somewhat different

18

Annual Report

hannover re®

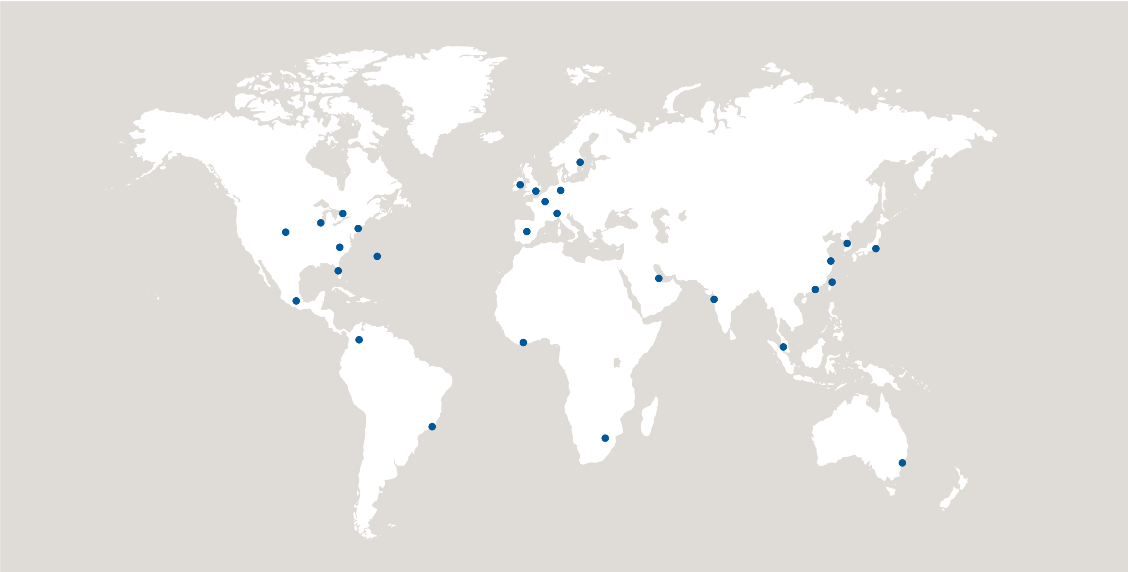
Key figures

Figures in EUR million	2018	+/− previous year	2017	2016[1]	2015	2014
Results						
Gross written premium	19,176.4	+7.8%	17,790.5	16,353.6	17,068.7	14,361.8
Net premium earned	17,289.1	+10.6%	15,631.7	14,410.3	14,593.0	12,423.1
Net underwriting result	(51.1)		(488.5)	115.9	93.8	(23.6)
Net investment income	1,530.0	-13.7%	1,773.9	1,550.4	1,665.1	1,471.8
Operating profit (EBIT)	1,596.6	+17.0%	1,364.4	1,689.3	1,755.2	1,466.4
Group net income	1,059.5	+10.5%	958.6	1,171.2	1,150.7	985.6
Balance sheet						
Policyholders´ surplus	11,035.1	+2.4%	10,778.5	11,231.4	10,267.3	10,239.5
Equity attributable to shareholders of Hannover Rück SE	8,776.8	+2.9%	8,528.5	8,997.2	8,068.3	7,550.8
Non-controlling interests	765.2	+0.9%	758.1	743.3	709.1	702.2
Hybrid capital	1,493.1	+0.1%	1,492.0	1,490.8	1,489.9	1,986.5
Investments (excl. funds withheld by ceding companies)	42,197.3	+5.3%	40,057.5	41,793.5	39,346.9	36,228.0
Total assets	64,508.6	+5.4%	61,196.8	63,594.5	63,214.9	60,457.6
Share						
Earnings per share (basic and diluted) in EUR	8.79	+10.5%	7.95	9.71	9.54	8.17
Book value per share in EUR	72.78	+2.9%	70.72	74.61	66.90	62.61
Dividend	633.1	+5.0%	603.0	603.0	572.8	512.5
Dividend per share in EUR	3.75 + 1.50[2,3]	+5.0%	3.50 + 1.50[3]	3.50 + 1.50[3]	3.25 + 1.50[3]	3.00 + 1.25[3]
Share price at year-end in EUR	117.70	+12.2%	104.90	102.80	105.65	74.97
Market capitalisation at year-end	14,194.3	+12.2%	12,650.6	12,397.4	12,741.1	9,041.2
Ratios						
Combined ratio (property and casualty reinsurance)[4]	96.5%		99.8%	93.7%	94.4%	94.7%
Large losses as percentage of net premium earned (property and casualty reinsurance)[5]	7.9%		12.3%	7.8%	7.1%	6.1%
Retention	90.7%		90.5%	89.3%	87.0%	87.6%
Return on investment (excl. funds withheld by ceding companies)[6]	3.2%		3.8%	3.0%	3.5%	3.3%
EBIT margin[7]	9.2%		8.7%	11.7%	12.0%	11.8%
Return on equity (after tax)	12.2%		10.9%	13.7%	14.7%	14.7%

1 Restated pursuant to IAS 8
2 Proposed dividend
3 Dividend of EUR 3.75 plus special dividend of EUR 1.50 for 2018, dividend of EUR 3.50 plus special dividend of EUR 1.50 for 2017, dividend of EUR 3.50 plus special dividend of EUR 1.50 for 2016, dividend of EUR 3.25 plus special dividend of EUR 1.50 for 2015 and dividend of EUR 3.00 plus special dividend of EUR 1.25 for 2014
4 Including expenses on funds withheld and contract deposits
5 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
6 Excluding effects from ModCo derivatives
7 Operating result (EBIT)/net premium earned

The Group worldwide

I 07



A complete list of our shareholdings is provided on page 186 et seq. of the notes. The addresses of the Hannover Re Group's branch offices and subsidiaries abroad are to be found in the section "Further information" on page 287 et seq.

Strategic business groups

I 08

Hannover Re Group

Property & Casualty reinsurance

Target Markets
- North America
- Continental Europe

Specialty Lines Worldwide
- Marine
- Aviation
- Credit, Surety and Political Risks
- United Kingdom, Ireland, London Market and Direct Business
- Facultative Reinsurance

Global Reinsurance
- Worldwide Treaty Reinsurance
- Catastrophe XL (Cat XL)
- Structured Reinsurance and Insurance-Linked Securities

Life & Health reinsurance

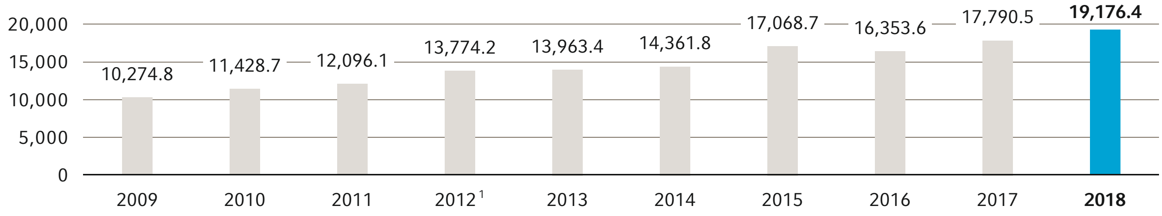
Financial Solutions

Risk Solutions
- Longevity
- Mortality
- Morbidity

An overview

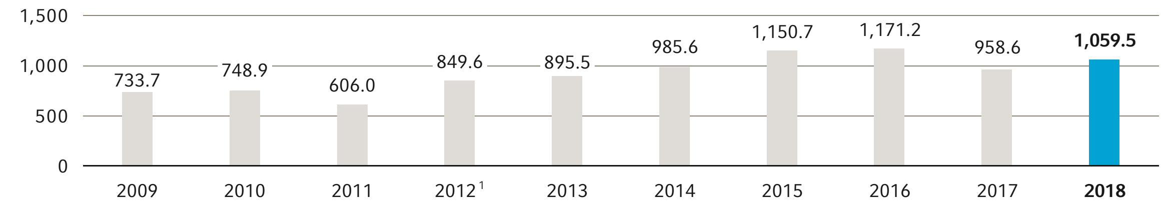
Gross premium
in EUR million

I 01



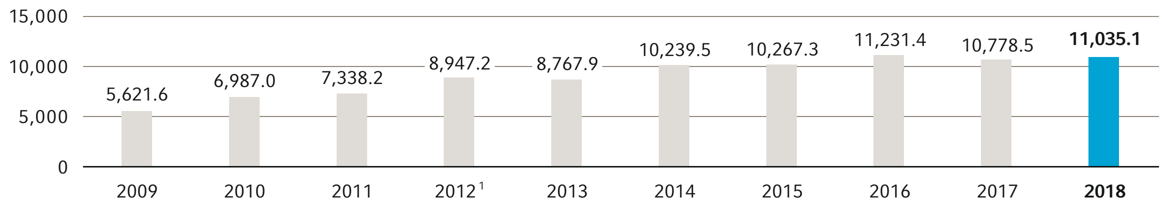
Group net income (loss)
in EUR million

I 02



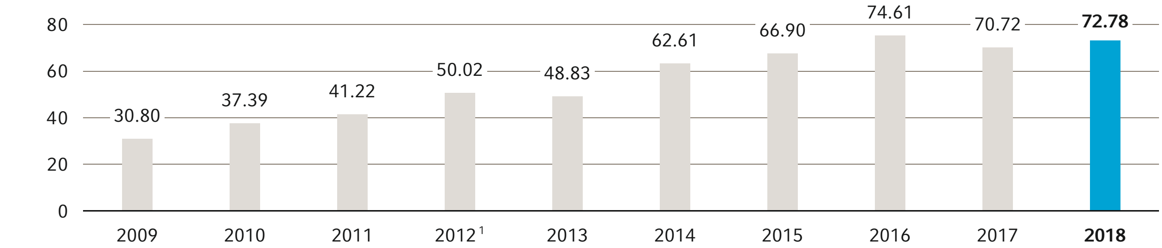
Policyholders' surplus
in EUR million

I 03



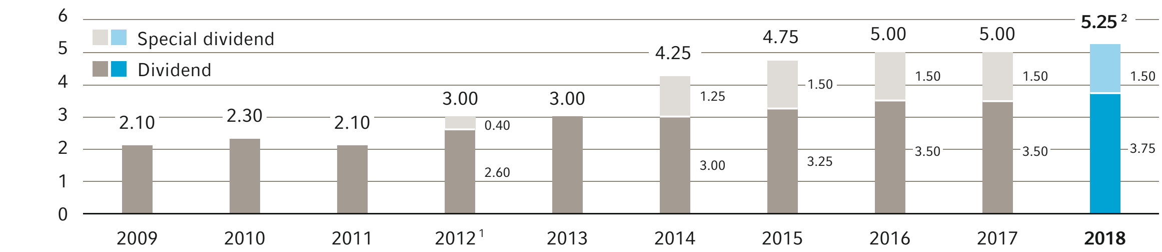
Book value per share
in EUR

I 04



Dividend
in EUR

I 05



1 Restated pursuant to IAS 8
2 Proposed dividend

About us

Hannover Re, with gross premium of more than EUR 19 billion, is the fourth-largest reinsurer in the world.

We transact all lines of property & casualty and life & health reinsurance and are present on all continents with more than 3,300 staff. Established in 1966, the Hannover Re Group today has a network of more than 170 subsidiaries, branches and representative offices worldwide. The German business of the Hannover Re Group is transacted by our subsidiary E+S Rück.

The rating agencies most relevant to the insurance industry have awarded both Hannover Re and E+S Rück outstanding financial strength ratings: Standard & Poor's AA- "Very Strong" and A.M. Best A+ "Superior".

Contents

Ulrich Wallin,
Chairman of the Executive Board

Dear Shareholders,
Ladies and Gentlemen,

For the tenth consecutive year it is my pleasure to present here the annual financial statement of your company, Hannover Re. I am especially delighted that the 2018 financial year proved to be another successful one for Hannover Re: for the tenth year in a row we are reporting a double-digit return on equity and are able to propose a dividend that can be described as thoroughly attractive in light of the company's market capitalisation.

This should not, however, blind us to the fact that 2018 has also posed special challenges. In life and health reinsurance, for example, we had to absorb a substantial one-time strain from our US mortality portfolio relating to a large block of business acquired at the beginning of 2009. In this regard we were compelled to exercise our right to raise reinsurance rates across a broad front; this led to extensive treaty recaptures, which in turn adversely impacted the statement of income for 2018. Allowing for the necessary release of an expense reserve set aside for the same business, we incurred one-off charges in the order of EUR 200 million before tax. In property and casualty reinsurance, too, we were faced with significant major losses that exceeded – albeit only marginally – our large loss budget. The fact that we still generated Group net income of EUR 1.06 billion can be attributed to the outstanding success of our capital measures as well as the good underlying quality of our portfolio in both property & casualty and life & health reinsurance. This result marks the third occasion – after 2015 and 2016 – that we have achieved Group net income in excess of EUR 1 billion. The return on equity comfortably outperformed our minimum target of 900 basis points above the risk-free interest rate to reach a level of 12.2 percent. Based on this good performance, the Executive Board and Supervisory Board will propose to the Annual General Meeting that an increased dividend of EUR 5.25 per share should be distributed to you, our valued shareholders, for the 2018 financial year. The total dividend payment is split into an ordinary dividend of EUR 3.75 per share plus an unchanged special dividend of EUR 1.50 per share.

The premium income booked by Hannover Re in the year under review grew to EUR 19.2 billion. This is equivalent to a gain of 11.6 percent adjusted for exchange rate effects and is particularly notable for dynamic expansion in property and casualty reinsurance, where we achieved a currency-adjusted increase of 16.2 percent. In life and health reinsurance, too, we boosted the premium volume by 4.6 percent adjusted for exchange rate effects, an increase that is within our target corridor of 3 to 5 percent per year.

Furthermore, we increased the operating profit (EBIT) in both life & health and property & casualty reinsurance by double-digit percentages. This is all the more remarkable in the case of life and health reinsurance bearing in mind the aforementioned one-time charges.

In 2018, as in prior years, we generated another very pleasing profit contribution from our investments; even in times where the state of capital markets is becoming increasingly difficult and challenging, our asset portfolio has shown itself to be a reliable source of income. The performance of our real estate portfolio has proven to be particularly gratifying. With a return on investment of 3.2 percent from assets under own management we comfortably beat the minimum target of 2.7 percent that we had set ourselves for 2018. This can be attributed not least to the continued very positive cash flow from operating activities, which once again amounted to more than EUR 2 billion in 2018 and was a contributory factor in the favourable development of the investment portfolio.

Shareholders' equity also increased again in 2018 to reach a level of EUR 8.8 billion.

