity prices and macro-economic variables). All asset positions are mapped on the level of individual positions within the multi-factor model; residual risks (e.g. market price risks that are not directly explained by the multi-factor model) can be determined through back-calculation and are incorporated into the overall calculation. The model takes into account interest rate risks, credit and spread risks, systematic and specific equity risks, commodity risks and option-specific risks.

Stress tests are conducted in order to be able to map extreme scenarios as well as normal market scenarios for the purpose of calculating the Value at Risk. In this context, the loss potentials for fair values and shareholders' equity (before tax) are simulated on the basis of already occurred or notional extreme events.

Scenarios for changes in the fair value of material asset classes

in EUR million	Scenario	Portfolio change on a fair value basis	Change in equity before tax
Equity securities and private equity	Share prices -10%	-153.9	-153.9
	Share prices -20%	-307.9	-307.9
	Share prices +10%	+153.9	+153.9
	Share prices +20%	+307.9	+307.9
Fixed-income securities	Yield increase +50 basis points	-789.8	-697.6
	Yield increase +100 basis points	-1,543.0	-1,362.6
	Yield decrease -50 basis points	+813.7	+717.1
	Yield decrease -100 basis points	+1,661.4	+1,463.7
Real estate	Real estate market values -10%	-176.4	-80.7
	Real estate market values +10%	+176.4	+39.9

Further significant risk management tools – along with the various stress tests used to estimate the loss potential under extreme market conditions – include sensitivity and duration analyses and our asset/liability management (ALM). The internal capital model provides us with quantitative support for the investment strategy as well as a broad diversity of VaR calculations. In addition, tactical duration ranges are in place, within which the portfolio can be positioned opportunistically according to market expectations. The parameters for these ranges are directly linked to our calculated risk-bearing capacity.

Share price risks derive from the possibility of unfavourable changes in the value of equities, equity derivatives or equity index derivatives in our portfolio. In addition to such assets held hitherto on only a very modest scale as part of strategic participations, we have acted on market opportunities in the course of the year to rebuild a broadly diversified equity portfolio.

The portfolio of fixed-income securities is exposed to the interest rate risk. Declining market yields lead to increases and rising market yields to decreases in the fair value of the fixed-income securities portfolio.

The credit spread risk should also be mentioned. The credit spread refers to the interest rate differential between a risk-entailing bond and risk-free bond with the same maturity. Changes in these risk premiums, which are observable on the market, result – analogously to changes in pure market yields – in changes in the fair values of the corresponding securities.

Currency risks are especially relevant if there is a currency imbalance between the technical liabilities and the assets. Through extensive matching of currency distributions on the assets and liabilities side, we reduce this risk on the basis of the individual balance sheets within the Group. The short-term Value at Risk therefore does not include quantification of the currency risk. We regularly compare the liabilities per currency with the covering assets and optimise the currency coverage in light of various collateral conditions such as different accounting requirements by regrouping assets. Remaining currency surpluses are systematically quantified and monitored within the scope of economic modelling.

Real estate risks result from the possibility of unfavourable changes in the value of real estate held either directly or through fund units. They may be caused by a deterioration in particular qualities of a property or by a general downslide in market values. Real estate risks continued to grow in importance for our portfolio owing to our ongoing involvement in this sector. We spread these risks through broadly diversified investments in high-quality markets of Germany, Europe as a whole and the United States; each investment is preceded by detailed analyses of the property, manager and market in question.

We use derivative financial instruments only to the extent needed to hedge risks. The primary purpose of such financial instruments is to hedge against potentially adverse situations on capital markets. Part of our cash flows from the insurance business as well as currency risks arising because currency matching cannot be efficiently achieved are partially hedged using forward exchange transactions. Hannover Re holds further derivative financial instruments to hedge interest rate risks from loans taken out to finance real estate. In addition, Hannover Re has taken out hedges in the form of equity swaps to hedge price risks in connection with the stock appreciation rights granted under the Share Award Plan. These are intended to neutralise changes in the fair values of the awarded stock appreciation rights. Contracts are concluded with reliable counterparties and for the most part collateralised on a daily basis so as to avoid credit risks associated with the use of such derivative transactions. The remaining exposures are controlled according to the restrictive parameters set out in the investment guidelines.

