somewhat different

Half-yearly Financial Report 2017

hannover re®

Key figures

in EUR million	2017					2016		
	1.1.–31.3.	1.4.–30.6.	+/– previous year	1.1.–30.6.	+/– previous year	1.4.–30.6.[1]	1.1.–30.6.[1]	31.12.
Results								
Gross written premium	4,546.6	4,451.0	+10.7 %	8,997.6	+8.6 %	4,020.2	8,283.8	
Net premium earned	3,732.1	3,790.6	+4.6 %	7,522.8	+5.0 %	3,624.6	7,166.7	
Net underwriting result	(23.4)	(55.4)		(78.8)		(38.7)	(2.7)	
Net investment income	392.9	386.5	+2.1 %	779.4	+4.6 %	378.5	744.8	
Operating profit (EBIT)	399.9	399.5	+17.3 %	799.4	+7.0 %	340.5	747.2	
Group net income	264.8	270.2	+24.6 %	535.0	+9.6 %	216.8	488.0	
Balance sheet								
Policyholders´ surplus	11,531.4			10,788.4	-3.9 %		10,628.9	11,231.4
Equity attributable to shareholders of Hannover Rück SE	9,316.9			8,562.2	-4.8 %		8,423.1	8,997.2
Non-controlling interests	723.4			734.6	-1.2 %		715.1	743.3
Hybrid capital	1,491.1			1,491.6	+0.1 %		1,490.6	1,490.8
Investments (excl. funds withheld by ceding companies)	42,032.1			40,393.0	-3.4 %		39,755.0	41,793.5
Total assets	64,216.0			61,973.7	-2.4 %		62,318.5	63,528.6
Share								
Earnings per share (basic and diluted) in EUR	2.20	2.24	+24.6 %	4.44	+9.6 %	1.80	4.05	
Book value per share in EUR	77.26			71.00	-4.8 %		69.85	74.61
Share price at the end of the period in EUR	108.15			104.95	+2.1 %		93.81	102.80
Market capitalisation at the end of the period	13,042.6			12,656.7	+2.1 %		11,313.2	12,397.4
Ratios								
Combined ratio (property and casualty reinsurance)[2]	95.6 %	97.4 %		96.5 %		96.1 %	95.4 %	
Large losses as percentage of net premium earned (property and casualty reinsurance)[3]	6.2 %	-0.5 %		2.8 %		15.8 %	9.2 %	
Retention	89.6 %	90.9 %		90.3 %		90.6 %	89.8 %	
Return on investment (excl. funds withheld by ceding companies)[4]	3.0 %	3.2 %		3.2 %		2.9 %	2.9 %	
EBIT margin[5]	10.7 %	10.5 %		10.6 %		9.4 %	10.4 %	
Return on equity (after tax)	11.6 %	12.1 %		12.2 %		10.3 %	11.8 %	

1 Restated pursuant to IFRS 3 (cf. section 3 of the notes)
2 Including funds withheld
3 Hannover Re Group´s net share for natural catastrophes and other major losses in excess of EUR 10 million gross as a percentage of net premium earned
4 Excluding effects from ModCo derivatives
5 Operating result (EBIT) / net premium earned

Ulrich Wallin,
Chairman of the
Executive Board

Dear shareholders, ladies and gentlemen,

The development of our business in the first half of 2017 was on the whole satisfactory. We generated Group net income of EUR 535 million, a very pleasing figure in view of the challenging business environment in the reinsurance sector. As a reinsurer, we continue to find ourselves facing an excess of supply over demand. In property and casualty reinsurance we are now looking back on five years of soft market conditions, which we increasingly see reflected in the underwriting result. The insurance industry has also been adversely impacted by the UK government's decision to reduce the discount rate for compensation payments associated with personal injury claims. Another challenge that we, as a large investor, have faced – and continue to do so – is the low interest rate environment. Even though the returns that can be generated are shrinking, we can nevertheless be highly satisfied with our ordinary investment income, which benefited in the first six months from strong returns on private equity and our real estate portfolio. As things currently stand, we believe that even in this challenging climate we are well placed to achieve our profit target of more than EUR 1 billion for the current financial year.

The gross written premium booked for the entire Group increased by 8.6 percent year-on-year to EUR 9.0 billion. This was driven by stronger demand for reinsurance solutions offering solvency relief, which enable our customers to respond to the more exacting requirements brought about by the implementation of risk-based solvency regimes.

I would also like to take this opportunity to report that we have successfully completed the acquisition of the UK holding company Argenta Holdings Limited. We received the necessary regulatory approvals in July. This acquisition gives us additional means of accessing the London Market and we expect it to open up attractive business opportunities for our company.

I would now like to explore the business results of the first half-year 2017 in greater detail:

As I mentioned at the outset, the situation in reinsurance business around the world remains largely unchanged from the previous year. Markets are still intensely competitive. Along with an excess supply of reinsurance capacity, additional providers from the insurance-linked securities (ILS) market are putting prices and conditions under sustained pressure. In keeping with our maxim that the profitability of the business written is more important than premium volume, we are guided exclusively by margin considerations in our underwriting. In the latest treaty renewals as at 1 June and 1 July this was once again the approach that we adopted. Parts of the North American portfolio, some natural catastrophe risks and certain areas of credit and surety business are traditionally renewed at this time of the year. In addition, it is the main renewal season for business in Australia and New Zealand. All in all, we are satisfied with the outcome of the renewals.