Among all the developments affecting our company in 2018, it is with our deepest regret that we must report one very sad event. Jürgen Gräber, a long-standing member of our Executive Board, passed away suddenly and entirely unexpectedly in November 2018. We shall miss Jürgen Gräber as a friend and esteemed colleague, and we shall cherish the memory of his considerable service to Hannover Re.

I would like now to turn my attention to the upcoming 2019 financial year.

Personnel changes are coming to the Executive Board of Hannover Re in 2019. Firstly, at its meeting on 6 March 2019 the Supervisory Board appointed Silke Sehm to Hannover Re's Executive Board. Secondly, Jean-Jacques Henchoz has been appointed as a member of Hannover Re's Executive Board with effect from 1 April 2019 and – in accordance with an appropriate resolution adopted by the Supervisory Board – he will take the reins as Chief Executive Officer following the end of the Annual General Meeting on 8 May 2019. Ms. Sehm has served Hannover Re as an accomplished senior executive for many years and, most notably, she has been exceptionally successful in developing the area of structured reinsurance solutions. With the addition of Mr. Henchoz we have been able to recruit a proven expert with a long-standing track record in reinsurance to join our ranks at Hannover Re. I have no doubt that in its new composition the Executive Board of Hannover Re will assure the sustained success of your company going forward, as it has in the past.

As 2019 got underway HDI Global Specialty SE, the joint venture undertaken by our specialty insurer Inter Hannover SE and HDI Global SE, commenced its business operations. We are convinced that Inter Hannover SE, which is at the heart of this joint venture, will be able to grow even more successfully in this new configuration. As Hannover Re, we are now in a position to focus on our core business of reinsurance. At the same time, we shall continue to participate in the development of the company's specialty business through a corresponding quota share reinsurance arrangement, and we can thus expect to share in the company's successful development on a long-term basis.

The renewal season in property and casualty reinsurance as at 1 January 2019 once more passed off very successfully for Hannover Re. Despite the competitive pressure that remains in place, we were able to moderately improve the premium quality of the renewed business. Growth was again very vigorous, coming in at 15.4 percent in relation to our portfolio of traditional property and casualty reinsurance.

In life and health reinsurance we expect to see a substantial surge in profitability for 2019. This is because, thanks to the portfolio management actions successfully implemented in 2018, the strains on this business will be substantially lighter in 2019. The good underlying quality of our book of worldwide life and health reinsurance as well as our US financial solutions business will therefore be more clearly reflected in the result.

In view of the sustained positive cash flow that we expect to generate from the technical account and the investments themselves, our asset portfolio should continue to grow. Against a backdrop of further single-digit percentage growth in the premium volume, we anticipate Group net income in the order of EUR 1.1 billion for the current financial year. This guidance is subject to the proviso that major loss expenditure does not significantly exceed the budgeted amount of EUR 875 million and assumes that there are no unforeseen distortions on the capital markets.

I would like to take this opportunity to thank you, our valued shareholders, most sincerely for your trust – also on behalf of my colleagues on the Executive Board. A special word of thanks goes to our employees for their successful, very good and responsible work. Without them, Hannover Re's achievements would not have been possible.

Yours sincerely,

Ulrich Wallin
Chairman of the Executive Board

Executive Board of Hannover Rück SE

As of 31 December 2018

Dr. Klaus Miller
Life & Health Reinsurance
- United Kingdom/Ireland, North America, Northern, Eastern and Central Europe

Ulrich Wallin
Chairman
Innovation Management
Compliance
Controlling
Human Resources Management
Internal Auditing
Risk Management
Corporate Development
Corporate Communications

Claude Chèvre
Life & Health Reinsurance
- Africa, Asia, Australia/ New Zealand, Latin America, Western and Southern Europe
- Longevity Solutions

Roland Vogel
Finance and Accounting
Information Technology
Investment and Collateral Management
Facility Management

Sven Althoff
Specialty Lines Worldwide

- Marine
- Aviation
- Credit, Surety and Political Risks
- United Kingdom, Ireland, London Market and Direct Business
- Facultative Reinsurance

Dr. Michael Pickel
Group Legal Services
Run-Off Solutions
Target Markets in
Property & Casualty Reinsurance

- North America
- Continental Europe

Jürgen Gräber
Until 9 November 2018
Global Reinsurance

- Worldwide Treaty Reinsurance
- Catastrophe XL (Cat XL)
- Structured Reinsurance and Insurance-Linked Securities

Coordination of Property & Casualty
Business Group
Quotations
Retrocessions

Jürgen Gräber

* 18 September 1956 † 9 November 2018

We were deeply saddened by the news of Jürgen Gräber's passing. On 9 November 2018 he died suddenly and entirely unexpectedly at the age of 62.

After graduating in economics Jürgen Gräber embarked on his professional career in 1981 as an underwriter with Hannover Re. In 1997 he was appointed to the Executive Board, most recently overseeing the coordination of the Property&Casualty reinsurance business group. Over the years Jürgen Gräber took on a broad range of regional and specialist responsibilities. His knowledge and energy have left an indelible mark on our company.

We have lost a colleague and friend in Jürgen Gräber, who played his part with exemplary dedication, a profound sense of responsibility and powerful charisma. Both within and beyond the ranks of our company he gained an enduring reputation. The successful development of Hannover Re was inextricably linked to the name of Jürgen Gräber.

He has left a deep void not only in his family and among his relatives, but also for us. The Supervisory Board, the Executive Board and the members of staff will honour his memory.

Expertise in demand

Somewhat different

Our self-image

Going about things differently – that is precisely what sets Hannover Re apart. Thanks to lean structures and an efficient organisation, we are able to respond quickly, flexibly and pragmatically to market opportunities and customer requirements.

Our considerable performance capability is entirely at the service of our customers. We concentrate on what matters. Purposeful and efficient in our approach and assisted by flat hierarchies and the extensive decision-making powers assigned to our highly skilled and dedicated staff around the world, we deliver tailor-made solutions for our clients.

We operate with the lowest management expense ratio in the industry – a competitive edge that enables us to take the long view even in protracted soft market phases.

The Hannover Re share

- Share performance of 17.1% including reinvested dividends
- Proposed dividend of EUR 3.75 plus special dividend of EUR 1.50 per share above the previous year's level

Equity markets dragged down by geopolitical and economic uncertainties

Capital markets proved to be highly volatile and challenging in the year under review in the face of numerous geopolitical and economic issues. The relatively carefree year enjoyed by investors in 2017 thanks to low interest rates, low inflation and robust economic growth gave way to a marked shift in sentiment in 2018 against the backdrop of the threat and initiation of tariff and trade wars between the United States and China, the repeated flare-up of concerns around Italy's stability and the protracted lack of clarity surrounding the outcome of Brexit negotiations. While factors such as the overhaul of international trade agreements and increasing challenges associated with forming a government in Germany had little impact on financial markets in the first quarter, hope of real growth stimuli materialised in the US at the start of the year in the shape of large-scale tax reform. The picture that became evident globally as the year progressed was a nuanced one. While China maintained its growth impetus, central banks in other emerging economies were compelled to adopt a significantly tighter monetary policy in order to protect their currencies. This led to an appreciable softening in the pace of growth and initial price reactions on capital markets.

The German DAX index started the year at 12,918 points and climbed as high as 13,560 points in January – a level which was also its highest for the year. German blue chips began to see their first price corrections over the remainder of the year, unsettled by clouds on the economic horizon and early profit warnings coming out of export-oriented companies. The announcement by the European Central Bank in mid-December to the effect that it would be terminating its purchases of new government and corporate sector bonds at year-end accelerated the downward slide on European stock markets. On 27 December, one day before the close of trading, the German bellwether index sank to its lowest level of the year at 10,382 points. The DAX closed out the final trading day down on the year for the first time since 2011 at 10,559 (-18.3%).

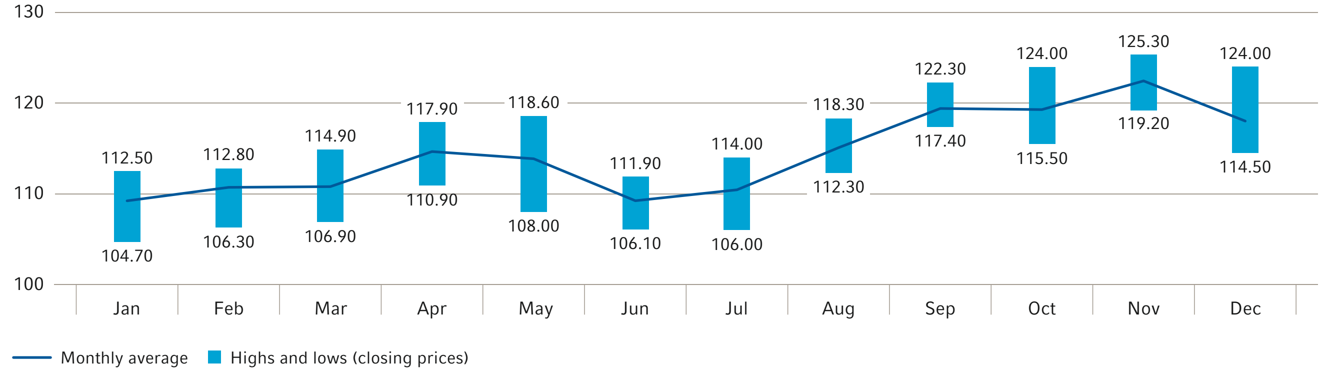
The performance of the MDAX, which entered the year at 26,201 points and touched its highest level of 27,455 on 19 January 2018, was not significantly better. It moved sideways in the months that followed, albeit showing elevated volatility. The MDAX ultimately closed out the year down by 17.6% at 21,588. The S&P 500 and Dow Jones Industrial indices fared less poorly, retreating by 5.2% and 6.7% respectively on the year thanks to support from growth stimuli associated with US tax reform. The MSCI World index ended the year 8.8% lower at 1,920 points.

Hannover Re share reaches a new all-time high

The Hannover Re share stood at EUR 104.90 going into the year. By 3 January 2018 it had already touched its lowest point of the year at EUR 104.70. Against the backdrop of the numerous large losses incurred in 2017, Hannover Re made the most of the opportunities on the reinsurance markets in the treaty renewals as at 1 January 2018 and substantially expanded its portfolio in keeping with the company's selective and margin-focused underwriting policy. In this context the share price rose steadily until March and remained stable through the second quarter. With a view to stemming the

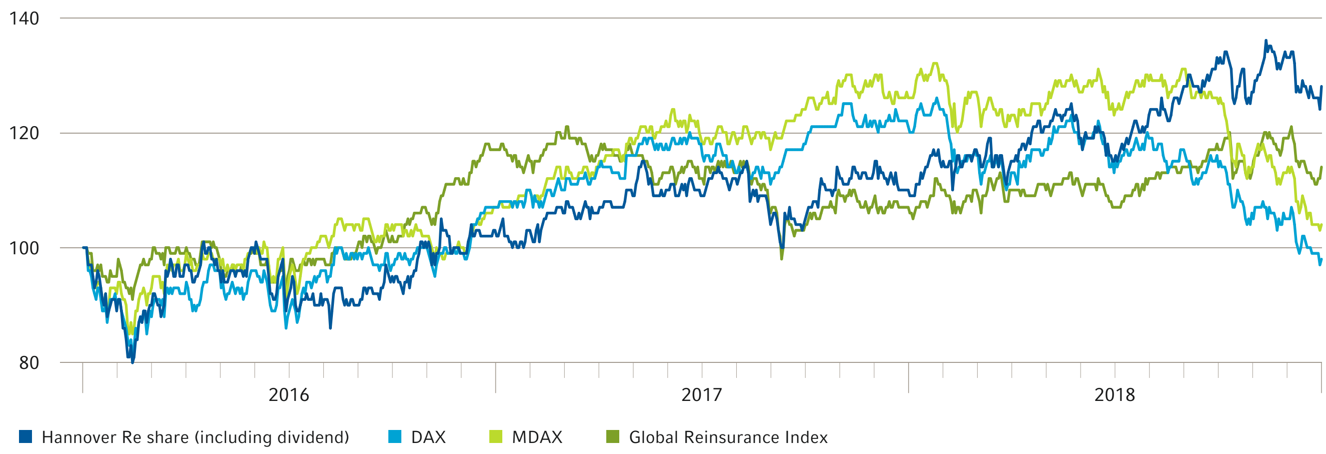
Highs and lows of the Hannover Re share I 09

in EUR



Relative performance of the Hannover Re share I 10

in %



negative earnings situation that had prevailed for a number of years in US mortality business, management exercised its right to implement consistent rate increases across the board. The resulting right of ceding companies to recapture treaties, however, led to considerable pre-tax strains on the IFRS result in life and health reinsurance over the year as a whole. The announcement of this development in connection with the half-yearly results was, however, well received thanks to the clear delimitation of the losses, the associated favourable earnings prospects going forward and the confirmed profit guidance for the full year. The share consequently continued to rise in price and on 9 November, a day after the nine-month results were released, it climbed to its highest point of the year – and new all-time high – of EUR 125.30. The upward trend was also supported by a shift in market sentiment. Against a backdrop of geopolitical and economic uncertainties as well as early indications of a slowdown in global economic growth, defensive securities such as insurance and reinsurance stocks moved back into focus for investors.

At the end of the financial year the Hannover Re share closed with a gain of 12.2% at EUR 117.70, delivering a performance of 17.1% including reinvested dividends. Looked at over the year as a whole, the Hannover Re share thus significantly outperformed its domestic benchmark indices, namely the DAX (-18.3%) and MDAX (-17.6%) as well as the international Global Reinsurance (Performance) Index (+7.2%). Since 2018 the Global Reinsurance Index has tracked the share performance including dividend payments of the world's largest 10 (previously largest 15) reinsurers. Hannover Re measures its performance by this benchmark index.

In a three-year comparison the Hannover Re share delivered a performance (including reinvested dividends) of 27.6%. From a longer-term perspective it thus also continues to comfortably outperform the benchmark DAX (-1.7%) and MDAX (3.9%) indices as well as the Global Reinsurance Index (13.9%).

Based on the year-end closing price of EUR 117.70, Hannover Re's market capitalisation totalled EUR 14.2 billion at the end of the 2018 financial year, an increase of EUR 1.5 billion or 12.2% compared to the previous year's figure of EUR 12.7 billion. According to the rankings drawn up by Deutsche Börse AG, the company placed fifth in the MDAX at the end of December with a free float market capitalisation of EUR 7,146.4 million and eighteenth with a trading volume of EUR 4,921.5 million over the past twelve months.

With a book value per share of EUR 72.78 the Hannover Re share showed a price-to-book (P/B) ratio of 1.62 at the end of the year under review; compared both to the average MDAX P/B ratio of 1.55 as at year-end and the P/B ratio for the peer group, the share thus continues to be significantly better valued.