Our investments entail credit risks that arise out of the risk of a failure to pay (interest and / or capital repayment) or a change in the credit status (rating downgrade) of issuers of securities. We attach equally vital importance to exceptionally broad diversification as we do to credit assessment conducted on the basis of the quality criteria set out in the investment guidelines. We measure credit risks in the first place using the standard market credit risk components, especially the probability of default and the potential amount of loss – making allowance for any collateral and the ranking of the individual instruments depending on their effect in each case. We then assess the credit risk first on the level of individual securities (issues) and in subsequent steps on a combined basis on the issuer level.

In order to limit the risk of counterparty default we set various limits on the issuer and issue level as well as in the form of dedicated rating quotas. A comprehensive system of risk reporting ensures timely reporting to the functions entrusted with risk management.

Rating structure of our fixed-income securities[1]

Rating classes	Government bonds		Securities issued by semi-governmental entities[2]		Corporate bonds		Covered bonds/asset-backed securities	
	in %	in EUR million	in %	in EUR million	in %	in EUR million	in %	in EUR million
AAA	75.4	8,118.1	65.1	4,474.6	1.3	163.2	67.4	2,538.0
AA	12.2	1,314.6	29.6	2,035.3	13.9	1,715.1	13.9	522.1
A	7.1	759.4	2.6	178.6	38.6	4,775.1	6.8	256.7
BBB	4.6	490.6	1.2	84.6	39.1	4,831.4	8.7	326.8
< BBB	0.8	83.3	1.5	104.1	7.1	875.3	3.2	121.3
Total	**100.0**	**10,765.9**	**100.0**	**6,877.2**	**100.0**	**12,360.2**	**100.0**	**3,764.9**

[1] Securities held through investment funds are recognised pro rata with their corresponding individual ratings.
[2] Including government-guaranteed corporate bonds

The measurement and monitoring mechanisms that have been put in place safeguard a prudent, broadly diversified investment strategy. This is reflected inter alia in the fact that within our portfolio of assets under own management the exposures to government bonds or instruments backed by sovereign guarantees issued by the so-called GIIPS states (Greece, Ireland, Italy, Portugal, Spain) amount to altogether just EUR 211.4 million on a fair value basis. This corresponds to a proportion of 0.5%. The individual countries account for the following shares: Spain EUR 124.6 million, Italy EUR 65.1 million and Portugal EUR 25.6 million. No impairments had to be taken on these holdings. Our portfolio does not contain any Greek or Irish government bonds. On a fair value basis EUR 3,938.7 million of the corporate bonds held by our company were issued by entities in the financial sector. Of this amount, EUR 3,224.4 million was attributable to banks. The vast majority of these bank bonds (73.2%) are rated “A” or better. Our investment portfolio under own management does not contain any written or issued credit default swaps.

Counterparty default risks

The counterparty default risk consists primarily of the risk of complete or partial failure of the counterparty and the associated default on payment. Since the business that we accept is not always fully retained, but instead portions are retroceded as necessary, the counterparty default risk is material for our company in reinsurance transactions. Our retrocession partners are carefully selected and monitored in light of credit considerations in order to keep the risk as small as possible. This is also true of our broker relationships, which entail a risk inter alia through the potential loss of the premium paid by the cedant to the broker. We minimise these risks, among other things, by reviewing all broker relationships with an eye to criteria such as the existence of professional indemnity insurance, payment performance and proper contract implementation. The credit status of retrocessionaires is continuously monitored. On the basis of this ongoing monitoring a Security Committee decides on measures where necessary to secure receivables that appear to be at risk of default. This process is supported by a Web-based risk management application, which specifies cession limits for the individual retrocessionaires participating in protection cover programmes and determines the capacities still available for short-, medium- and long-term business. Depending on the type and expected run-off duration of the reinsured business, the selection of reinsurers takes into account not only the minimum ratings of the rating agencies Standard & Poor’s and A.M. Best but also internal and external expert assessments (e.g. market information from brokers). Overall, retrocessions conserve our capital, stabilise and optimise our results and enable us to act on opportunities across a broader front, e.g. following a major loss event. Regular visits to our retrocessionaires give us a reliable overview of the market and put us in a position to respond quickly to capacity changes. Alongside traditional retrocessions in property and casualty reinsurance we also transfer risks to the capital market.