While the first quarter of 2017 had seen significantly heavier losses than the corresponding period of the previous year, the second quarter was entirely spared any large losses, hence increasing our cushion for potential losses in the second half of the year. Altogether, major loss expenditure for the first six months of 2017 came to around EUR 123 million; in 2016 the figure for the same period was EUR 353 million.

The effects of the change in the discount rate in the United Kingdom for compensation payments associated with personal injury claims, which I had already referred to above, left their mark in the second quarter as well. As at 30 June 2017 we have booked additional loss reserves of EUR 291 million in this connection. Overall, in view of our very comfortable reserves for claims that have been incurred but not yet reported (IBNR), we have been able to offset the establishment of these additional reserves.

The underwriting result in property and casualty reinsurance decreased by 10.5 percent. Thanks to significantly improved investment income, the operating profit (EBIT) rose by 13 percent to EUR 634 million. The combined ratio deteriorated from 95.4% to 96.5%.

We cannot be entirely satisfied with developments in life and health reinsurance. Here, too, market conditions – especially in the more mature markets – are challenging. Yet we also see attractive business opportunities. As an example, demand among life and annuity insurers for reinsurance transactions offering capital relief has risen sharply. Consequently, our financial solutions business again performed exceptionally well and delivered a good profit contribution. The development of our US mortality portfolio, on the other hand, was inconsistent: positive results here were once again overshadowed by a higher-than-expected mortality in blocks of business from older underwriting years.

It is our assumption that further strains will be incurred here in the second half of the year. For example, we are already expecting non-recurring losses of around USD 50 million in the third quarter from treaty commutations carried out as part of our portfolio management activities. While this will avoid further losses over the long term, it will negatively impact the result for the current financial year.

We therefore anticipate that the operating result (EBIT) in life and health reinsurance for 2017 will only be in the order of EUR 300 million.

The EBIT of EUR 165 million generated for the first six months – a decline of just under 8 percent – fell short of our expectations. The premium volume booked in life and health reinsurance business decreased slightly in the first half-year to EUR 3.2 billion.

The development of our investments, on the other hand, was highly satisfactory. Although our portfolio of assets under own management contracted from EUR 41.8 billion as at 31 December 2016 to EUR 40.4 billion owing to exchange rate effects and the dividend payment, ordinary investment income developed very favourably despite the protracted low interest rate environment. It climbed by around 12 percent relative to the corresponding period of the previous year, driven principally by strong income from private equity investments and our real estate portfolio.

Income from assets under own management grew to EUR 656 million as at 30 June 2017, an increase of 15 percent compared to the previous year's figure. Along with the aforementioned favourable investment income, lower write-downs were also a factor in this very good performance. The return on investment of 3.2 percent for our assets under own management is comfortably in excess of our 2.7 percent target.

Shareholders' equity fell to EUR 8.6 billion as at 30 June 2017 owing to an increased dividend distribution of EUR 603 million and significantly less favourable net gains on foreign currency translation; it had stood at EUR 9.0 billion as at 31 December 2016. The annualised return on equity amounted to 12.2 percent and thus continues to be above our minimum target.

As I have already indicated, the challenges facing the reinsurance and capital markets are currently very considerable. We are nevertheless standing by our full-year guidance for Group net income of more than EUR 1 billion. As always, this forecast is subject to the proviso that major loss expenditure does not significantly exceed the budgeted level of EUR 825 million for 2017 and that there are no unforeseen distortions on capital markets.

I would like to thank you – also on behalf of my colleagues on the Executive Board – most sincerely for your trust in Hannover Re. Going forward, as in the past, our paramount concern will be to lead your company responsibly and securely into a continued profitable future.

Yours sincerely,

Ulrich Wallin
Chairman of the Executive Board

Interim management report

Report on economic position

Business development

- Half-yearly result in line with expectations despite difficult market conditions
- Currency-adjusted gross premium development as planned
- Very pleasing investment income despite challenging environment

The first half-year passed off highly satisfactorily for Hannover Re. Despite the ongoing intensely competitive climate, we are broadly satisfied with the development of our two business groups, namely Property & Casualty and Life & Health reinsurance. Investment income is thoroughly pleasing in spite of the low interest rate environment. Bearing in mind the challenging business landscape, we are highly satisfied with our Group net income of EUR 535.0 million.

Gross written premium in total business climbed by 8.6% as at 30 June 2017 to EUR 9.0 billion (EUR 8.3 billion). At constant exchange rates the increase would have amounted to 8.7%. For the first half of 2017 we are thus very comfortably on pace with our full-year guidance. The level of retained premium rose slightly to 90.3% (89.8%). Net premium earned increased by 5.0% to EUR 7.5 billion (EUR 7.2 billion). Growth of 4.9% would have been booked at constant exchange rates.

As mentioned, the performance of our investments in the first six months was unreservedly positive. While the portfolio of assets under own management contracted in this period to EUR 40.4 billion (31 December 2016: EUR 41.8 billion) on account of exchange rate effects and the dividend payout, ordinary investment income nevertheless showed a pleasing increase of 11.8% year-on-year to reach EUR 635.1 million (EUR 568.0 million). This reflects, in particular, income from private equity and real estate that was rather high for a first half-year.

Interest on funds withheld and contract deposits fell to EUR 123.4 million (EUR 175.6 million). Net realised gains were on the level of the previous year's period at EUR 83.4 million (EUR 79.5 million). Our financial assets measured at fair value through profit or loss gave rise to net gains of EUR 10.6 million (EUR 20.5 million) in the period under review.