Dividend increase planned for the 2018 financial year

The Executive Board and Supervisory Board intend to propose to the Annual General Meeting on 8 May 2019 that a dividend of EUR 3.75 plus a special dividend of EUR 1.50 per share should be distributed. The total dividend of EUR 5.25 is thus EUR 0.25 higher than in the previous year. In keeping with the previous year, the special dividend will be paid as a capital management measure because the company's capitalisation continues to exceed the required capital. Based on the year-end closing price of EUR 117.70, this produces a dividend yield of 4.5%.

Annual General Meeting looked back on a satisfactory Group result despite a year of heavy losses

The Annual General Meeting of Hannover Rück SE was held on 7 May 2018 at Hannover Congress Centrum (HCC). Altogether, including postal ballots around 82% of the share capital (previous year: 77%) was represented.

In his address to shareholders Chief Executive Officer Ulrich Wallin took the opportunity to look back on the 2017 financial year, which was notable for significantly more loss events after five comparatively benign years. In particular, hurricanes Harvey, Irma and Maria – along with other natural catastrophes – inflicted heavy insured losses. Hannover Re, in common with other market players, was substantially impacted. The company nevertheless generated a result that translated into a return on equity of 10.9% and comfortably beat the minimum target of 900 basis points above the risk-free interest rate. Bearing in mind the loss experience, the Group net income of EUR 959 million constituted a satisfactory result.

The shareholders accepted the proposal of the Executive Board and Supervisory Board that a gross dividend of EUR 5.00 per share should be paid. As in the previous year, the payout took the form of an ordinary dividend of EUR 3.50 per share and a special dividend of EUR 1.50 per share. In view of the fact that Mr. Wolf-Dieter Baumgartl and Mr. Klaus Sturany resigned their seats at the end of the Annual General Meeting on 7 May 2018, two by-elections for shareholder representatives on the Supervisory Board were also on the agenda. The two proposed candidates, Dr. Ursula Lipowsky and Mr. Torsten Leue, were each elected to the Supervisory Board on an individual basis by a substantial majority. The election of Dr. Ursula Lipowsky further increased the proportion of women on Hannover Re's Supervisory Board to 44%. Furthermore, the Annual General Meeting approved the proposed resolutions put to the vote by management under all other items on the agenda by a comfortable three-quarters majority.

All voting results and the attendance were published on the company's website following the Annual General Meeting. The next Annual General Meeting will be held on Wednesday, 8 May 2019 in Hannover.

Dialogue with the capital market

The Executive Board and representatives of the Investor Relations department cultivated the dialogue with institutional investors continuously throughout the financial year just ended. The focus of their efforts remained on the financial centres of Europe and North America. While the number of capital market conferences attended was unchanged year-on-year at 17, the interest shown by institutional investors in on-site visits in the context of roadshows was sharply lower. While the latter were down by almost half compared to the previous year, the company nevertheless noted a substantial rise in demand among investors for visits to its Hannover headquarters as well as individually tailored conference calls. As the year got underway a particularly pivotal topic of discussion was the impact of the US tax reform on Hannover Re. As the months passed the negative earnings situation in US mortality business came to play a prominent role, as did the countermeasures taken by the company and their implications for the full-year profit guidance.

The developments in US mortality business were also addressed at Hannover Re's 21st Investors' Day, which was held on 18 October 2018 in London and carried as a parallel webcast on the company's website. The Executive Board additionally took the opportunity to provide insights into new business prospects in life reinsurance outside the US as well as an update on the company's capitalisation and risk profile. Discussions about the relevance of the cash flow in property and casualty reinsurance similarly featured on the agenda, a did the likely effects of implementation of the IFRS 17 accounting standard on financial reporting by (re)insurance undertakings.

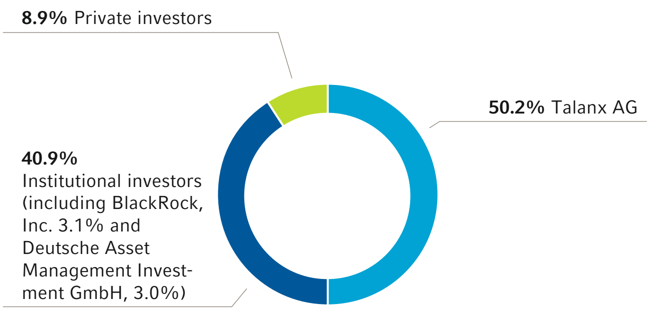
Sustainability reporting and ratings

In the year just ended Hannover Re once again provided information about its achievements as a responsible enterprise in the form of a stand-alone sustainability report drawn up in accordance with the current internationally recognised reporting standards of the Global Reporting Initiative (GRI). Based on its seventh Sustainability Report, the company's sustainability performance was assessed by more than ten rating agencies, including RobecoSAM, MSCI, FTSE4Good, Sustainalytics, ISS, VigeoEIRIS and oekom research. Furthermore, Hannover Re conducted a stakeholder survey with an external partner in the financial year just ended with the aim of identifying non-financial matters of material significance to the company's business activities. In this context consideration was given to the various materiality approaches of the Global Reporting Initiative (GRI), which forms the basis of the company's extensive annual Sustainability Report, and to the CSR Directive Implementation Act, on which the non-financial information statement is based. Representatives of the following stakeholder groups were surveyed: clients, brokers, the capital market, employees, non-governmental organisations and the public sector. The findings were incorporated for the first time into the Group non-financial information statement, which is part of the Group management report.

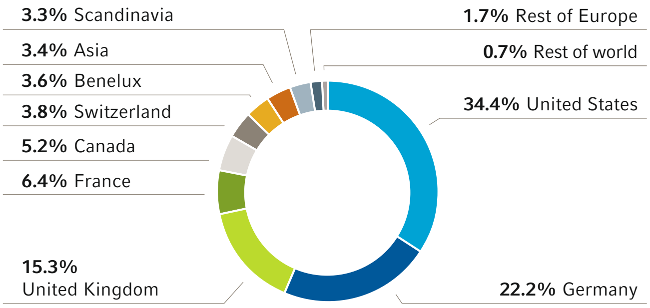
Shareholder structure

Our share register showed some 51,000 shareholders at the end of the year, another increase in the number of shareholders year-on-year (48,000). The largest shareholders as at year-end were Talanx AG with 50.2% and the asset manager BlackRock, Inc., with a reported 3.05% and Deutsche Asset Management Investment GmbH with 3.02% of the voting rights. Of the remaining shares outstanding, by far the bulk – at 37.8% – were held by other institutional investors such as banks, insurers and investment companies (previous year in total: 35.5%); private investors held 8.9% (11.2%). Our shareholders include investors who pay particularly close attention to sustainability criteria.

Shareholding structure as at 31 December 2018 I 11



Geographical breakdown of the shares held by institutional investors I 12



Analyst ratings

By the end of the year 30 analysts had handed down opinions on Hannover Re: three analysts (nine) recommended the Hannover Re share as "buy" or "overweight". Altogether 17 opinions (18) were a "hold", making this the most common. "Underweight" or "sell" recommendations were issued a total of ten (five) times. The analysts' average price target continued to move higher in the year under review from EUR 110.49 at the start of the financial year to EUR 116.20 at year-end. This development is particularly pleasing in view of what is still a relatively superior valuation measured against peer companies.

Basic information | 13

Securities identification number	840 221
International Securities Identification Number (ISIN)	DE 000 840 221 5
Ticker symbols	
Bloomberg	HNR1
Thomson Reuters	HNRGn
ADR	HVRRY
Exchange listings	
Germany	Xetra, Frankfurt, Munich, Stuttgart, Hamburg, Berlin, Düsseldorf, Hannover (official trading: Xetra, Frankfurt and Hannover)
United States	American Depositary Receipts (Level 1 ADR program; 2 ADR = 1 share)
Market segment	Prime Standard
Index inclusion	MDAX
First listed	30 November 1994
Number of issued shares (as at 31 December 2018)	120,597,134
Common shares (as at 31 December 2018)	EUR 120,597,134.00
Share class	No-par-value registered shares

Key figures | 14

in EUR	2018	2017	2016	2015	2014
Number of shares in million	120.6	120.6	120.6	120.6	120.6
Annual low [1]	104.70	95.95	84.12	73.81	58.88
Annual high [1]	125.30	115.65	106.20	111.50	75.92
Year-opening price [1]	104.90	102.80	105.65	74.97	62.38
Year-ending price [1]	117.70	104.90	102.80	105.65	74.97
Market capitalisation at year-end in EUR million	14,194.3	12,650.6	12,397.4	12,741.1	9,041.2
Equity attributable to shareholders of Hannover Rück SE in EUR million	8,776.8	8,528.5	8,997.2	8,068.3	7,550.8
Book value per share	72.78	70.72	74.61	66.90	62.61
Earnings per share (basic and diluted)	8.79	7.95	9.71	9.54	8.17
Dividend per share	3.75 + 1.50 [2, 3]	3.50 + 1.50 [3]	3.50 + 1.50 [3]	3.25 + 1.50 [3]	3.00 + 1.25 [3]
Cash flow per share	18.45	14.05	19.33	25.75	16.01
Return on equity (after tax) [4]	12.2%	10.9%	13.7%	14.7%	14.7%
Dividend yield [5]	4.5%	4.8%	4.9%	4.5%	5.7%
Price-to-book (P/B) ratio [6]	1.6	1.5	1.4	1.6	1.2
Price/earnings (P/E) ratio [7]	13.4	13.2	10.6	11.1	9.2
Price-to-cash flow (P/CF) ratio [8]	6.4	7.5	5.3	4.1	4.7

1 Xetra daily closing prices from Bloomberg
2 Proposed dividend
3 Dividend of EUR 3.75 plus special dividend of EUR 1.50 for 2018, dividend of EUR 3.50 plus special dividend of EUR 1.50 for 2017 and 2016, dividend of EUR 3.25 plus special dividend of EUR 1.50 for 2015 and dividend of EUR 3.00 plus special dividend of EUR 1.25 for 2014
4 Earnings per share/average of book value per share at start and end of year
5 Dividend per share/year-end closing price
6 Year-end closing price/book value per share
7 Year-end closing price/earnings per share
8 Year-end closing price/cash flow (from operating activities) per share

Combined management report

Foundations of the Group

Business model

- Worldwide reinsurance, transacting all lines of property & casualty and life & health reinsurance with the goal of achieving the broadest and most balanced possible regional and line-based diversification
- Competitive advantages due to our low cost of capital and administrative expense ratio
- Financial strength secured through sophisticated risk management

With a gross premium volume of more than EUR 19 billion, the Hannover Re Group is the fourth-largest reinsurer in the world. Hannover Rück SE is a European Company, Societas Europaea (SE), based in Hannover, Germany. We transact reinsurance in our Property & Casualty and Life & Health business groups.

The strategy pursued in both property & casualty and life & health reinsurance supports our Group's paramount mission, namely: "Creating value through reinsurance". Our entire business operations are geared to our goal of being the best option for our business partners when they come to choose their reinsurance provider. It is for this reason that our clients and their concerns form the focus of our activities.

We generate competitive advantages to the benefit of our clients and shareholders by conducting our reinsurance business with lower administrative expenses than our rivals. In this way we deliver above-average profitability while at the same time being able to offer our customers reinsurance protection on competitive terms.

We also strive for the broadest possible diversification and hence an efficient risk balance. This is achieved by accepting reinsurance risks with mostly little or no correlation in our Property & Casualty and Life & Health business groups across all lines of business as well as by maintaining a global presence. In conjunction with our capital management, this is the key to our comparatively low cost of capital.

Guided by a clearly defined risk appetite, our risk management steers the company so as to be able to act on business opportunities while securing our financial strength on a lasting basis.

Our subsidiary E+S Rückversicherung AG (E+S Rück), as the "dedicated reinsurer for the German market", offers a range of products and services tailored to the specific features of the German market. Of special importance here are the mutual insurers with whom we maintain a strategic partnership that is underscored through their participation in E+S Rück.

In the Property & Casualty reinsurance business group we consider ourselves to be a reliable, flexible and innovative market player that ranks among the best in any given market. Cost leadership, effective cycle management and superlative risk management are the key elements of our competitive positioning.

In the Life & Health reinsurance business group we are recognised – as customer surveys confirm – as one of the top players and a leading provider of innovative solutions. We achieve this standing by opening up new markets for our company and by identifying trends in order to anticipate the future needs of our customers.

Management system

Value-based management

Our integrated system of enterprise management constitutes the basis for attainment of our strategic objectives. Located at its core are, first and foremost, our profit and growth targets, which are summarised for the Group and its business groups in the so-called target matrix. In addition to traditional performance indicators geared to the IFRS balance sheet, our system of strategic targets also includes economic targets derived from our internal capital model approved by the regulator and from the economic equity pursuant to Solvency II reporting. The targets are regularly analysed and adjusted in the context of the strategy review conducted at periodic intervals. Thus, for example, with effect from the strategy cycle commencing in 2018 we added a target for our solvency ratio to the target matrix. In general terms, our primary focus is on medium- and long-term attainment of the strategic targets.