Counterparty default risks are also relevant to our investments and in life and health reinsurance because we prefinance acquisition costs for our ceding companies. Our clients, retrocessionaires and broker relationships as well as our investments are therefore carefully evaluated and limited in light of credit considerations and are constantly monitored and controlled within the scope of our system of limits and thresholds. In terms of the Hannover Re Group’s major companies, EUR 253.8 million (6.6%) of our accounts receivable from reinsurance business totalling EUR 3,841.1 million were older than 90 days as at the balance sheet date. The average default rate over the past four years was 0.3%.

Operational risks

Operational risks refer to the risk of losses occurring because of the inadequacy or failure of internal processes or as a result of events triggered by employee-related, system-induced or external factors. In contrast to underwriting risks (e.g. the reserve risk), which we enter into in a deliberate and controlled manner in the context of our business activities, operational risks are an indivisible part of our business activities. The focus is therefore on risk avoidance and risk minimisation. As a derivation from our strategic principle "We manage risks actively", we act according to the following principles in relation to operational risks:

1. We integrate operational risk management into the company and its culture.
2. We manage operational risks proactively and sustainably.
3. We consider events and scenarios that cover the entire spectrum of operational risks.
4. We strive for appropriate risk reduction through our measures.
5. We manage within defined limits and create transparency through measurements.

With the aid of the Self-Assessment for Operational Risks we determine the maturity level of our operational risk management system and define action fields for improvements. The assessment is carried out, for example, by assessing the maturity level of the respective risk management function or of the risk monitoring and reporting. The system enables us, among other things, to prioritise operational risks and is used inter alia to calculate the capital commitment in our internal model.

Within the overall framework of operational risks we consider, in particular, business process risks, compliance risks, risks associated with sales channels and outsourcing of functions, fraud risks, personnel risks, information technology risks/information security risks and business interruption risks.

Business process risks are associated with the risk of deficient or flawed internal processes, which can arise as a consequence of an inadequate process organisation. We have defined criteria to evaluate the maturity level of the material processes, e.g. for the reserving process. This enables us to ensure that process risks are monitored. In cooperation with the process participants, the process owner evaluates the risks of the metaprocess and develops measures for known, existing risks. Data quality is also a highly critical success factor, especially in risk management, because – among other things – the validity of the results delivered by the internal model depends primarily on the data provided. The overriding goal of our data quality management is the sustainable improvement and safeguarding of data quality within the Hannover Re Group.

Compliance risks are associated with the risk of breaches of standards and requirements, non-compliance with which may entail lawsuits or official proceedings with not inconsiderable detrimental implications for the business activities of the Hannover Re Group. Regulatory compliance, compliance with the company's Code of Conduct, data privacy and compliance with anti-trust and competition laws have been defined as issues of particular relevance to compliance. The compliance risk also extends to tax and legal risks.

In addition, we use proactive sanctions screening to filter out individuals from our customer portfolio with whom the Hannover Re Group does not enter into any contractual relationship on account of a criminal or terrorist background. In this way ceding companies from countries which are subject to an embargo are also excluded as clients.

Responsibilities within the compliance organisation are regulated and documented Group-wide and interfaces with risk management have been put in place. The set of tools is rounded off with regular compliance training programmes.

In selected market niches we transact primary insurance business that complements our reinsurance activities. In so doing, just as on the reinsurance side, we always work together with partners from the primary sector – such as insurance brokers and underwriting agencies. This gives rise to risks associated with such sales channels, although these are minimised through the careful selection of agencies, mandatory underwriting guidelines and regular checks.