The impairments taken in the reporting period were once again only minimal. Income from investments under own management increased by 15.3% to EUR 656.0 million (EUR 569.2 million) as at 30 June 2017. We were thus able to more than make up for the challenging interest rate environment, primarily through increased income from alternative asset classes.

The operating profit (EBIT) for the first half-year 2017 grew by 7.0% to EUR 799.4 million (EUR 747.2 million). Group net income increased by 9.6% to EUR 535.0 million (EUR 488.0 million). Earnings per share amounted to EUR 4.44 (EUR 4.05).

Hannover Re's equity base remained robust as at 30 June 2017 on a level of EUR 8.6 billion despite the dividend payment of EUR 603.0 million and exchange rate effects (31 December 2016: EUR 9.0 billion). The book value per share stood at EUR 71.00 (31 December 2016: EUR 74.61). The annualised return on equity amounted to 12.2% as at 30 June 2017 (31 December 2016: 13.7%).

Results of operations, financial position and net assets

Property and casualty reinsurance

- Property and casualty reinsurance remains fiercely competitive
- Reserves further strengthened for change in so-called "Ogden rate"
- Satisfactory results trend overall

Property and casualty reinsurance remains intensely competitive worldwide; the supply of reinsurance coverage continues to far outstrip demand. Even though the business results posted by insurers have deteriorated in some areas and more reserves are increasingly being released, the capital resources of most market players can still be considered adequate. The additional capacities originating from the insurance-linked securities (ILS) market are an additional factor in the sustained pressure on prices and conditions – especially in US natural catastrophe business.

This was the environment in which the treaty renewal season as at 1 April took place for Japan, along with more modest treaty renegotiations – in terms of volume – for the markets of Australia, New Zealand, Korea and North America. In view of the predominantly soft market conditions we largely concentrated on existing business in order to safeguard the good quality of our property and casualty reinsurance portfolio.

In Japan rates continued to decline in property business, albeit at a more moderate pace than had been the case in the previous round of treaty renewals. In casualty business substantial rate increases were obtained on the back of past losses, enabling us to book additional premiums in these lines. In New Zealand the earthquake of November 2016 put a stop to the downward rate trend. Part of our North American business was also renewed on 1 April. The pressure on prices here has eased appreciably across the various lines, and in both property and casualty business we were able to achieve largely stable prices.

The gross written premium for our total portfolio rose sharply by 17.3% as at 30 June 2017 to EUR 5.4 billion (EUR 4.6 billion). This reflected a surge in demand for reinsurance solutions offering solvency relief, not only in Europe but also in North America. We were thus able to more than offset premium declines in other areas. At constant exchange rates growth would have come in at 16.9%. The level of retained premium was higher than in the corresponding period of the previous year at 89.4% (88.2%). Net premium earned increased by 12.4% to EUR 4.3 billion (EUR 3.8 billion); adjusted for exchange rate effects, the growth would have been 11.8%.

The second quarter was spared any large losses, and major loss expenditure as at 30 June 2017 consequently came in well below the level of the corresponding period at EUR 122.9 million (EUR 352.7 million).

Further strains were incurred in the second quarter as a result of the UK government's decision to reduce the discount rate for personal injury compensation payments (known as the "Ogden rate") from 2.5% to -0.75% effective March 2017. This means that claims for severe personal injuries, such as those caused by motor vehicle accidents, can be become considerably more costly, resulting in higher payments under liability insurance covers. Bearing in mind that this affects not only future claims but also past claims that have still to be run off, insurers and reinsurers alike are faced with a need to substantially strengthen their reserves. We established additional loss reserves of around EUR 291 million as at 30 June 2017 for this purpose. In view of the very adequate level of our IBNR reserves (for claims that have been incurred but not yet reported), however, this does not give rise to any run-off losses. We anticipate that the change in the Ogden rate will require further additional reserves to be set aside in the course of the financial year. Nevertheless, these should be offset by the IBNR reserves that have been constituted.

Although the underwriting result for total property and casualty reinsurance contracted by 10.5% to EUR 149.0 million (EUR 166.4 million), it remains on an adequate level. The combined ratio is still positive at 96.5% (95.4%). The investment income booked from assets under own management developed highly satisfactorily, climbing by 17.1% to EUR 473.7 million (EUR 404.5 million) on the back of higher ordinary income. Against this backdrop, the operating profit (EBIT) for the Property & Casualty reinsurance business group improved by 12.7% as at 30 June 2017 to EUR 634.3 million (EUR 562.9 million). The EBIT margin of 14.7% (14.7%) was once again well above our minimum target of 10%. Group net income increased by 17.4% to EUR 444.0 million (EUR 378.1 million). Earnings per share amounted to EUR 3.68 (EUR 3.14).

Key figures for property and casualty reinsurance

in EUR million	2017					2016[1]	
	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	2,814.7	2,612.7	+22.9%	5,427.5	+17.3%	2,125.2	4,627.4
Net premium earned	2,165.7	2,147.0	+14.4%	4,312.8	+12.4%	1,877.1	3,838.4
Underwriting result	90.7	58.3	-11.8%	149.0	-10.5%	66.1	166.4
Net investment income	243.4	232.1	+11.1%	475.5	+14.3%	208.9	416.1
Operating result (EBIT)	309.8	324.5	+23.3%	634.3	+12.7%	263.2	562.9
Group net income	215.4	228.6	+31.5%	444.0	+17.4%	173.8	378.1
Earnings per share in EUR	1.79	1.90	+31.5%	3.68	+17.4%	1.44	3.14
EBIT margin[2]	14.3%	15.1%		14.7%		14.0%	14.7%
Combined ratio[3]	95.6%	97.4%		96.5%		96.1%	95.4%
Retention	88.6%	90.3%		89.4%		88.5%	88.2%

[1] Restated pursuant to IFRS 3 (cf. section 3 of the notes)
[2] Operating result (EBIT)/net premium earned
[3] Including funds withheld

Life and health reinsurance

- Growing international demand for automated underwriting systems
- Stabile, long-term contribution to Group net income reaffirmed by another solid result

All in all, we are not entirely satisfied with the development of our life and health reinsurance business in the first six months of 2017. Following on from an adequate first quarter, the second quarter fell short of our expectations overall.