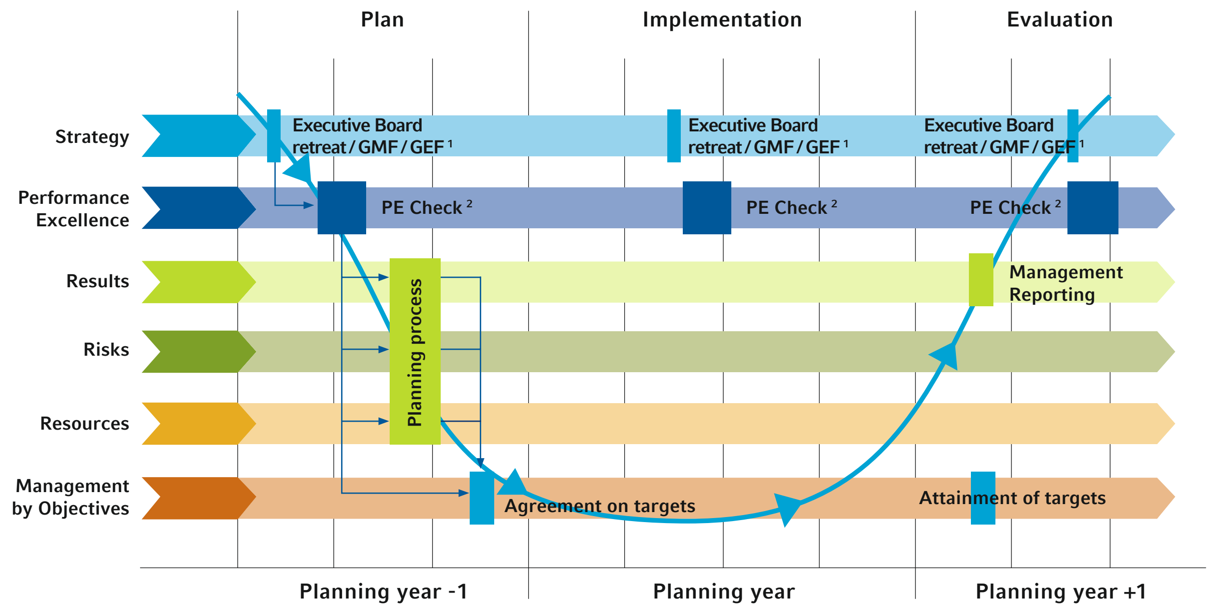
Target attainment **M 01**

Business group	Key data	Targets for 2018	Target attainment 2018	2017	2016	Ø 2016–2018[1]
Group	Investment return[2]	≥ 2.7%	3.2%	3.8%	3.0%	3.3%
	Return on equity[3]	≥ 9.4%	12.2%	10.9%	13.7%	12.3%
	Growth in earnings per share	≥ 5%	10.5%	-18.2%	1.8%	-2.7%
	Economic value creation[4,13]	≥ 6.4%	8.1%	2.1%	12.4%	7.2%
	Solvency ratio[5,13]	≥ 200%	245.7%	260.3%	229.8%	244.3%
Property & Casualty reinsurance	Gross premium growth	3–5%[6]	16.2%	18.7%	-0.2%	11.2%
	Combined ratio	≤ 96%[7]	96.5%	99.8%	93.7%	96.8%
	EBIT margin[8]	≥ 10%	12.2%	12.2%	16.8%	13.5%
	xRoCA[9]	≥ 2%	9.0%	1.1%	7.1%	5.8%
Life & Health reinsurance	Gross premium growth	3–5%[10]	4.6%	1.4%	-4.3%	0.5%
	Value of New Business (VNB)[11]	≥ EUR 220 million	EUR 290 million	EUR 364 million	EUR 893 million	EUR 516 million
	EBIT growth[13]	≥ 5%[12]	12.5%	-28.6%	-15.3%	-12.0%
	xRoCA[9]	≥ 2%	-2.4%	-8.5%	2.8%	-3.0%

1 Annual average growth, otherwise weighted averages
2 Excluding effects from ModCo derivatives
3 After tax; target: 900 basis points above the five-year average return on ten-year German government bonds
4 Growth in the economic equity including dividend paid
Target: 600 basis points above the five-year average return on ten-year German government bonds
5 In accordance with our internal capital model and Solvency II requirements
6 Average over the reinsurance cycle; at constant exchange rates
7 Including large loss budget of EUR 825 million
8 EBIT/net premium earned
9 Value contribution relative to allocated economic capital
10 Organic growth only; target: annual average growth over a three-year period; at constant exchange rates
11 Based on Solvency II principles; pre-tax reporting
12 Annual average growth over a three-year period
13 Strategic target since the 2018 financial year

In Performance Excellence (PE) we have at our disposal a consistent method Group-wide that enables us to steer the development of the company as well as to measure and hence also evaluate the extent to which we have achieved our strategic objectives. The decentralised approach used by PE is of special importance in this context: every single organisational unit defines and continuously examines its contributions to execution of the Hannover Re Group strategy and develops improvement initiatives.

System of value-based management:
Performance Excellence (PE) combines the strategic and operational levels **M 02**



[1] The Global Management Forum (GMF) and the Global Executive Forum (GEF) bring together senior managers of the Hannover Re Group from around the world for the purpose of defining strategic orientations. The parameters developed here serve as the basis for the subsequent planning process.
[2] Verification and elaboration of contributions to the Group strategy

Management by Objectives

The key indicators from the target matrix are integrated into the individual agreements on objectives with managers. When it comes to the definition of objectives, the participants take into account not only standardised financial indicators but also non-financial variables derived from the strategic parameters.

Management Reporting

The annual Management Reporting presents in detail the respective degree of target attainment for each individual treaty/regional department and service unit as well as for the two business groups of Property & Casualty and Life & Health reinsurance and for the Group as a whole. On this basis appropriate performance controlling is carried out, potential scope for improvement and refinement is identified and performance-oriented remuneration components defined in the context of Management by Objectives are established.

Capital allocation

The basis of value-based management is the risk-appropriate allocation of capital to the individual business activities. This enables us to evaluate the acceptance of underwriting risks and investment risks both in light of individual risk/return aspects and against the backdrop of our overall risk appetite. Our internal capital model supplies the key parameters for this purpose. Starting out from the Group's overall risk situation, capital is first allocated to the functional areas of underwriting and investments. We then further divide the capital within the underwriting sector, first between the business segments of property & casualty reinsurance and life & health reinsurance and then between the various reinsurance products according to risk categories/treaty types and lines. In this way, we ensure consistent adherence to our profit targets – allowing for risk, cost and return considerations – in the evaluation and pricing of our various reinsurance products.

IVC – the strategic management ratio

In order to manage the portfolios and individual treaties we apply underwriting-year-oriented measurement principles based on expected cash flows that appropriately accommodate the specific characteristics of property & casualty and life & health reinsurance. The attainment of targets in a particular financial year is also of interest – especially from the standpoint of shareholders. Based on our economic measurement according to Solvency II principles and our internal capital model, the foundation of our enterprise management, we strive to generate a profit in excess of the cost of capital. This return – which is the decisive ratio for the management of our business activities – is referred to as Intrinsic Value Creation (IVC).

With the aid of the IVC ratio it is possible to compare the value contributions of the Group as a whole, its two business groups and the individual operational units. This enables us to reliably identify value creators and value destroyers.

In this way, we can

- optimise the allocation of capital and resources,
- identify opportunities and risks and
- measure strategy contributions with an eye to our demanding profit and growth targets.

The IVC (Intrinsic Value Creation) is calculated according to the following formula:
Adjusted economic profit –
(capital allocated × weighted cost of capital) = IVC

The adjusted economic profit is comprised of two factors: the IFRS Group net income recognised after tax and the change in the balancing items for differences between economic valuations and amounts stated in the IFRS balance sheet. By way of the latter we make allowance in the value determination for changes in the fair values of assets not recognised in income under IFRS as well as for the change in economic effects in the technical Solvency II balance sheet items that are not recognised in the IFRS balance sheet. In addition, interest on hybrid capital already recognised in the IFRS Group net income and the non-controlling interest in profit and loss are included back in the calculation.

Intrinsic Value Creation and excess return on capital allocated — **M 03**

	2018		2017			
in EUR million	IVC	xRoCA	Reported IVC	Adjustment[1]	Final IVC	xRoCA
Property and casualty reinsurance	459.7	9.0%	51.6	(0.2)	51.4	1.1%
Life and health reinsurance	(83.1)	-2.4%	(290.3)	0.0	(290.3)	-8.5%
Investments[2]	(7.0)	-0.1%	592.1	0.0	592.1	9.4%
Group	**369.5**	**2.5%**	**353.2**	**(0.2)**	**353.0**	**2.4%**

[1] Restatement based on final Solvency II shareholders' equity as at year-end
[2] Income above risk-free interest rate after deduction of risk-appropriate cost of capital

The allocated capital consists of three components: the shareholders' equity including non-controlling interests, the balancing items for differences between economic valuations pursuant to Solvency II and amounts stated in the IFRS balance sheet and the hybrid capital. Capital is allocated to the profit centres as described above according to the risk content of the business in question. A systematic distinction is made here between the assumption of underwriting risks, on the one hand, and investment risks, on the other. Under the IVC calculation, therefore, only risk-free interest income on the generated cash flows is allocated to the business segments of property & casualty and life & health reinsurance. The investment income above and beyond risk-free is allocated in its entirety to the functional area of investments and included in the IVC after deduction of the risk-appropriate cost of capital and the administrative expenses.

In calculating the cost of capital, our assumption – based on a Capital Asset Pricing Model (CAPM) approach – is that the investor's opportunity costs are 450 basis points above the risk-free interest rate, meaning that value is created above this threshold. Our strategic return on equity target of 900 basis points above risk-free thus already contains a substantial target value creation. We allocate equity sparingly and use equity substitutes to optimise our average cost of capital, which amounted to 4.6% in 2018.

Since comparison of absolute amounts is not always meaningful, we have introduced the xRoCA (excess return on capital allocated) in addition to the IVC. This describes the IVC in relation to the allocated capital and shows us the relative excess return generated above and beyond the weighted cost of capital.

Through the close interlinking of our internal capital model with the capital allocation and value-based management, we fulfil the requirements of the Solvency II use test.

Operational management system

A number of IFRS-based financial performance indicators are also embedded in our strategic system of targets and coordinated with our parameters for value creation derived from the internal capital model. We use these indicators for operational management within the year, in part because they are available promptly and also because they already provide initial pointers as to whether we are likely to achieve our higher-order strategic objectives. These are for both business groups the growth in gross premium, for property and casualty reinsurance the combined ratio, for life and health reinsurance the EBIT growth and for the Group as a whole the return on investment. Non-financial performance indicators, on the other hand, are not used for operational management within the year.

Research and development

Exploring market trends and developing innovative products are tasks assigned to the individual market units at Hannover Re. In addition, business opportunities and innovations that cut across markets and segments are coordinated by the "Regulatory Affairs and Innovation" team and pursued by means of interdisciplinary projects in which various market and service units participate. In this way, we develop products and solutions that deliver value added both for Hannover Re and for our clients. By way of example, our move to give capital market players direct access to insurance risks as far back as the mid-1990s through our "K" transactions puts us among the industry pioneers. The intervening years have seen the subsequent evolution of a market for so-called insurance-linked securities, which is one of the fastest growing markets in the insurance sector. Another example of Hannover Re's development activities is our own internal model for risk management under Solvency II that caters to the requirements of various stakeholders (regulators, rating agencies, capital providers) and was one of the first in Europe to be approved by a national financial regulator (Federal Financial Supervisory Authority = BaFin). Not only that, through our active involvement and the provision of financial assistance we support scientific initiatives geared to developing products, solutions or markets that will be crucial success factors going forward in the viability of any reinsurance undertaking.

Reinsurance business is founded on the comprehensive understanding and active management of risks. Our specialists therefore continuously analyse known risks with an eye to changes in their structure and probability of occurrence, while at the same time focusing on the early detection of newly emerging risks and working to provide our clients with appropriate solutions tailored to their needs. Above and beyond this, Hannover Re makes systematic efforts to identify new business opportunities in order to achieve sustainable growth and strengthen the profitable development of the company (cf. here also the Opportunity report on page 118 et seq.).

Expertise in demand

Rethink insurance

Innovation is crucial for insurers to stay ahead of their competition

hr | equarium, Hannover Re's exclusive online platform, brings together digital innovators and insurtechs with insurance companies ready to shape the future of insurance. Digital disruption, shifting demographics and evolving buyer preferences have created a challenging operating environment for insurers. Today, more than ever, product and distribution innovation are crucial factors for insurers to stay ahead of their competition and to meet consumer needs.

Although insurtechs are offering a wide range of solutions and services along the insurance value chain, many of our clients find it challenging to cut through the noise in order to find the best-fit solution. Start-up insurtechs, on the other hand, require direct access to insurance decision makers to market their solutions at lowest possible cost.

With extensive contacts in the global insurance industry, Hannover Re is well placed to host an innovation platform allowing insurtechs to market their solutions exclusively to our clients. Our clients in turn have direct access to a pool of services and solutions, as well as business cases demonstrating successful implementations around the world.

Report on economic position

Macroeconomic climate and industry-specific environment

- Global economic growth on a par with the previous year
- Low interest rate environment an ongoing drag on the insurance industry
- Capital markets subject to continued volatility
- Considerable losses again incurred from natural catastrophes

Macroeconomic climate

The growth of the world economy lost momentum in 2018. The increase in global gross domestic product (GDP) was on a par with the previous year at 3.7% (previous year: 3.7%). Two major reasons here were rising trade tensions and the tightening of monetary policy in the United States. The latter prompted a reversal in the flow of international capital, hence putting the brakes on expansion first and foremost in emerging markets. After a moderate opening quarter global output put on another vigorous surge going into the summer, before suffering a sharp drop in impetus from the third quarter onwards. While business sentiment in advanced economies picked up again towards year-end, it remained depressed in emerging nations. This was exacerbated by a worsening economic outlook in China.

While economic developments across countries had moved in step with one another in the previous year, the picture in 2018 was more nuanced: the pace of expansion in the US gained added momentum from fiscal measures, whereas in the Eurozone and Japan the economy slowed. In emerging economies the story was a similar one: growth in manufacturing output eased only marginally in many Asian countries, in Russia and in parts of Latin America, while Argentina and Turkey slipped into recession.

Looked at over the year, the pace of growth in the advanced economies faded in 2018, primarily owing to the slowdown in expansion during the second six months. The US economy, on the other hand, proved relatively robust on the back of a continued rise in consumer demand. In Japan, contrary to expectations, the economy softened both domestically and on the international front. Momentum in the Eurozone economy was similarly slowed by a number of factors, including the decline in car manufacturing owing to the adoption of new standards for exhaust emissions measurement. Manufacturing output in the United Kingdom contracted again from the moderate level already seen in the previous year.

Even though emerging market economies came under pressure in 2018, they were still comparatively stable. With the exception of Argentina and Turkey, the decline in their manufacturing output was merely modest. Fears voiced on occasion that this group of countries could suffer economic downturns similar in scale to those of 1997/98 owing to the intense pressure on financial markets proved unfounded. This is due in part to the fact that emerging nations have now largely adopted more flexible exchange rate regimes and hence are less vulnerable to currency speculation. In Asian countries the growth rates remained high overall despite slight contractions in GDP, while in India the pace actually increased. Manufacturing in Russia continued to trend clearly higher, and in Brazil growth in output recently began to pick up again – albeit from a low level.

United States

The trade measures adopted by the US since the beginning of 2018 in pursuit of its economic policy goals significantly aggravated the potential for conflict not only with China but also with western industrialised nations. So far, however, this has not adversely impacted the upward trend in the country's economy. Whereas in other advanced industrial nations the economy slowed appreciably in the third quarter, GDP growth in the US was only a little softer than in the previous quarter. Over the year as a whole US manufacturing output rose by 0.7 percentage points to 2.9% on the back of normal capacity utilisation. Unemployment continued to fall year-on-year to an extremely low level of 3.9%. The increase of 2.5% in consumer prices was again more marked than in the previous year.

Europe

The Eurozone economy was unable to sustain the vigorous upward course that it had charted in the previous year: the pace of growth slowed by 0.6 percentage points year-on-year to 1.9%. The economy already suffered a sharp drop in momentum in the first six months, only to lose further impetus in the second half of the year. Domestic economic forces were even more crucial to driving expansion in 2018 than in the previous year. The role played by external factors diminished against a backdrop of falling imports and exports. While capital expenditure rose again slightly thanks to a favourable interest rate environment, private consumption expanded at a considerably reduced pace. Government consumption expenditures were also substantially more restrained than in the previous year.