Outsourcing risks can result from the outsourcing of functions, services and/or organisational units to third parties outside Hannover Re. Mandatory rules have been put in place to limit this risk; among other things, they stipulate that a risk analysis is to be performed prior to a material outsourcing. In the context of this analysis a check is carried out to determine, inter alia, what specific risks exist and whether outsourcing can even occur in the first place.

Fraud risks refer to the risk of intentional violations of laws or regulations by members of staff (internal fraud) and/or by externals (external fraud). This risk is reduced by the internal control system as well as by the audits conducted by Group Auditing on a Group-wide and line-independent basis.

The proper functioning and competitiveness of the Hannover Re Group can be attributed in large measure to the expertise and dedication of our staff. In order to minimise personnel risks, we pay special attention to the skills, experience and motivation of our employees and foster these qualities through outstanding personnel development and leadership activities. Regular employee surveys and the monitoring of turnover rates ensure that such risks are identified at an early stage and scope to take the necessary actions is created.

Information technology risks and information security risks arise, inter alia, out of the risk of the inadequate integrity, confidentiality or availability of systems and information. By way of example, losses and damage resulting from the unauthorised passing on of confidential information, the malicious overloading of important IT systems or from computer viruses are material to the Hannover Re Group. Given the broad spectrum of such risks, a diverse range of steering and monitoring measures and organisational standards, including for example the requirement to conclude confidentiality agreements with service providers, have been put in place. In addition, our employees are made more conscious of such security risks through practically oriented tools, including for example information campaigns and training activities.

When it comes to reducing business interruption risks, the paramount objective is the quickest possible return to normal operations after a crisis, for example through implementation of existing contingency plans. Guided by internationally accepted standards, we have defined the key framework conditions and – among other measures – we have assembled a crisis team to serve as a temporary body in the event of an emergency. The system is complemented by regular exercises and tests. In general terms, regular risk reporting to the Risk Committee and the Executive Board takes place in this regard.

Other risks

Of material importance to our company in the category of other risks are primarily emerging risks, strategic risks, reputational risks and liquidity risks.

The hallmark of emerging risks is that the content of such risks cannot as yet be reliably assessed – especially on the underwriting side with respect to our treaty portfolio. Such risks evolve gradually from weak signals to unmistakable tendencies. It is therefore vital to detect these risks at an early stage and then determine their relevance. For the purpose of early detection we have developed an efficient process that spans divisions and lines of business and we have ensured its linkage to risk management. Operational implementation is handled by an expert working group assembled specially for this task. The analyses performed by this working group are used Group-wide in order to pinpoint any necessary measures (e.g. the implementation of contractual exclusions or the development of new reinsurance products). By way of example, the risks associated with possible climate change are analysed by this working group. Global warming would have implications not only for natural perils, but also for human health, the world economy, agriculture and so on. These problematic issues may also be relevant to our treaty portfolio – in the form not just of risks but also opportunities, e.g. through increased demand for reinsurance products. Other emerging risks include nanotechnology, technology risks and resource scarcity.

Strategic risks derive from a possible imbalance between the corporate strategy of the Hannover Re Group and the constantly changing general business environment. Such an imbalance might be caused, for example, by incorrect strategic policy decisions, a failure to consistently implement the defined strategies and business plans or an incorrect allocation of resources. We therefore regularly review our corporate strategy in a multi-step procedure and adjust our processes and the resulting guidelines as and when required. We have defined performance criteria and indicators for the operational implementation of the strategic guidelines; these are authoritative when it comes to determining fulfilment of the various targets. With the "Strategy Cockpit" the Executive Board and responsible managers have at their disposal a strategy tool that assists them with the planning, elaboration and management of strategic objectives and measures and safeguards their overall perspective on the company and its strategic risks. In addition, the process for the management of strategic risks is assessed annually as part of the monitoring of business process risks.