With effect from May of this year, life insurers in the German market have for the first time been required to publish a so-called SFCR (Solvency and Financial Condition Report) in accordance with Solvency II. According to these reports, as at the end of 2016 all life insurers – that fall under the supervision and monitoring of the Federal Financial Supervisory Authority (BaFin) – fulfilled the solvency requirements. Compared to the previous year, the capital adequacy ratio of German life insurers improved industry-wide by an average of 57 percentage points (from 283% to 340%). This general improvement notwithstanding, it was nevertheless also evident that the capital adequacy ratios of certain companies were not sufficient. Consequently, we observed greater interest in reinsurance solutions designed to optimise the solvency position. We also noted a similar rise in interest in solutions for funding the additional statutory reserve requirement for the interest rate risk (Zinszusatzreserve). The revised definition of the benefit trigger in long-term care insurance that was rolled out as part of the German social security scheme at the start of the year has hitherto failed to bring about the anticipated revival of new business in LTC insurance. Various developments can currently be observed in the market: providers are completely discontinuing the writing of new business in some cases or they are taking on the role of intermediary for other companies. The extent to which the business can be grown still remains to be seen. We are nevertheless optimistic that long-term care insurance will develop favourably and we see business potential for the second half of the year.

Looking towards Europe, demand for solvency-oriented reinsurance solutions in other European countries – besides Germany – was similarly strong, including for example in the Netherlands. All in all, business in Europe fared very much as we had expected. Developments in the ReTakaful sector, where we were able to successfully implement our automated underwriting system hr|ReFlex at a number of customers, were especially gratifying.

In the area of longevity risks, especially in the United Kingdom, the enhanced annuities market has largely become a monopoly. Numerous providers have pulled out of the market. This can be attributed firstly to a change in legislation partially eliminating the requirement to convert pension savings into an annual annuity and, secondly, to modified capital requirements as a consequence of Solvency II. From a global perspective the longevity sector continues to develop positively and demand is consistently rising. Increasing attention is also being focused on indexed longevity reinsurance solutions, prompting the emergence here of a market.

The dynamic pace of growth in Asia in the first quarter was sustained into the second quarter. Demand for (re)insurance solutions on the health insurance side is considerable among Asian populations, some of which do not yet have adequate coverage. We are supporting our customers in the

development and implementation of online sales channels with a view to better reaching policyholders and improving processing efficiency. In addition, especially in Japan, we are seeing increasing demand for reinsurance arrangements in the area of financial solutions. In China interest in so-called lifestyle-oriented life insurance concepts is exceptionally strong. We engage in a close dialogue here with our customers so as to deliver individual solutions.

The result of our US business in the reporting period was impacted by higher-than-expected claims experiences in parts of our legacy mortality portfolio from older underwriting years. This development was nevertheless largely offset, particularly by the positive results recorded in financial solutions business.

The gross premium volume in life and health reinsurance amounted to EUR 3.6 billion (EUR 3.7 billion) as at 30 June 2017, a modest decline of 2.4%. At unchanged exchange rates the decrease would have been 1.5%. The retention was stable at 91.6% (91.8%). Net premium earned retreated by 3.6% to EUR 3.2 billion (EUR 3.3 billion). At constant exchange rates it would have fallen by 3.1%.

Despite the low interest rate environment we are highly satisfied with our investment income from assets under own management: it grew by 14.0% to EUR 180.2 million (EUR 158.1 million). Income from securities deposited with ceding companies fell sharply, on the other hand, to EUR 121.6 million (EUR 164.1 million). Against this backdrop the operating result (EBIT) as at 30 June 2017 contracted by 7.8% to EUR 165.2 million (EUR 179.1 million). The EBIT margin generated for financial solutions business stood at 29.9%, thereby comfortably exceeding the 2% target. Longevity business also beat the 2% target return with an EBIT margin of 2.3%. In mortality and morbidity business, however, the EBIT margin of 1.0% fell short of the targeted 6% mark. Group net income decreased by 12.6% to EUR 114.2 million (EUR 130.6 million). Earnings per share amounted to EUR 0.95 (EUR 1.08).