Looked at individually, it is evident that some Eurozone countries – including Germany – were increasingly coming up against capacity constraints in 2018. In other countries, most notably Italy (GDP: +1.0%) and France (GDP: +1.6%), economic development is hampered by structural problems. The two crisis-hit countries of the past years, namely Portugal (GDP: +2.1%) and Greece (GDP: +2.3%), were able to stabilise their growth trajectory. The UK economy posted growth of 1.3% amid a cloud of uncertainty surrounding what form Brexit will take, a figure which was again poorer year-on-year.

The state of the labour market continued to improve, with the average jobless rate in the Eurozone falling by 0.9 percentage points relative to the previous year to stand at 8.2%. Nevertheless, Greece, Spain and Italy still struggled with very high levels of unemployment.

The harmonised index of consumer prices increased by 0.3 percentage points year-on-year to 1.8%, hence approaching the ECB's target of 2%.

Germany

In 2018 the German economy was able to sustain the upswing seen in recent years. Growth is, however, progressively grinding to a halt. Indeed, economic output actually contracted for the first time in three years in the third quarter. The reasons – productions disruptions in Germany's vitally important automobile manufacturing industry and transportation difficulties on inland waterways – are merely temporary in nature. Nevertheless, businesses are finding it increasingly difficult to keep expanding production at a vigorous pace in view of the high capacity utilisation rate. This is especially obvious in the construction sector. Viewed over the year as a whole and after working days adjustment, gross domestic product rose by 1.5%, a drop of 0.7 percentage points compared to the previous twelve months.

The decline in vehicle manufacturing not only impacted upstream and downstream sectors of the economy, it also had implications for the domestic and external expenditure components of consumption, capital expenditure and exports. Private households exercised restraint despite rising incomes, with spending increasing by 1.1% (1.8%). Companies were similarly hesitant to boost their capital expenditures – the increase of 2.3% contrasted with 2.9% in the previous year. Exports grew by 2.0% (4.6%) in 2018. While exports to the United Kingdom and Russia were sharply lower, there was a strong surge in goods shipped to the United States and China. The increase in imports was also slower at 3.3%, compared with 4.8% in the previous year.

The jobless rate in 2018 fell to 5.2% (5.7%) and continues to trend lower. The number of persons employed domestically rose by more than 565,000. Consumer prices rose by an average of 1.9% (1.8%) over the year.

Asia

Expansion in Asia remained brisk in 2018 at 6.6% (6.5%), although in China the rate of growth slowed slightly by 0.2 percentage points to 6.6%. The flattening in the pace of expansion is in line with the country's goals: it is evident that the government is charting a more socially and environmentally sustainable path towards economic development. At the same time, it is making every effort to reduce the substantial risks posed by the recent sharp rise in debt levels, among other things by curbing bank lending.

Gross domestic product in Japan increased by 0.8% year-on-year, a slower pace than in the previous year (1.9%). Both domestic consumption and exports contracted; capital spending was also sharply lower year-on-year. While business investment was still close to the growth rate recorded in the previous year, investment in housing and public-sector spending slumped heavily.

Capital markets

The investment climate proved to be highly volatile and challenging in the period under review owing to numerous geopolitical and economic policy issues. Among other things, the threat and initiation of tariff and trade disputes as well as the ongoing uncertainty surrounding the outcome of Brexit negotiations were unsettling factors. All in all, the extent to which financial markets were influenced by political events was striking. Concerns about Italy's stability also resurfaced, adding to the unease felt by market players.

Factors such as the overhaul of international trade agreements and the troubled waters in which the German government was operating initially had little effect on financial markets, which opened the year in astonishingly robust shape. On US markets hope of real growth stimuli from the Trump administration materialised at the start of the year in the shape of large-scale tax reform. Some emerging economies found themselves in funding difficulties as a consequence of higher interest rates in the US and saw their currencies depreciate as investors withdrew their funds. Hannover Re has so far remained unaffected by the crises in Turkey and Argentina because it does not hold any direct investments in the currency of either country.

The pace of China's growth, on the other hand, continues to dominate the increasingly important role played by emerging markets in recent years. The consistent worldwide expansion that was still evident in 2017 thus gave way to a more nuanced picture in 2018. While US economic growth accelerated sharply and China also ended the year with better-than-expected GDP growth, central banks in some emerging economies were compelled to adopt a significantly tighter monetary policy in order to protect their currencies. This led to an appreciable softening in the pace of growth. The resulting decline in demand from emerging markets was in turn also a reason for softer growth in the Eurozone.

In mid-December the European Central Bank announced that after almost four years it would be terminating its programme of corporate sector purchases at the end of the year. It did so despite the fact that in light of global political tensions and moves towards economic isolationism the ECB's assessment of economic prospects was less favourable than at the start of the year. Yet there are also no plans for an abrupt end to the anti-crisis mode, since the ending of bond purchases only applies to the investment of new funds. Funds from maturing government and corporate bonds will continue to be reinvested. All in all, the policy pursued by central banks in our main currency areas was inconsistent. The ECB left the key interest rate for the Eurozone at a historically low 0.0%, while the Bank of England, which had raised the prime rate for pound sterling for the first time since 2007 to 0.5% in 2017, made another modest hike in the year under review to 0.75%. Once again, the US Federal Reserve moved much further along the path towards normalisation of monetary policy, raising the base rate for the US dollar in four increments to an average of 2.38% and thereby further widening the interest differential between the US dollar area and the Eurozone.

Sluggish progress towards reaching a deal between the European Union and the United Kingdom as a consequence of the British people's vote in favour of Brexit led to continued uncertainty throughout 2018. In the year under review this manifested itself in renewed modest losses for pound sterling against the euro and US dollar as well as in the downturn on UK stock markets. The protracted lack of clarity surrounding the definitive shape of future economic and trade relations between the EU and UK as well as regarding freedom of movement for workers is, however, also generally detrimental to the national economies of the remaining EU member states since it impacts planning reliability and the readiness of companies to invest.

Bond markets continued to be shaped in part by a generally low level of interest rates. An exception here was once again the US dollar area, which recorded further appreciable rate increases. Pound sterling bonds similarly saw rate rises, although they were limited to the short and medium maturity segments. Yields on euro bonds, however, which had already started the year on a low level, even experienced further declines in the medium and long maturity segments. As a result, negative returns persisted well into the medium maturity range. Risk premiums on European and US corporate bonds rose – in some instances markedly – in the period under review in virtually all rating classes. For the most part, the risk premiums are still very low by historical standards owing to the declines of recent years.

On equity markets the expectation of higher interest rates in response to an anticipated pick-up in inflation was reflected in the first quarter in corrections and sharply elevated volatility around the world. By the middle of the year things appeared to have settled back onto a calmer footing, only for the pent-up unease to flare up again on the markets – especially in the fourth quarter – with sometimes appreciable price corrections. Although the US market escaped relatively unscathed, it posted its poorest annual performance since 2008. European equities and the emerging markets sector came under even heavier pressure. European stock markets were still influenced primarily by the ECB's ongoing expansionary monetary policy, although by year-end they were already reflecting the scaling back of bond purchases as well as comments by the President of the ECB to the effect that he anticipated a relatively vigorous surge in inflation. The stock market turmoil had scarcely any repercussions on other markets.

The euro gave back some of the previous year's gains against the US dollar in the course of the year and fell from USD 1.20 to USD 1.15. Having already suffered heavy losses in the previous two years as a consequence of the Brexit vote, pound sterling again slipped slightly lower against the euro from GBP 0.89 to GBP 0.90. The Australian dollar similarly softened against the euro from AUD 1.53 to AUD 1.62.

The development of the world economy remains subject to various uncertainties and risks, first and foremost of a geopolitical nature or in connection with trade policy. Varying economic trends, isolationist efforts and local flashpoints may be mentioned here as factors driving the mixed global picture. A close eye must also be kept on the policy pursued by central banks as they seek to strike a delicate balance between showing resolve and a readiness to act, on the one hand, without unsettling financial markets through overly bold actions, on the other.

For more detailed remarks on the development of Hannover Re's investments please see the "Investments" section on page 58 et seq.

Industry-specific environment

The international (re)insurance industry was once again faced with a challenging environment in 2018.

The **US tax reform** passed by the administration at the end of 2017 came into effect in the United States on 1 January 2018. This put in place new tax regulations, include a general cut in corporate taxes from 35% to 21%, the implementation of a 30% interest expense deduction limitation as well as the elimination of the so-called "alternative minimum tax". Likewise, special new regulations applicable to the insurance industry in the US were implemented with far-reaching implications. Furthermore, the legislative package included the roll-out of the base erosion and anti-abuse tax (BEAT) regime and hence disadvantageous tax arrangements for Group-internal retrocessions with entities considered foreign from the US perspective. In this context, the tax assessment base also includes premiums for ceded insurance risks within a corporate group. Thus, for example, premiums were initially taxed at a rate of 5% in 2018; from 2019 to 2026 they will be taxed at 10% and thereafter at 12.5%. The tax reform prompted market players to make adjustments to cession strategies and corporate structures.

The ongoing arduous negotiations between the EU and the UK following the outcome of the British population's **Brexit** vote led to continuing uncertainty in the insurance industry. No agreement had been reached by year-end and markets were preoccupied with the risk of a "hard Brexit" on 31 March 2019. The lack of clarity surrounding the definitive shape of future economic and trade relations between the EU and UK as well as regarding freedom of movement for workers is, however, also generally detrimental to the national economies of the remaining EU member states since it impacts planning reliability and the readiness of companies to invest.

In the year under review, not long after the reform of European insurance supervisory law by the **Solvency II Directive** in 2016, the European Commission initiated the first review of the standard formula used to calculate the regulatory Solvency Capital Requirement. Among the key topics addressed were simplifications to the standard formula as well as the calibration of the interest rate risk, the premium and reserve risk in non-life insurance, the deferred taxes and the risk margin. In this regard the European Insurance and Occupational Pensions Authority (EIOPA) submitted technical advice on the delegated regulation to the European Commission in the year under review. These recommendations were based on the experience of national regulators and insurance companies themselves in the preparatory phase and early years of application of Solvency II. The Solvency II review conducted by the European Commission ran until 31 December 2018. The first comprehensive review of the Solvency II Directive by the European Commission is scheduled for 2020.

The planned adoption of the new international accounting standard **IFRS 17** by the International Accounting Standards Board (IASB) continued to be an important concern in the year under review. IFRS 17 replaces the interim standard IFRS 4, which has been in force since 2005, and is intended to make it easier to compare insurers through a consistent worldwide basis for the recognition of insurance contracts. The new measurement model is expected to bring particularly far-reaching changes for the accounting of long-duration contracts. It is still too early to foresee what implications the implementation of IFRS 17 will ultimately have for the volatility of business results. At a meeting in November 2018 the IASB provisionally decided to postpone the effective date of IFRS 17 by one year. The new financial reporting standards will thus likely come into effect starting 1 January 2022, although they are only mandatory for the consolidated financial statements of capital-market-oriented insurance companies. In this context the IASB also decided to extend the temporary exemption for insurers from applying the new financial instruments standard, **IFRS 9**, by one year until 2022 so as to require all insurers to first apply IFRS 9 and IFRS 17 at the same time.

In Germany the government changed the formula used to determine the reference interest rate for the **additional reserve for the interest rate risk** ("Zinszusatzreserve') in October, a reform that benefited both insureds and insurers. The requirement to establish this provision was adopted in 2011 to provide security for legacy contracts with high guaranteed returns in order to ensure that life insurers can still generate the interest guarantees promised to their customers even in times of sustained low interest rates. The calculation had come to be regarded as overly rigorous since it imposed an onerous burden on life insurers. The safeguarding role played by the additional reserve for the interest rate risk has been preserved even after recalibration of the calculation method; however, an interest rate corridor now prevents excessive swings in the reserve – in either direction. In this way, the expenses associated with building up the provision and the income generated from its release are better harmonised with current investment income and interest guarantee requirements. According to calculations made by the rating agency S&P, the change will bring considerable financial relief for the insurance sector.

The insurance industry in the United Kingdom continued to be impacted in the year under review by the UK government's decision in 2017 to lower the rate used for discounting compensation payments in connection with personal injury claims (**Ogden rate**) from 2.5% to -0.75%. This means, for example, that severe personal injuries from a motor vehicle accident can lead to higher payments under liability covers. In view of the fact that the change affects not only future claims but also outstanding claims that have still to be run off, insurers and reinsurers were compelled to set aside substantial additional reserves. In this connection additional rate increases running well into double-digit percentages were again obtained for the motor liability line in the year under review, although they fell short of expectations. The basis for another adjustment to the Ogden rates was established with the passing of the Civil Liability Act 2018 on 20 December 2018. The adjustment will be made in the course of the year, which means that the reserves set aside by the various insurers and reinsurers can be corrected in 2019.

In **India** the IRDAI (Insurance Regulatory and Development Authority of India) approved a new reinsurance regulation in December 2018 that was already implemented on 1 January 2019. The regulation provides for a reform of the so-called "order of preference" for non-life reinsurance. Foreign reinsurers represented by a branch in India are now able to write non-life reinsurance on equal terms with other Indian reinsurers, provided this business was not previously placed with a local reinsurer entitled to preferential treatment. The order of preference does not apply to retrocessions.

The market environment in **worldwide property and casualty reinsurance** remained challenging. The enormous natural catastrophe losses of the previous year prompted increases in reinsurance rates in the impacted regions and programmes, albeit on a smaller scale than anticipated. Rates for programmes that had been spared losses tended to stabilise in the year under review. This development can be attributed to unchanged intense competition, with the associated implications for pricing. At the same time, most primary insurers still enjoyed a healthy capital position, which was reflected in a correspondingly high retention and adversely impacted demand for reinsurance. As a further factor, there was no change in the considerable capacities made available by the insurance-linked securities (ILS) market in 2018, as a consequence of which supply outstripped demand and the pressure on conditions and prices remained undiminished. As the year progressed, however, a cooling could be felt in industry sentiment. As had been the case in 2017, the first half of 2018 saw a moderate large loss experience – followed by an elevated large loss incidence in the second six months. After hurricanes Harvey, Irma and Maria had left their mark on 2017, the picture in the second half of 2018 was dominated by typhoons in Japan, hurricanes and forest fires in California.