Reputational risks refer to the risk that the trust put in our company by clients, shareholders, employees or the public at large may be damaged. This risk has the potential to jeopardise the business foundation of the Hannover Re Group. A good corporate reputation is therefore an indispensable prerequisite for our core business as a reinsurer. Reputational risks may arise out of all business activities conducted by the Hannover Re Group. Reputational damage may be caused, inter alia, by a data mishap that becomes public knowledge or financial difficulties on account of an underwriting risk. In addition to the risk identification methods already described, we use a number of different techniques for risk minimisation, such as our defined communication channels (e.g. Crisis Communication Guideline), a professional approach to corporate communications, tried and tested processes for specific crisis scenarios as well as our established Code of Conduct.

The liquidity risk refers to the risk of being unable to meet our financial obligations when they become due. The liquidity risk consists of the refinancing risk, i.e. the necessary cash cannot be obtained or can only be raised at increased costs, and the market liquidity risk, meaning that financial market transactions can only be completed at a poorer price than expected due to a lack of market liquidity. Core elements of the liquidity management of our investments are, in the first place, management of the maturity structure of our investments on the basis of the planned payment profiles arising out of our technical liabilities and, secondly, regular liquidity planning as well as the asset structure of the investments. Above and beyond the foreseeable payments, unexpected and exceptionally large payments may pose a threat to liquidity. In reinsurance business, however, significant events (major losses) are normally paid out after a lead time that can be reliably planned. As part of our liquidity management we have nevertheless defined asset holdings that have proven to be highly liquid even in times of financial stress. In addition, we manage the liquidity of the portfolio by checking on each trading day the liquidity of the instruments contained therein; their underlying parameters are verified on a regular and ad hoc basis. These measures serve to effectively reduce the liquidity risk.

Opportunity report

Speed is one of the qualities used to measure a successful knowledge transfer. Quick solutions and staying one step ahead of the competition is the name of the game. Hannover Re searches systematically for new business opportunities in order to generate sustainable growth and strengthen the company's profitable development. With a view to identifying opportunities and successfully translating ideas into business, Hannover Re adopts a number of closely related approaches in order to achieve holistic opportunity and risk management. Of significance here is the interplay without overlaps of the various functions within opportunity and risk management, which is ensured by defined interfaces.

Key elements in Hannover Re's opportunity management include its various market-specific innovations in the Life & Health and Property & Casualty reinsurance business groups. What is more, innovative and creative ideas are generated by our employees. If they can be successfully translated into additional profitable premium volume, such ideas are financially rewarded. Further elements are the working group on "Emerging Risks and Scientific Affairs" and the "Future Radar" initiative. Not only that, Hannover Re has set up an organisational unit for "Innovation Management". This service unit deals exclusively and systematically with ideas and opportunities and it concentrates its activities on generating additional premium volume with profit potential. To this end, ideas are translated into business opportunities and business models with the backing of project teams, and these are then acted upon in cooperation with primary insurance partners. Such business approaches are subsequently evaluated and fleshed out more concretely by the "Innovation Management" unit. This organisational unit also supports selected projects from the conceptual design of holistic business models right through to operational implementation or handover to line responsibility. The goal is to generate new business and thereby sustainably promote Hannover Re's profitable growth. Several initiatives and projects have grown out of some 100 ideas contributed by the global network since the unit was set up.

A new project named "Journey Re" is upcoming in the second half of 2016. This will create a connection to students, university graduates and young professionals with a view to developing new business models for primary insurance and reinsurance and translating the creativity that exists outside the industry into new business opportunities. The liaison offices for the project will be spread around the globe in Berlin, Dublin, Boston and Johannesburg.

Since as long ago as 2010 business opportunity management has been assigned to the Chief Executive Officer's area of responsibility. This is a clear reflection of the considerable importance that Hannover Re attaches to it. The monitoring and active networking carried out by the innovative minds involved give rise to close links with other projects, working groups and bodies, such as with the working group on "Emerging Risks und Scientific Affairs" in regard to emerging risks and opportunities (see page 22 "Other risks"). The working group carries out qualitative assessments of emerging risks. As a result, however, not only are the potential risks analysed but also any available business opportunities.