Key figures for life and health reinsurance

in EUR million	2017					2016	
	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	1,731.9	1,838.2	-3.0%	3,570.1	-2.4%	1,895.0	3,656.4
Net premium earned	1,566.4	1,643.6	-5.9%	3,209.9	-3.6%	1,747.5	3,328.1
Investment income	148.3	153.4	-6.8%	301.7	-6.3%	164.6	322.2
Operating result (EBIT)	89.8	75.4	+2.5%	165.2	-7.8%	73.6	179.1
Net income after tax	60.6	53.6	+1.6%	114.2	-12.6%	52.7	130.6
Earnings per share in EUR	0.50	0.44	+1.6%	0.95	-12.6%	0.44	1.08
Retention	91.3%	91.8%		91.6%		93.0%	91.8%
EBIT margin[1]	5.7%	4.6%		5.1%		4.2%	5.4%

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

Investments

- High-quality diversified investment portfolio maintained
- Alternative investments and real estate more than offset low interest rate level
- Return on investment of 3.2% significantly above target level

The investment climate was relatively stable in the period under review despite the disquiet on numerous geopolitical and domestic policy fronts, although it was shaped by the continued low level of interest rates and further declines in risk premiums for corporate bonds. Comments made by ECB President Draghi at the end of the reporting period, which were widely perceived in the market as heralding a possible ending of the ECB's support programme, prompted interest rate rises in our main currency areas. Overall, then, increases in yields for German government bonds were observed across all maturities, although the general level of interest rates remained very low. German government bonds are still being sold at negative returns well into the medium maturities. In the case of US Treasuries, a modest inversion of the yield curve could be observed overall against a backdrop of yield declines in the medium and longer-maturity segments.

Credit spreads on European and US corporate bonds were broadly stable across most rating classes. Changes mainly took the form of further declines in a few specific rating classes. Risk premiums thus remained stubbornly on a low level overall. All in all, the various opposing effects virtually cancelled each other out, as a consequence of which the unrealised gains on our fixed-income securities were largely unchanged

as at 30 June 2017 in an amount of EUR 1,079.7 million (EUR 1,098.1 million). Our portfolio of assets under own management contracted to EUR 40.4 billion (31 December 2016: EUR 41.8 billion), driven primarily by exchange rate effects – with the strengthening of the euro against the US dollar particularly evident here – and the dividend distribution.

We adjusted the allocation of our assets to the individual classes of securities in the first half-year merely in the context of regular portfolio maintenance. In addition, we acted on market opportunities for our US real estate portfolio, purchasing and selling office premises. The modified duration of our portfolio of fixed-income securities changed only negligibly relative to the previous year to stand at 4.9 (5.0).

Ordinary investment income excluding interest on funds withheld and contract deposits totalled EUR 635.1 million as at 30 June 2017, a figure significantly higher than in the previous year's period (EUR 568.0 million). Particularly bearing in mind the continued low interest rate level, it is very pleasing that we have been able to more than offset the diminished return on our fixed-income securities with income – in part non-recurring – from private equity and real estate. Interest on funds withheld and contract deposits declined to EUR 123.4 million (EUR 175.6 million).

Impairments of altogether just EUR 23.1 million (EUR 48.1 million) were taken. Of this, EUR 2.2 million (EUR 8.6 million) was attributable to alternative investments; an impairment loss of EUR 3.7 million had to be recognised on equities (EUR 24.8 million). No impairments (EUR 0.7 million) were taken on fixed-income securities. Scheduled depreciation on directly held real estate increased slightly to EUR 15.0 million (EUR 14.0 million), a reflection of our sustained 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 83.4 million (EUR 79.5 million) and can be attributed principally to regrouping activities as part of regular portfolio maintenance.

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 unrealised gains of EUR 3.3 million (-EUR 1.6 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 has no implications for the actual business development. Altogether, the unrealised gains in our assets recognised at fair value through profit or loss amounted to EUR 10.6 million. This contrasted with unrealised gains of EUR 20.5 million in the corresponding period of the previous year.

Despite the diminished return on our fixed-income securities and lower realised gains, stronger ordinary income from real estate and private equity enabled us to generate gratifying investment income of EUR 779.4 million that surpassed the level of the previous year's period (EUR 744.8 million). Income from assets under own management accounted for EUR 656.0 million (EUR 569.2 million), producing an annualised average return of 3.2%. This is significantly higher than our anticipated return of more than 2.7%.

Net investment income

in EUR million	2017					2016	
	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]	319.1	316.0	+5.5%	635.1	+11.8%	299.6	568.0
Result from participations in associated companies	4.4	1.3	+28.3%	5.7	+242.2%	1.0	1.7
Realised gains/losses	24.1	59.3	+64.9%	83.4	+4.8%	35.9	79.5
Appreciation[2]	10.9	12.2	-64.5%	23.1	-52.0%	34.3	48.1
Change in fair value of financial instruments[3]	10.9	(0.4)	-103.6%	10.6	-48.5%	10.1	20.5
Investment expenses	27.6	28.0	+8.6%	55.6	+6.0%	25.8	52.5
Net investment income from assets under own management	320.0	336.0	+17.3%	656.0	+15.3%	286.5	569.2
Net investment income from funds withheld	72.9	50.5	-45.2%	123.4	-29.7%	92.1	175.6
Total investment income	**392.9**	**386.5**	**+2.1%**	**779.4**	**+4.6%**	**378.5**	**744.8**

[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

- Hannover Re has a very strong capital position, which is constantly reviewed against the backdrop of possible changes in the risk profile.
- Our risk management system continuously monitors newly added and changing risks and is able to respond flexibly to changes in internal and external factors.

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 also 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 vulnerable systems and
- other risks, such as reputational risks as well as strategic and emerging risks.

At the present time our most significant risks are the default 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.

Our risk strategy is derived from the corporate strategy. It is 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 eight overriding principles within the 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 fulfil regulatory requirements.
5. We fulfil the requirements of rating agencies.
6. We act in light of materiality and proportionality considerations.
7. We make balanced use of both quantitative and qualitative methods.
8. We ensure the independence of the risk management function.