The protracted low interest rate environment in Germany similarly had implications for **life and health reinsurance** in the area of traditional life insurance products: not only have they now lost a considerable part of their appeal, they have also to some extent been supplanted by new policies which have been adapted to the changed interest rate situation. Demand for solvency-oriented reinsurance solutions remained robust following the implementation of Solvency II and – especially for longevity business – the associated more exacting capital requirements. On a global scale the progressive demographic shift and increasing ageing of the population continue to drive stronger demand for retirement provision products – on the reinsurance as well as the insurance side. Lifestyle products, which primarily offer risk coverage tailored to protecting the policyholder's specific life situation, are also enjoying a surge in demand. These include, in particular, policies under which the premium is linked to the insured's health-related behaviour (e. g. fitness, nutrition). Although the purchasers of such products have hitherto tended to be in Anglo-Saxon and Asian markets, a tangible interest in this trend can now also be detected in Europe. The issue of "digitalisation" is attracting growing attention. Requests for process optimisations and the – to some extent associated – deployment of automated underwriting systems are increasingly prevalent. Power of innovation is called for here in order not only to keep pace with the competition but also to stay one step ahead.

Digitalisation continued to be a topic of growing importance to the insurance industry in 2018. The focus was on developing new products, delivering more innovative customer support and optimising internal cost structures as well as business processes. Participations in and cooperative ventures with start-ups and insurtechs saw another sharp increase. This trend is expected to be sustained in the coming years.

In the context of advancing digitalisation, the market for insurance against **cyber risks** continued to expand rapidly in 2018. The premium volume has risen substantially in recent years, although the same is true of claim numbers. Similarly, premium volumes continue to grow in Germany, although the level here is still low compared to other European countries. The vast bulk of the worldwide insurance premium was still generated in the United States, but interest in such products continued to grow in Europe, too.

Business development

- Currency-adjusted growth in gross premium of 11.6% beats target
- Property and casualty reinsurance posts stronger-than-expected growth and improves segment result by 11.0% to EUR 929.1 million
- One-time charges in life and health reinsurance connected with legacy US mortality business within the bounds of expectations
- Return on investment comfortably surpasses target at 3.2%
- Group net income reaches EUR 1.06 billion, meeting full-year target for 2018 of more than EUR 1 billion
- Return on equity climbs to 12.2%

The development of business in 2018 was impacted by, among other factors, major loss expenditure in excess of the expected level – albeit considerably lower than the heavy burden incurred in the previous year – and one-time charges resulting from steps taken to improve our US mortality business in life and health reinsurance.

Group net income improved by 10.5% to EUR 1,059.5 million (previous year: EUR 958.6 million) and is thus in line with our guidance of more than EUR 1 billion. This performance was supported by better-than-expected investment income.

Please find below a brief summary of the development of our two business groups – Property & Casualty reinsurance and Life & Health reinsurance – and our investments. More detailed information is to be found on pages 37 to 59.

Property & Casualty reinsurance

In property and casualty reinsurance we continue to find ourselves facing an intensely competitive market. Even after the record losses of 2017, reinsurance capacity still clearly outstripped demand. Furthermore, additional capital originating from the ILS market left prices and conditions in the property lines under sustained pressure. We were nevertheless able to act on profitable growth opportunities as business came up for renewal. In the area of structured reinsurance we noted a sharp rise in demand on the customer side for reinsurance solutions offering solvency relief and we expanded our book of business accordingly.

Against this backdrop, gross premium rose by 11.8% to EUR 12.0 billion (EUR 10.7 billion). At constant exchange rates growth would have reached 16.2% and thus came in clearly better than we had anticipated.

The financial year just ended was once again dominated by major losses that exceeded market expectations. While 2017 went down as the year with the heaviest burden of large losses in Hannover Re's history, the strains incurred on a net basis in the 2018 financial year came in only slightly higher than our large loss budget thanks to our traditionally prudent underwriting policy and the protective effect of our own reinsurance cessions. After the first half of 2018 passed off with a thoroughly moderate large loss experience, a significantly higher burden was incurred in the third and especially the fourth quarter. Altogether, Hannover Re's net expenditure on large losses amounted to EUR 849.8 million (EUR 1,127.3 million). The combined ratio of 96.5% (99.8%) was slightly higher than our maximum full-year target of 96%.

Investment income from assets under own management in property and casualty reinsurance delivered a pleasing performance. Ordinary income increased, helped by very healthy earnings from real estate and private equity, by a modest 0.9% to EUR 1,024.3 million (EUR 1,014.7 million). Total investment income nevertheless contracted by 16.1% to EUR 999.3 million (EUR 1,191.5 million). The decline can be attributed to the elimination of the extraordinary income booked from the sale of our listed equities in 2017.

We are satisfied with the result in property and casualty reinsurance. After the considerable large loss expenditure of the previous year, the underwriting result including interest and expenses on funds withheld and contract deposits improved to EUR 372.8 million (EUR 15.5 million). The operating profit (EBIT) as at 31 December 2018 increased to EUR 1,322.6 million (EUR 1,120.2 million). The EBIT margin held stable and at 12.2% it was higher than the 10% minimum target. Group net income in property and casualty reinsurance rose by 11.0% to EUR 929.1 million (EUR 837.3 million).

Life & Health reinsurance

The result posted in life and health reinsurance was adversely affected in the year under review by one-time charges associated with treaty recaptures in our legacy US mortality portfolio. This contrasted with, among other things, the positive underlying development of our business in international life and health reinsurance.

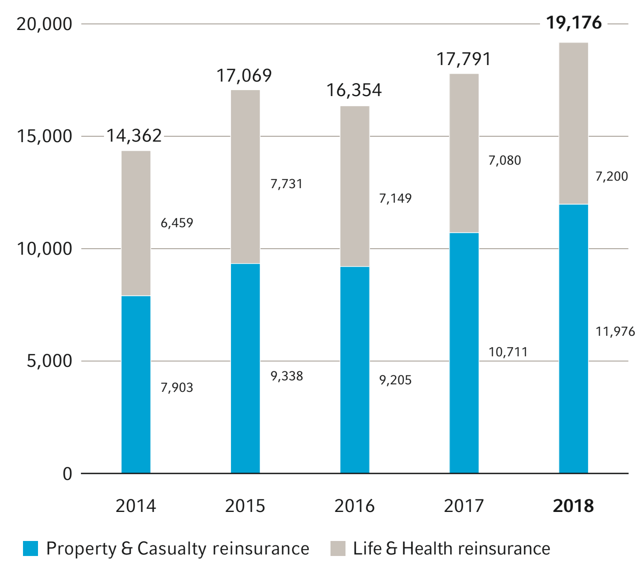
New business growth in Asia and good results in many parts of Europe, for example, were highly gratifying. Viewed from a global perspective, there was high demand for reinsurance solutions to cover longevity risks, driven in part by the exacting capital requirements placed on primary insurers for such business. Consequently, we booked another increase in the profit contribution from our financial solutions business. The performance of the legacy US mortality portfolio that we had acquired in 2009 was less satisfactory. Treaty recaptures prompted by our announced rate increases led to a one-time charge to earnings here of EUR 272.6 million. Allowing for the necessary release of an expense reserve, non-recurring pre-tax strains of EUR 185.4 million were incurred.

Gross premium income in life and health reinsurance rose by a modest 1.7% to EUR 7.2 billion (EUR 7.1 billion). Adjusted for exchange rate effects, growth would have come in at 4.6%. The Value of New Business (VNB) amounted to EUR 290 million, again beating the targeted level of EUR 220 million.

Investment income decreased by 12.3% in the financial year to EUR 491.8 million (EUR 560.6 million) owing to lower realised gains. Of the total investment income, EUR 319.6 million (EUR 343.5 million) was attributable to assets under own management and the remaining EUR 172.2 million (EUR 217.1 million) to securities deposited with ceding companies.

The operating profit (EBIT) rose by 12.5% to EUR 275.9 million (EUR 245.2 million) on the back of the good underlying risk experience. The improved profitability is pleasing because the aforementioned recaptures in legacy US mortality business gave rise to a one-off charge to the result, but further strains going forward are thereby largely eliminated. Group net income for our Life&Health reinsurance business group increased by 7.7% to EUR 185.9 million (EUR 172.6 million).

Gross premium by business group **M 04**
in EUR million



Investments

Capital markets once again proved to be difficult and challenging in 2018. With this in mind, we are thoroughly satisfied with the development of our investments as at 31 December 2018. Our portfolio of investments under own management grew to EUR 42.2 billion (31 December 2017: EUR 40.1 billion). Exchange rate effects and the issuance of a bond in the second quarter more than offset the valuation declines on fixed-income securities. The operating cash flow of more than EUR 2 billion is a pivotal factor in the portfolio growth.

Despite the low level of interest rates, ordinary investment income excluding interest on funds withheld and contract deposits came in slightly higher than the previous year at EUR 1,321.7 million (EUR 1,289.0 million).

Net realised gains on investments as at 31 December 2018 contracted sharply from EUR 377.1 million to EUR 127.7 million. They reverted to a normal level after the liquidation of our equity portfolio in the previous year. The impairments taken in the year under review were again only minimal.

Income from assets under own management fell by 14.1% to EUR 1,322.0 million (EUR 1,539.0 million). The resulting annual return stood at 3.2% (3.8%), compared to our forecast figure of 2.7%. We beat our guidance above all because the interest rate level in the USD area rose more sharply than anticipated in the course of the year under review, hence enabling us to generate very pleasing growth in our interest income. As a further factor, we had based our guidance on rather conservative distribution assumptions with regard to our investments both in private equity and the real estate sector. Investment income including interest on funds withheld and contract deposits declined to EUR 1,530.0 million (EUR 1,773.9 million), a decrease of 13.7% relative to the previous year. Interest on funds withheld and contract deposits totalled EUR 208.0 million (EUR 234.9 million).

Total result

The gross premium in our total business increased by 7.8% as at 31 December 2018 to EUR 19.2 billion (EUR 17.8 billion). Growth of 11.6% would have been booked at constant exchange rates. We thus met our guidance, which had anticipated an increase of more than 10%. The level of retained premium remained stable at 90.7% (90.5%). Net premium earned rose by 10.6% to EUR 17.3 billion (EUR 15.6 billion). At unchanged exchange rates the increase would have been 14.5%.

The operating profit (EBIT) improved by 17.0% to EUR 1,596.6 million (EUR 1,364.4 million). Group net income was higher than in the previous year at EUR 1,059.5 million (EUR 958.6 million). We thus achieved our guidance of more than EUR 1 billion. Earnings per share for the Hannover Re Group stood at EUR 8.79 (EUR 7.95).

The equity position remains very robust: the equity attributable to shareholders of Hannover Re totalled EUR 8.8 billion (EUR 8.5 billion) as at 31 December 2018. The return on equity amounted to 12.2% (10.9%). The book value per share reached EUR 72.78 (EUR 70.72). Thanks to the fact that business developed largely in line with our expectations in the year under review, we were able to achieve and in some cases even substantially outperform the forecasts shown in the following table “Business development in the year under review”.

The total policyholders’ surplus, consisting of shareholders’ equity, non-controlling interests and hybrid capital, amounted to EUR 11.0 billion (EUR 10.8 billion) as at 31 December 2018.

With the publication of the annual financial statement we are also releasing the capital adequacy ratio of the Hannover Re Group calculated in accordance with the requirements of Solvency II. It decreased relative to the previous year to a level of 245.7% as at 31 December 2018 (31 December 2017: 260.3%).

Business development in the year under review **M 05**

	Forecast 2018	Target attainment 2018
Gross premium growth (Group)	Gross premium growth in the single-digit percentage range or > 10% [1, 2]	+11.6% at constant exchange rates +7.8% not adjusted for currency effects
Gross premium growth for Property & Casualty reinsurance	3 to 5% [1]	+16.2% at constant exchange rates +11.8% not adjusted for currency effects
Gross premium growth for Life & Health reinsurance	3 to 5% [1, 3]	+4.6% at constant exchange rates +1.7% not adjusted for currency effects
Return on investment [4]	≥ 2.7%	3.2%
Group net income	> EUR 1 billion [5]	EUR 1,059.5 million

1 At constant exchange rates
2 In the context of publication of the quarterly statement as at 31 March 2018 the guidance for gross premium growth (Group) was raised to more than 10%.
3 Organic growth only
4 Excluding ModCo derivatives
5 Assuming stable capital markets and/or major loss expenditure in 2018 that does not exceed EUR 825 million

Expertise in demand

Multiline programmes

Increasing complexity calls for sophisticated approaches

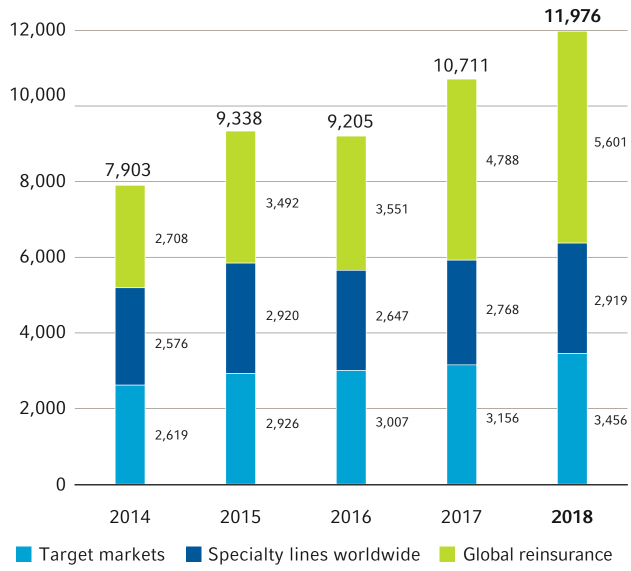
The concentration of values, interdependencies between industries and stricter regulatory requirements are making the world a more complex place. As a result, demand is constantly growing for covers that provide comprehensive protection for a wide range of property and casualty risks.

In traditional reinsurance business we are well diversified. We accept risks in a variety of lines – including for example property and liability risks connected with infrastructure projects. Based on our long-standing experience we can design complex covers for portfolios comprised of diverse risks. Our financial strength also enables us to carry the associated risks.

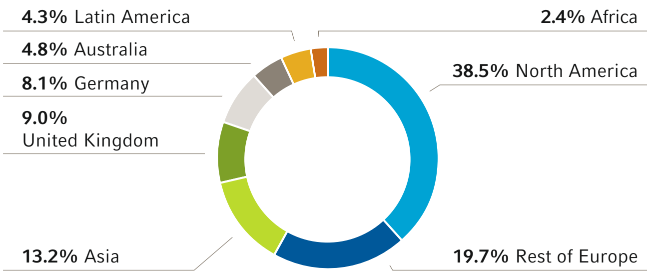
In non-traditional reinsurance we offer our expertise in leveraging diversification effects. Our structured reinsurance solutions cater to our clients' business situation in its entirety and help them to optimise their fulfilment of solvency requirements through the use of reinsurance.