If a business idea is translated into reality and a new reinsurance product results, the normal procedure – provided the criteria defined for this purpose by Risk Management are applicable – is to work through the so-called new product process. This process is supported by Risk Management at Hannover Re. The process is always worked through if a contractual commitment is to be entered into in a form not previously used by Hannover Re or if the exposure substantially exceeds the existing scope of coverage. If this is the case, all material internal and external influencing factors are examined beforehand by Risk Management (e. g. implications for the overall risk profile or the risk strategy) and an assessment is made. Risk Management ensures that before it can be used or sold a new reinsurance product must be approved by the Executive Board.

Overall assessment by the Executive Board

Based on our currently available insights arrived from a holistic analysis of the opportunities and risks, the Executive Board of Hannover Re cannot discern any risks that could jeopardise the continued existence of the Hannover Re Group in the short or medium term or have a material and lasting effect on its assets, financial position or net income. We are convinced that:

- our established system of risk management affords us a transparent overview of the current risk situation at all times,
- our overall risk profile is appropriate, and
- our opportunity management plays an important part in Hannover Re's profitable growth.

As an internationally operating reinsurance group, we move in a highly complex environment. Nevertheless, thanks to our business activities in all lines of reinsurance we are able to achieve optimal risk spreading through geographical and risk-specific diversification while at the same time maintaining a balanced opportunity/risk profile. We consider the risks described in the above sections to be manageable, particularly because our steering and monitoring measures are effectively and closely interlinked. Despite these diverse mechanisms, individual and especially accumulation risks can decisively affect our assets, financial position and net income. In accordance with our understanding of risk, however, we consider not only risks but also at the same time opportunities. We therefore only enter into those risks that go hand-in-hand with opportunities. Our steering and monitoring tools as well as our organisational and operational structure ensure that we identify risks at an early stage and are able to act on our opportunities. Our central monitoring tool is the system of risk management that we have installed Group-wide, which brings together both qualitative and quantitative information for the purpose of effective risk monitoring. Most notably, the interplay between domestic and foreign risk management functions affords us a holistic and Group-wide overview.

Our own evaluation of the manageability of existing risks is confirmed by various financial indicators and external assessments. Key monitoring indicators, reporting limits and potential escalation steps are defined on a mandatory basis in our central system of limits and thresholds for the material risks of the Hannover Re Group. As a result, the system provides us with a precise overview of potentially undesirable developments in the defined risk tolerances and enables us to react in a timely manner. One testament to our financial stability, for example, is the growth of our shareholders' equity. Since 2011 we have been able to increase our total policyholders' surplus (hybrid capital, non-controlling interests and shareholders' equity) by more than 50%. In this context, the necessary equity resources are determined by the requirements of our economic capital model, solvency regulations, the assumptions of rating agencies with respect to our target rating and the expectations of our clients and shareholders. This increase gives us a sufficient capital cushion to be able both to absorb risks and act on business opportunities that may arise. Similarly, our very good ratings also testify to our financial stability. The quality of our Enterprise Risk Management (ERM) is evaluated separately by Standard & Poor's and received the highest possible rating of "Very Strong". Special attention is paid here to our established risk culture, which promotes the development of appropriate risk monitoring systems and strategic risk management. The evaluation encompasses in particular the areas of risk culture, risk controls, the management of emerging risks, risk models and strategic risk management. This external appraisal confirms the quality of our holistic approach to risk management.

In addition, the risk trigger mechanism and internal monitoring system are reviewed annually by the independent auditor.

The Group-wide risk management system is also a regular part of the audits conducted by the internal audit function.

For additional information on the opportunities and risks associated with our business please see the Group Annual Report 2015.