The risk strategy, risk register and central system of limits and thresholds – as integral components of our Risk and Capital Management Guideline – 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 IFRS Group net income with a probability of 90% p.a. and the likelihood of the complete loss of our economic capital and shareholders' equity under IFRS 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, regulatory parameters, 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: Hannover Re has implemented the standards resulting from the reform of insurance supervision law in accordance with Solvency II in relation to capital requirements, governance and reporting. Based on our internal target capitalisation with a confidence level of 99.97%, which comfortably exceeds the target level of 99.5% set by Solvency II, the capital requirements of Solvency II do not represent any additional obstacle for our company. Effective 1 January 2016 Hannover Re received approval from the regulatory authorities to calculate its solvency requirements using a partial internal capital model. Our next step will be a full internal capital model that also includes the operational risks.

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).

With regard to the United Kingdom's exit from the European Union, we do not anticipate any major implications for our customer relationships, not least because a trend is emerging among ceding companies towards moving their home base to Continental Europe.

The progress of convergence between the supervisory regimes of the United States and European Union is unclear and remains to be seen.

Capital market environment: 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 also constitutes the basis for calculating the own funds under Solvency II. Hannover Re's internal capital model reflects all risks that influence the development of the economic capital. These 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. This 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.

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 required capital, both from the economic and the regulatory perspective.

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 "three 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 actuarial units and risk management functions within the Group meet regularly in order to support Group-wide risk communication and establish an open risk culture.

Key elements of our risk management system

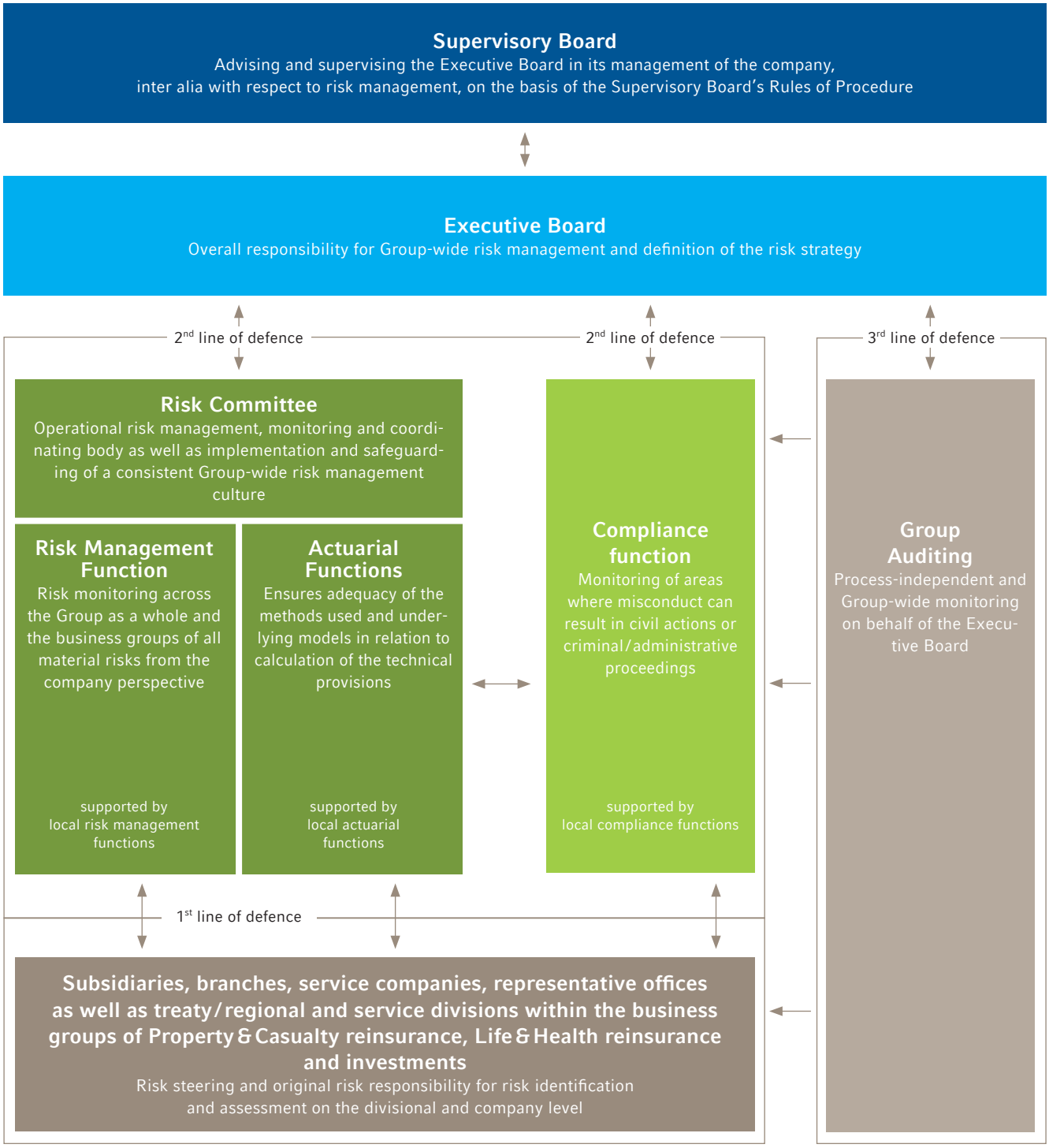
Our risk strategy and our Risk and Capital Management Guideline including the system of limits and thresholds for material risks of the Hannover Re Group describe the central elements of our risk management system. This is subject to a constant cycle of planning, action, control and improvement. Systematic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

This guideline 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 minimum requirements 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.