Property & Casualty reinsurance at a glance

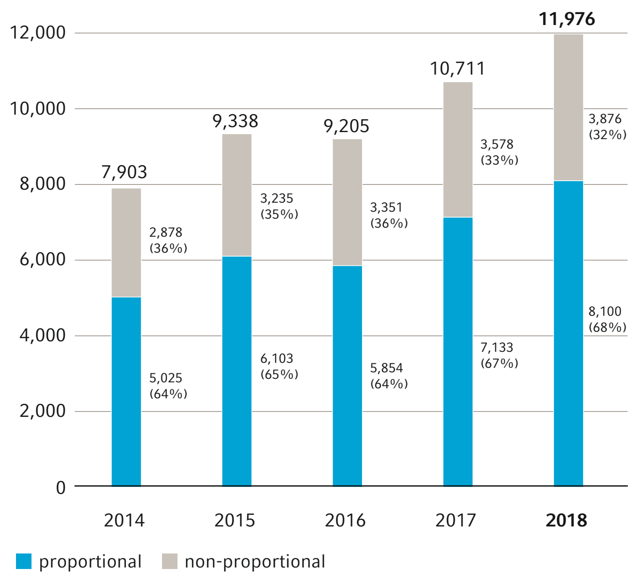
Gross written premium in P&C reinsurance M 06
in EUR million



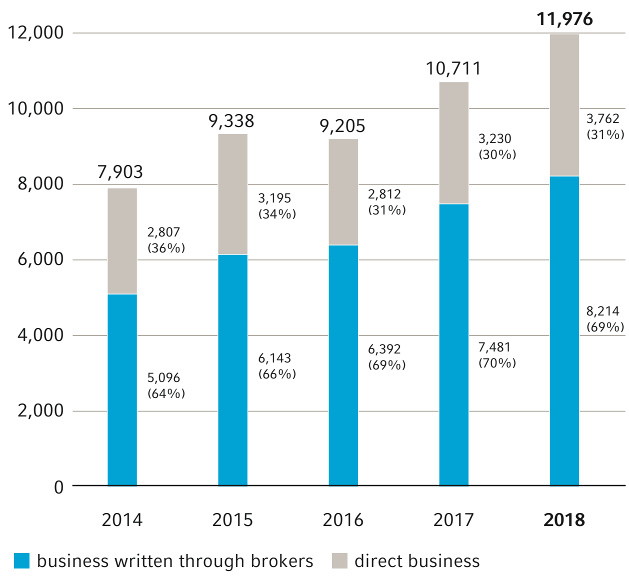
Geographical breakdown of gross written premium in 2018 M 07



Breakdown of gross premium by treaty types: proportional and non-proportional treaties by volume M 08
in % and in EUR million



Breakdown of gross premium by distribution channel: through brokers/direct M 09
in % and in EUR million



Overall assessment of the business position

Hannover Re is satisfied with the development of business in 2018. On the Group level we achieved or surpassed all our targets for the financial year. The burden of large losses caused by typhoons in Japan, forest fires in California and hurricanes in the United States remained within the bounds of our expectations overall, while the steps taken to remediate our US mortality business adversely impacted the result for the segment. Our investments delivered another highly pleasing contribution to Group net income, supported by very healthy earnings from real estate and private equity.

In life and health reinsurance we continue to see promising business opportunities in international markets, for example in the area of individual longevity products. In US mortality business better-than-expected mortality rates and the release of an expense reserve counteracted the strains from treaty recaptures in the year under review. Future losses will be largely eliminated for the relevant treaties in subsequent years, and we therefore anticipate a substantial improvement in profitability.

In property and casualty reinsurance we cannot discern any appreciable improvement in market conditions for reinsurers, despite the losses incurred over the past two years. Rates have stayed on a generally low, adequate level. The situation on global reinsurance markets is still shaped by undiminished intense competition.

Hannover Re's shareholders' equity continues to be robust. At the time of preparing the management report, both the business position of the Group and its financial strength remain good. With this in mind, the Executive Board and Supervisory Board will propose to the Annual General Meeting that a dividend of EUR 5.25 per share should be paid. The distribution consists of an ordinary dividend of EUR 3.75 per share and a special dividend of EUR 1.50 per share.

Results of operations

In the following sections we discuss the development of the financial year in our two strategic business groups, namely Property & Casualty reinsurance and Life & Health reinsurance, as well as the performance of our investments and the financial position and assets of our Group. Supplementary to the information provided here, the "Segment reporting" in section 5 of the notes to this Annual Report shows the key balance sheet items and profit components of the two business groups.

Property & Casualty reinsurance

- Gross premium volume up by 16.2% adjusted for exchange rate effects and clearly beats expectations
- Large loss expenditure of EUR 849.8 million somewhat higher than budgeted EUR 825 million
- Combined ratio improves to 96.5%
- Property and casualty reinsurance market challenging in the face of sustained high losses
- Segment result increases by 11.0% to EUR 929.1 million

Accounting for 62% of our premium volume, Property & Casualty reinsurance is Hannover Re's largest business group. It is structured according to our Board areas of responsibility, namely "Target markets", "Specialty lines worldwide" and "Global reinsurance".

Property and casualty reinsurance markets around the world continue to be shaped by an oversupply of capital available for risk coverage. The heavy hurricane losses in the United States in 2017 and 2018 have done little to change this state of affairs. At the same time, prices and conditions are under sustained pressure from additional capacities originating from the insurance-linked securities (ILS) market. The environment in which Hannover Re is operating therefore remains challenging. Stronger demand for reinsurance covers could, however, be observed in some loss-affected regions and among certain clients.

We were satisfied with the outcome of the treaty renewals as at 1 January 2018 – when 65% of our portfolio in property and casualty reinsurance (excluding facultative business and structured reinsurance) was renegotiated. The rate increases in catastrophe business following the previous year's devastating hurricane losses nevertheless fell short of market expectations. Although the treaty renewals proved challenging, we benefited from our customer intimacy and our ability to offer tailor-made reinsurance solutions. The increases were particularly marked in Australia, Asia and the United Kingdom.

In addition, we were thoroughly satisfied with the treaty renewals in North America as well as in Western and Eastern Europe. In the area of cyber covers, too, attractive opportunities opened up to expand our portfolio. We noted a sharp rise in demand among customers for reinsurance solutions designed to provide solvency relief, enabling us to book further appreciable gains in the structured reinsurance segment.

We were similarly satisfied with the various rounds of treaty renewals that took place during the year. In the area of natural catastrophe covers we adhered to our profit-oriented underwriting policy and the exposure consequently remained comfortably with our risk appetite, which was unchanged from the previous year. We were able to significantly improve our position on a number of sizeable customer accounts, especially in North America and Europe.

Against this backdrop gross premium rose by 11.8% in the calendar year to EUR 12.0 billion (previous year: EUR 10.7 billion). At constant exchange rates the increase would have been 16.2%, a figure well ahead of our expectations. The level of retained premium climbed to 90.7% (89.7%). Net premium earned increased by 18.0% to EUR 10.8 billion (EUR 9.2 billion); adjusted for exchange rate effects, growth would have amounted to 22.5%.

The 2018 financial year was not dominated by major losses to the same extent as the previous year, which went down in Hannover Re's history as the year with the heaviest burden of large losses. After a very moderate major loss experience in the first half of 2018, the loss incidence in the third quarter was essentially in line with our quarterly expectations. The most significant losses incurred in the third quarter included Typhoon "Jebi" in Japan, with an anticipated net strain for our account of EUR 134.7 million. We expect a net loss of EUR 37.4 million for Hurricane "Florence". Expenditure on large losses in the fourth quarter, however, went significantly over our budget, with the forest fires in California topping the list of major loss events. A net loss of EUR 129.5 million is anticipated for the so-called "Camp Fire", while the cost of the "Woolsey Fire" is put at EUR 63.8 million for net account. The net strain from Hurricane "Michael" is expected to amount to EUR 46.3 million. Our total net major loss expenditure in the 2018 financial year came to EUR 849.8 million (EUR 1,127.3 million), a figure slightly in excess of our large loss budget of EUR 825 million. For a detailed list of these large losses please see page 107. The underwriting result including interest and expenses on funds withheld and contract deposits increased appreciably to EUR 372.8 million (EUR 15.5 million). The combined ratio improved to 96.5% (99.8%) and was thus slightly higher than our 96% target for the financial year.

The investment income booked in the Property & Casualty reinsurance business group was very pleasing. Against a backdrop of stable ordinary investment income, the income from assets under own management contracted by 16.1% to EUR 999.3 million (EUR 1,191.5 million). The sharp decrease relative to the previous year can be attributed to the exceptionally high gains realised in that year from the liquidation of our portfolio of listed equities. With major loss expenditure coming in lower than in the previous year, the operating profit (EBIT) climbed to EUR 1,322.6 million (EUR 1,120.2 million). The EBIT margin was stable at 12.2% (12.2%). We thus achieved our minimum target of 10%. Group net income improved by 11.0% to EUR 929.1 million (EUR 837.3 million).

On the following pages we report in detail on developments in the individual markets and lines of our Property & Casualty reinsurance business group, split into the three areas of Board responsibility referred to at the beginning of this section.

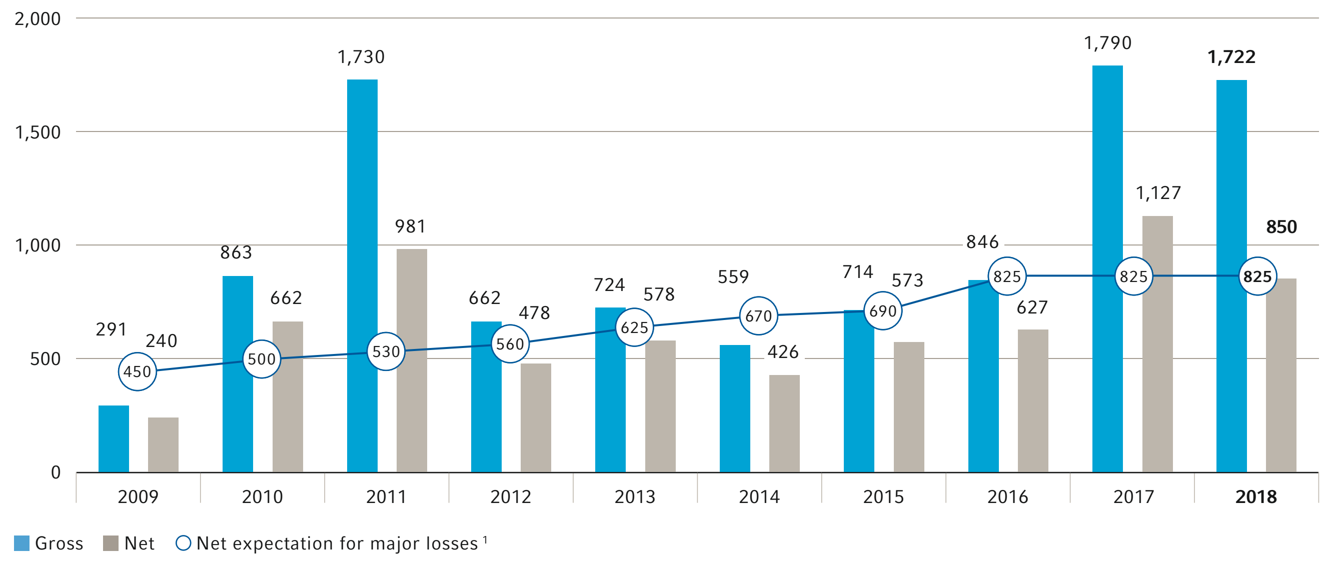
Key figures for Property & Casualty reinsurance M 10

in EUR million	2018	+/− previous year	2017	2016	2015	2014
Gross written premium	11,976.0	+11.8%	10,710.9	9,204.6	9,338.0	7,903.4
Net premium earned	10,804.2	+18.0%	9,158.7	7,985.0	8,099.7	7,011.3
Underwriting result[2]	372.8		15.5	503.1	452.4	371.9
Net investment income	1,035.1	-14.4%	1,209.3	900.9	945.0	843.6
Operating result (EBIT)	1,322.6	+18.1%	1,120.2	1,340.3	1,341.3	1,190.8
Group net income	929.1	+11.0%	837.3	949.9	914.7	829.1
Earnings per share in EUR	7.70	+11.0%	6.94	7.88	7.58	6.88
EBIT margin[1]	12.2%		12.2%	16.8%	16.6%	17.0%
Retention	90.7%		89.7%	88.5%	89.3%	90.6%
Combined ratio[2]	96.5%		99.8%	93.7%	94.4%	94.7%

1 Operating result (EBIT) / net premium earned
2 Including expenses on funds withheld and contract deposits

Property & Casualty reinsurance: Major loss trend[1]
in EUR million

M 11



[1] Natural catastrophes and other major losses in excess of EUR 10 million gross (until 31 December 2011: in excess of EUR 5 million gross)

Property & Casualty reinsurance: Key figures for individual markets and lines in 2018

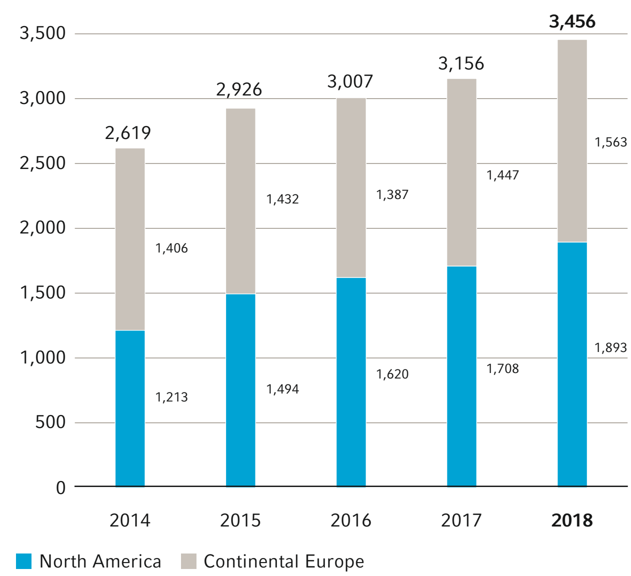
M 12

	Gross premium 2018 in EUR million	Change in gross premium relative to previous year	Gross premium 2017 in EUR million	EBIT in EUR million	Combined Ratio	Maximum tolerable combined ratio (MtCR)
Target markets	**3,455.8**	**9.5%**	**3,155.6**	**416.6**	**100.0%**	**95.5%**
North America	1,893.2	10.8%	1,708.3	227.2	102.5%	95.1%
Continental Europe	1,562.6	8.0%	1,447.3	189.4	97.1%	95.9%
Specialty lines worldwide	**2,919.5**	**5.5%**	**2,767.6**	**421.2**	**94.3%**	**96.2%**
Marine	230.8	-11.3%	260.1	146.0	9.9%	89.6%
Aviation	227.2	-8.4%	247.9	55.7	84.4%	97.0%
Credit, surety and political risks	743.2	11.5%	666.7	155.0	85.8%	94.1%
UK, Ireland, London market and direct business	992.5	25.4%	791.2	21.3	111.8%	98.1%
Facultative reinsurance	725.7	-9.5%	801.7	43.1	101.9%	95.8%
Global reinsurance	**5,600.8**	**17.0%**	**4,787.7**	**484.8**	**95.4%**	**96.9%**
Worldwide treaty reinsurance	2,298.3	25.8%	1,826.7	304.6	93.0%	95.8%
Catastrophe XL (Cat XL)	376.4	6.3%	354.2	50.9	88.3%	88.6%
Structured reinsurance and insurance-linked securities	2,926.1	12.2%	2,606.8	129.3	97.7%	98.5%

Target markets

Hannover Re classifies North America and Continental Europe as target markets. The premium volume rose by 9.5% to EUR 3,455.8 million (EUR 3,155.6 million). Growth thus surpassed our expectations. The combined ratio improved from 102.8% to 100.0%. The operating profit (EBIT) fell to EUR 416.6 million (EUR 441.8 million) owing to lower investment income.