Outlook for 2016

Forecast

- Stable or slightly reduced premium volume expected in total business
- Return on investment of 2.9% targeted for assets under own management
- Group net income forecast to be in the order of at least EUR 950 million

Despite the challenging business conditions facing the international (re)insurance industry and the protracted low level of interest rates, Hannover Re expects to be able to operate with sustained success even in this environment. Based on constant exchange rates, we anticipate stable or slightly reduced gross premium volume for our total business in the current financial year.

In property and casualty reinsurance we expect to book slightly lower premium income – adjusted for exchange rate effects. This assumption is based on our selective underwriting policy, under which we only write business that meets our margin requirements.

The outcome of the treaty renewals as at 1 June and 1 July 2016 was broadly positive. It is on these dates that parts of the North American portfolio, agricultural risks and business from Latin America traditionally come up for renewal. This was also the main renewal season for business in Australia, where Hannover Re successfully enlarged its portfolio by writing a large-volume new treaty.

The treaty renewals in Latin America and the Caribbean as at 1 July 2016 were notable overall for price declines. Surplus capacity for natural catastrophe covers continues to be available, albeit on a somewhat reduced scale. The losses from the earthquake in Ecuador led to rate improvements, although these were only seen in the impacted region. We scaled back our involvement in agricultural risks owing to rate erosion in this business.

In North America the trend seen in previous renewals was confirmed. Large losses from natural disasters and man-made events were again notable for their absence. Rate reductions were nevertheless not as marked as expected in some areas. As had already been observed in the 1 January and 1 April renewals, there were indications of prices bottoming out – both in the property and the casualty lines. Adequate rate improvements of between 5% and 15% were booked for loss-impacted non-proportional treaties. Casualty business was still intensely competitive in most lines, although we were able to act on new opportunities – for example in connection with the coverage of cyber risks. The forest fires in the province of Alberta – the largest market loss in Canadian history – led to the anticipated sharp rate increases in the property sector. In US property catastrophe business the pressure on prices eased compared to the previous year's renewals. Prices moved in a range of between -3% and +3%. Hannover Re systematically adhered to its pricing discipline, focused on target customers and continued to underweight its share of US catastrophe business. Rates in Europe and Latin America remained under pressure.

Premium growth of 8% was booked for the total volume of treaty business renewed as at 1 June / 1 July.

For the full 2016 financial year we anticipate a good underwriting result in property and casualty reinsurance that should be roughly on a par with 2015. This is conditional on major loss expenditure remaining within the budgeted level of EUR 825 million. We are aiming for a combined ratio of less than 96%. The targeted EBIT margin for property and casualty reinsurance is at least 10%.

In life and health reinsurance, too, we anticipate attractive business opportunities throughout the remainder of 2016. This is, however, subject to the proviso that unforeseeable changes in large-volume treaties can have significant implications – both positive and negative – for the total premium volume. In view of opportunities that are already opening up to generate further profitable new business, we nevertheless anticipate a largely stable premium volume. The value of new business should be in excess of EUR 220 million. Our targeted EBIT margins remain unchanged at 2% for financial solutions and longevity business and 6% for mortality and morbidity business.

With regard to our IVC targets – which we use internally to map economic value creation –, we are aiming for returns that exceed the cost of capital both in property and casualty reinsurance and in life and health reinsurance.

The expected positive cash flow that we generate from the technical account and our investments should – subject to stable exchange rates and yield levels – lead to further growth in our asset portfolios. The historically low reinvestment returns in the fixed-income portfolio as a consequence of the Brexit vote have resulted in an even more complex situation than at the beginning of 2016. Despite this, we are still targeting a return on investment of 2.9% for 2016.

Assuming that the burden of major losses does not significantly exceed the expected level and that there are no unforeseen distortions on capital markets, Hannover Re continues to anticipate Group net income of at least EUR 950 million for the current financial year.

Hannover Re envisages a payout ratio for the dividend in the range of 35% to 40% of its IFRS Group net income. This figure will probably increase in light of capital management considerations if the company's comfortable level of capitalisation remains unchanged.

Events after the reporting date

No significant events occurred after the balance sheet date.