Central functions of risk monitoring and steering



Risk identification

A key source of information for monitoring risks is the risk identification carried out on a periodic basis. All identified risks are documented in a central register containing all material risks. Risk identification takes the form of, among other things, 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, reputational risks or emerging risks). Qualitative assessment can take the form of, for example, expert evaluations. Quantitative assessment of material risks and the overall risk position is performed using the Hannover Re risk model. The model makes allowance for risk concentration and risk diversification.

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 is factored into the division's decision. Risk steering is assisted by 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. Another core risk report in this regard is the company's Own Risk and Solvency Assessment (ORSA), which is compiled annually. 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 was 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). In recent years Hannover Re has already made every effort to include the foreseeable contents of the public SFCR in its IFRS reporting.

Process-integrated/-independent monitoring and quality assurance

Irrespective of internally assigned competencies, the Executive Board is responsible for the orderly organisation of the company's business. 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 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 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 networked 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. For the discounting of future cash flows we use the risk-free basic yield curves without volatility adjustment or matching adjustment calculated in accordance with Solvency II rules. 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, minor.

The available economic capital, which is available as liable capital for policyholders, is composed of the economic equity and the hybrid capital and includes the deduction of foreseeable dividends as required by Solvency II. 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 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 key 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 a high 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.

The 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 by the actuarial units.

In order to partially hedge inflation risks Hannover Re holds inflation-linked instruments in its portfolio 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. Risk management ensures adherence to these maximum amounts. 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 following table:

Combined and catastrophe loss ratio

in %	1H 2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Combined ratio (property and casualty reinsurance)	96.5	93.7	94.4	94.7	94.9	95.8	104.3	98.2	96.6	95.4	99.7
Thereof catastrophe losses [1]	2.8	7.8	7.1	6.1	8.4	7.0	16.5	12.3	4.6	10.7	6.3

[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. Furthermore, we are exposed to lapse risks because the cash flows resulting from our reinsurance treaties are in part dependent on lapse rates among policyholders. Counterparty default risks are also material since we partly prefinance our cedants' new business acquisition costs. Furthermore, we are exposed to catastrophe risks, especially events 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 portfolio 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 and how these considerations are factored into the pricing. 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.

In recent years we have reported regularly on the results of our US mortality business that have been poorer than anticipated. This was again the case in the first half of 2017. The reason for this development is the negative earnings performance of a large portfolio that we, as reported at the time, assumed at the beginning of 2009. The other US mortality business is, by contrast, performing highly satisfactorily and showing good growth. In consequence, this business overall – i.e. including

the poorly performing portfolio – shows a positive Value in Force. For this reason, in accordance with the so-called "lock in" principle, the assumptions made at the time of treaty formation constitute the basis of reserving that is applicable for IFRS accounting purposes.

In view of the unsatisfactory performance of the aforementioned portfolio, we have initiated a project at the end of 2016 with the aims of, firstly, reviewing actuarial assumptions relative to emerging experience and, secondly, deploying available means to improve results through inforce management measures on a targeted basis. This primarily involves rate management pursuant to contractual rights, as well as other measures. Based on the findings of the project, it might be the case that in the context of the annual review of the Value in Force, a higher claims expectancy needs to be considered under the assumed portfolio in question. Conversely we might also expect a higher premium income from the inforce management measures. Based on the information available to us today, we are reflecting a positive Value in Force of our US mortality business. Should additional information lead to the determination that this is no longer the case, this would result in a one-off charge to IFRS result.

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, foreign exchange risks, real estate risks, default and spread 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, default 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%	-174.4	-174.4
	Share prices -20%	-348.8	-348.8
	Share prices +10%	+174.4	+174.4
	Share prices +20%	+348.8	+348.8
Fixed-income securities	Yield increase +50 basis points	-864.1	-775.6
	Yield increase +100 basis points	-1,683.1	-1,510.5
	Yield decrease -50 basis points	+900.7	+807.6
	Yield decrease -100 basis points	+1,844.7	+1,653.8
Real estate	Real estate market values -10%	-187.6	-62.4
	Real estate market values +10%	+187.6	+43.0

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.

Equity 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.

Foreign exchange 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 foreign exchange risks. We regularly compare the liabilities per currency with the covering assets and optimise the currency coverage by regrouping assets. In so doing, we make allowance for collateral conditions such as different accounting requirements. 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 concerned.

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	76.3	8,867.8	67.4	4,656.3	1.0	128.1	64.9	2,091.1
AA	11.4	1,319.1	24.6	1,701.1	11.9	1,469.4	13.5	435.6
A	6.3	725.8	3.3	225.0	33.8	4,160.8	7.4	240.0
BBB	4.1	481.2	1.3	90.3	44.0	5,399.1	10.0	324.0
< BBB	1.9	215.7	3.4	235.9	9.3	1,138.9	4.2	136.6
Total	**100.0**	**11,609.5**	**100.0**	**6,908.6**	**100.0**	**12,296.4**	**100.0**	**3,227.3**

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 212.0 million on a fair value basis. This corresponds to a proportion of 0.5%. The individual countries account for the following shares: Spain EUR 123.9 million, Italy EUR 61.9 million and Portugal EUR 26.2 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 3,763.3 million of the corporate bonds held by our company were issued by entities in the financial sector. Of this amount, EUR 3,058.4 million was attributable to banks. The vast majority of these bank bonds (72.1%) 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 355.1 million (9.3%) of our accounts receivable from reinsurance business totalling EUR 3,836.5 million were older than 90 days as at the balance sheet date. The average default rate over the past four years was 0.06%.

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.

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 to calculate the capital commitment in our internal capital model.

Within the overall framework of operational risks we consider, in particular, business process risks (including data quality), compliance risks, outsourcing risks, fraud risks, personnel risks, information/IT 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 a highly critical success factor in this regard, especially in risk management, because – among other things – the validity of the results delivered by the internal capital model depends primarily on the data provided.

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.

We use sanctions screening software on parts of the Hannover Re Group's portfolio to filter out individuals who are subject to sanctions on account of a criminal or terrorist background. Suitable steps are taken if such individuals are identified. Business partners are also screened in this way.

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.

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.

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 distribution channels, although these are minimised through the careful selection of agencies, mandatory underwriting guidelines and regular checks.

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. Further examples of emerging risks include technology risks, shortage of resources and pollution.

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 loss of data 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. Not only that, Hannover Re has set up an organisational unit for "Innovation Management". This department identifies growth opportunities and cooperates to this end with selected incubators and accelerators in start-up hotspots around the world.

Since as long ago as 2010 oversight of innovation 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 networking among the innovative minds involved gives 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 a new type of risk is to be insured. 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 evaluated. 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 60%. 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 2016.

Outlook for 2017

Forecast

- Gross premium expected to show a single-digit percentage increase after adjustment for currency translation effects
- Return on investment of at least 2.7% anticipated for assets under own management
- Group net income forecast to exceed EUR 1 billion

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 growth of more than 5% in the gross premium for our total business in the current financial year.

As had been anticipated, the treaty renewals in property and casualty reinsurance as at 1 June and 1 July 2017 were impacted by sustained competition. It is on these dates that parts of the North American portfolio, natural catastrophe risks and some areas of credit and surety business traditionally come up for renewal. This was also the main renewal season for business in Australia and New Zealand. Appreciable premium erosion was observed here in some cases, although it was also possible to obtain significant price increases under loss-affected programmes. This was especially true of Australia as a consequence of cyclone "Debbie" and in New Zealand following an earthquake in that country. Our strong market position enabled us to generate adequate margins for the Australasian region.

We are satisfied with the treaty renewals for the North American market and were able to boost our premium volume here by around 15%. A key factor, among others, was that we wrote larger shares in the business that we renewed with selected clients. In property business the pressure on rates remained moderate overall. Rate declines for loss-free programmes were in the low single-digit percentage range, mostly less than 3%. For treaties that had been impacted by losses, on the other hand, rate improvements of between 10% and 20% were achieved. An exception here is business in Florida, which has seen significantly more marked rate reductions of up to 10%. The impact of competition from the ILS market is particularly evident here. The casualty lines were for the most part still competitive; in the general liability and workers' compensation lines rates were lower than in the treaty renewals as at 1 January 2017. In Canada, on the other hand, we wrote a number of new treaties in the medical malpractice sector with the associated attractive growth in premium.

In natural catastrophe business premium erosion was observed in most markets. We were able to offset this thanks to a positive rate trend in Australia.

In credit and surety business we grew our portfolio. Not only did we write new programmes in these lines, we also increased our shares in existing treaties.

Premium growth of 10% was booked for the total renewed portfolio of property and casualty reinsurance.

For the full 2017 financial year it is our expectation that the underwriting result in property and casualty reinsurance will still be good despite the protracted soft market. We continue to aim 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 we expect that international markets will continue to show a promising development overall and that potential new business opportunities will open up throughout the remainder of 2017. Gross premium – adjusted for exchange rate effects – is likely to post a modest increase compared to the previous year. This expectation 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. The value of new business should be in excess of EUR 220 million. Our targeted EBIT margins also remain unchanged at 2% for financial solutions and longevity business and 6% for mortality and morbidity business.

We are, however, anticipating further losses from older underwriting years of our US mortality portfolio for the full financial year as well. At issue here is a large block of business that we assumed at the beginning of 2009. In the third quarter we already expect to take a charge against earnings in the order of USD 50 million from the commutation of treaties as part of our portfolio management activities. While this will reduce the losses from the business over the long term, it will adversely impact the result in life and health reinsurance for the current year.

With regard to our IVC targets – which we use to map economic value creation –, we are aiming for at least 3% xRoCA for 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. In the area of fixed-income securities we continue to emphasise the high quality and diversification of our portfolio. As far as the allocation of our investments to the individual asset classes is concerned, we are planning – aside from the temporary exceptions on the USD side already discussed – to further expand our holdings of fixed-income securities rated BBB or slightly lower while at the same time enlarging our portfolio of government bonds. Similarly, we shall further expand our exposure to the real estate sector as attractive openings arise. Overall, the primary focus will remain on stability while maintaining an adequate risk/return ratio that will enable us to respond flexibly to general developments and emerging opportunities. For 2017 we are targeting a return on investment of more than 2.7%.

In light of the business development to date, we currently expect to generate Group net income in excess of EUR 1 billion for 2017. This is conditional upon the burden of major losses not significantly exceeding the budgeted level of EUR 825 million and assumes that there are no unforeseen distortions on capital markets.

Hannover Re envisages a payout ratio for the dividend in the range of 35% to 40% of its IFRS Group net income. If the comfortable level of capitalisation remains unchanged, this figure will probably increase in light of capital management considerations through payment of a special dividend.

Events after the reporting date

Matters of special significance occurring after the balance sheet date are described in section 8.6 of the notes "Events after the end of the reporting period" on page 62.