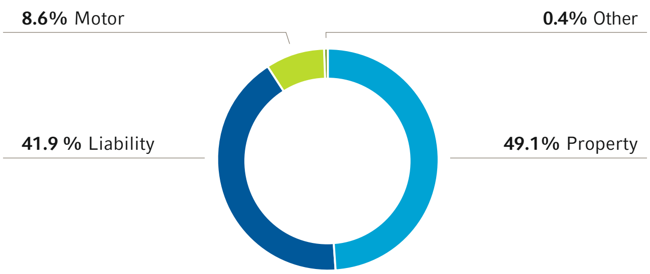
Property & Casualty reinsurance: Breakdown of gross written premium in target markets **M 13**
in EUR million



However, even lines whose performance had been particularly unsatisfactory in recent years – such as general liability and directors' and officers' insurance – showed positive tendencies in the year under review. Rates moved appreciably higher at the end of the year in light of further large loss events in the United States, including for example Hurricanes "Florence" and "Michael" as well as the forest fires.

Even though exceptionally high losses were incurred on the reinsurance side in 2017, they did not impact the overall market capacity. To this extent, the pricing adjustments were less marked than many market players had expected. While rate increases were booked under loss-affected programmes, significant improvements failed to materialise and there were no implications for loss-free programmes. What is more, the price trend lost further momentum as the year progressed. The sharply higher loss frequency in the second half of the year, however, subsequently ushered in some rate improvements.

Property & Casualty reinsurance: Breakdown of gross written premium in North America by line of business **M 14**



North America

The North American (re)insurance market is the largest single market both worldwide and for our company. Our business here is written largely through brokers.

The US economy continued its growth trajectory in 2018. This favourable development was shaped by a generally stable financial situation, a further decline in the unemployment rate and increased consumer spending. The move by the Federal Reserve to raise the key interest rate, hence making it possible to generate higher investment income in the US dollar area, was also gratifying. The stronger growth in the United States of course also had positive implications for premium growth in the insurance industry. All in all, the normalised premium growth was likely in the mid-single-digit percentage range.

The price increases observed on the primary insurance side in 2017 were sustained throughout 2018. The most striking rate increases were recorded in industrial property business.

The bulk of our activities in North America are conducted in liability and property business. Modest rate increases were obtained for liability business, which is split into the three subsegments of standard, special and professional liability. Against this backdrop we enlarged our premium volume. Selective growth was booked in the area of cyber covers; rising demand here was prompted by loss events and regulatory changes. In property insurance, too, we made the most of the improved rate quality to expand our business volume.

While major loss expenditure in 2018 was lower than in the previous year, the loss events resulted in a total strain slightly in excess of our expectations. Detailed figures on our large losses are provided on page 107. It is pleasing to note that in the financial year just ended the losses impacted Hannover Re less heavily than our market shares would have suggested – something which can be attributed to our prudent underwriting policy in highly exposed zones and our retrocession strategy.

On the whole, we were satisfied with our results in North America. We are a valued partner based on our expertise and robust financial strength. On this basis, we were able to acquire new clients while at the same time expanding long-standing customer relationships and we thereby further extended our market footprint. In the year under review we continued to cautiously expand our portfolio of program business, a form of primary insurance that we write through managing agents in North America.

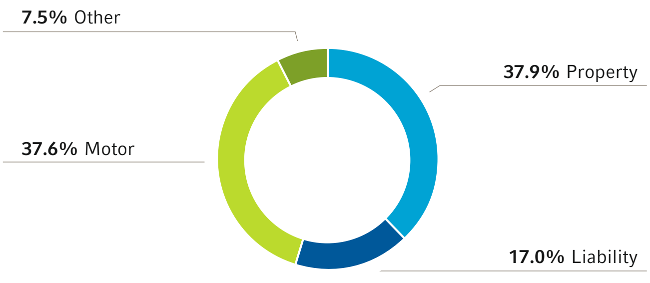
We are now authorised as a "Certified Reinsurer" in 37 US states, a status which enables us to post significantly lower collateral in favour of US-based ceding insurers. The reduction in the level of collateral from the previous 100% to just 10% for technical reserves had positive implications for our result. The situation should improve still further going forward because under the bilateral agreement signed between the United States and the European Union in September 2017 collateral requirements for business written in the US will be entirely eliminated after a transitional period of five years.

Notwithstanding the good growth already generated in 2017, the premium volume in North America increased by a further 10.8% in the year under review to EUR 1,893.2 million (EUR 1,708.3 million). The combined ratio improved to 102.5% (111.3%). Against this backdrop, the operating profit (EBIT) climbed to EUR 227.2 million (EUR 177.5 million) despite a drop in investment income.

Continental Europe

We group together the markets of Northern, Eastern and Central Europe as Continental Europe. The largest single market here is Germany. The premium volume for our business in Continental Europe totalled EUR 1,562.6 million (EUR 1,447.3 million) in the year under review. The combined ratio deteriorated to 97.1% (93.1%). The operating profit (EBIT) declined to EUR 189.4 million (EUR 264.3 million).

Property & Casualty reinsurance: Breakdown of gross written premium in Continental Europe by line of business **M 15**



Germany

The German market is served within the Hannover Re Group by our subsidiary E+S Rück. As the "dedicated reinsurer for Germany", the company is a sought-after partner thanks to its very good rating and the continuity of its business relationships. E+S Rück is superbly positioned in its domestic market and a market leader in property and casualty reinsurance.

The German insurance market was stable in the year under review and recorded modest premium growth. The largest increases in property and casualty insurance were seen in the highest-volume lines, namely motor and property insurance, and in the latter case especially in homeowners' insurance as well as industrial and commercial lines. Altogether, the original market for property and casualty insurance probably grew by around 3%, hence keeping up the pace of the previous year. However, claims expenditure rose considerably more sharply than premium income, leading to a deterioration in overall market profitability. This was especially true of fire insurance for industrial customers, where the combined ratio is expected to clearly exceed 120%.

German insurers continued to raise their retentions in view of their healthy capital resources. So-called alternative capital, i. e. risk transfer to the capital markets, did not play a significant role in the German reinsurance market. On the whole, Hannover Re obtained slightly improved rates and conditions in the 2018 treaty renewals. This was also the case in industrial fire insurance, although the rate adjustments here were still not sufficient in view of the high frequency of large losses. Given the intensity of the competition, we have only written risks in this segment on a highly selective basis in recent years. Positive results were, however, booked in the motor, general liability, householders' and accident lines.

In natural catastrophe business Storm "Friederike" resulted in a loss of EUR 24 million on the Group level. Localised flood events caused by heavy rainfall were also recorded. Given the increasing prevalence of natural disasters, covers for extended natural perils are likely to become ever more important.

Cyber insurance is another area of growing significance in Germany. In 2018 we continued to expand our service and pricing models in order to cater to the rising demand for these covers. In addition, we partnered with FinLeap, a fintech incubator, to create Perseus. Perseus offers SMEs a platform for insurance protection and IT solutions in connection with cyber risks.

All in all, we are satisfied with the development of our property and casualty reinsurance portfolio in the German market. Premium income surged appreciably in the year under review through the expansion of existing customer relationships; we had anticipated a slight decrease in premium in our guidance.

Rest of Continental Europe

Primary insurance markets in Continental Europe were once again intensely competitive in the year under review on account of surplus capacities; this was especially true of mature markets such as France and Northern Europe. The situation was particularly competitive in the fire / industrial lines and in motor business.

On the reinsurance side, too, a competitive environment prevailed. Somewhat more lively demand, most notably for bespoke reinsurance solutions offering solvency relief, had a stabilising effect on prices and conditions. Tighter requirements placed on insurers' capital resources by Solvency II and more rigorous supervision by regulators, coupled with the anticipated changes in accounting principles, additionally played a role here.

In Western Europe we continued to expand our market share on the back of stable, risk-appropriate rates. Growth was spread across various lines, including long-tail liability and accident business. We consolidated our good market position in builder's risk insurance in France. Our motor business in the Netherlands also fared well.

Growth rates in the countries of Central, Eastern and Southern Europe – for both the primary and reinsurance market – were still stronger overall than the European average. Prices largely held stable in the treaty renewals in the face of sustained intense competition. Exceptions here were loss-impacted programmes, especially in Russia, where sometimes substantial adjustments were necessary. Rates in motor business in Poland remained stubbornly on the previous year's level in 2018 – after the sharp upward trend observed in prior years.

In Northern Europe we further cemented our position through our local footprint and boosted our premium income despite a difficult market climate. Notwithstanding an increased frequency of mid-sized losses, mostly the result of fires, we were able to generate an underwriting profit.

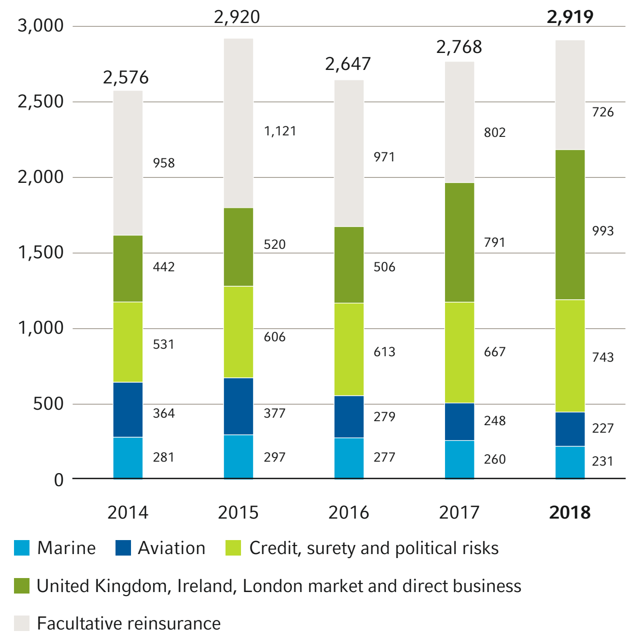
On the whole, we were satisfied with the premium development and rate movements in Continental European markets. By expanding long-established customer relationships with both larger and smaller companies, we achieved further encouraging growth.

Specialty lines worldwide

Under specialty lines we include marine and aviation reinsurance, credit and surety reinsurance, business written on the London Market as well as direct business and facultative reinsurance.

The premium volume for specialty lines in the year under review amounted to EUR 2,919.5 million (EUR 2,767.6 million). The combined ratio improved to 94.3% (98.8%). The operating profit (EBIT) for specialty lines increased to EUR 421.2 million (EUR 349.5 million).

Property & Casualty reinsurance: Breakdown of gross written premium in worldwide specialty lines M 16
in EUR million



Marine

After somewhat softer prior years, marine reinsurance largely stabilised in 2018 on the level of the previous year. Given the continued low price of oil, despite a brief surge in the middle of the year, oil companies held back from making investments and insurance demand remained unchanged. The excess capacities still existing in the market for transportation of freight and cargo did nothing to ease a highly competitive situation. The resulting further slight market softening made itself felt in the insurance terms and conditions.

The Lloyd's of London insurance market was among those impacted by these difficult market conditions. Results in a number of marine lines were still in the red. Customers responded by scaling back or entirely discontinuing their acceptances in selected marine lines.

On the reinsurance side the supply of capacity remained unchanged. This did not, however, lead to premium reductions. The hurricanes in the third quarter of 2017 ensured that prices remained largely stable, albeit without having adverse run-off implications. Overall, the losses incurred in marine reinsurance were below average in 2018. The only exceptions here were a loss incurred in builder's risk hull insurance in Germany, which was covered in the portfolios written by some Lloyd's insurers, as well as Typhoon "Jebi", which affected the Japanese marine market and hence also the reinsurance programmes.

In view of our market position as one of the world's leading marine reinsurers, the aforementioned losses also left their mark on our books.

The gross premium for our marine portfolio contracted by 11.3% to EUR 230.8 million (EUR 260.1 million). The underwriting result improved to EUR 125.4 million (EUR 6.6 million) owing to the low loss expenditure. The operating profit (EBIT) increased to EUR 146.0 million (EUR 35.7 million).

Aviation

After a protracted soft market phase on the aviation insurance market that had lasted several years, the encouraging tendencies already evident at the end of 2017 were sustained. One of the key drivers behind this development was a reduction in the available underwriting capacities which – depending on the particular segment – was in some cases substantial. Rate increases were especially marked for general aviation business in the United States, which accounts for roughly 50% of the global general aviation market. Nevertheless, appreciable signs of improvement could also be discerned in other segments, too, such as airline business.

The positive developments in the primary market only partially filtered through to the reinsurance side. This was to some extent due to the fact that improved results – as a reflection of the course of business – take time to show up in the reinsurers' books. As a further factor, the available capacity essentially remained constant aside from some minor changes. In sum, it may be stated that the market environment was more favourable than it had been one year earlier.

Our underwriting strategy in this phase remained disciplined. We kept our focus on the non-proportional segment, where we operate as one of the market leaders.

The premium volume for our total aviation portfolio contracted slightly in the year under review to EUR 227.2 million (EUR 247.9 million). The combined ratio stood at 84.4%. The operating profit (EBIT) of EUR 55.7 million (EUR 267.8 million) fell well short of the previous year's EBIT, although this had been massively influenced by the release of reserves set aside for prior underwriting years that were no longer required.

Credit, surety and political risks

Growth in the global primary insurance market picked up somewhat, albeit coming off a low level. Reinsurance cessions, on the other hand, were broadly stable relative to previous years, nudging higher only in the area of political risks.

The loss experience was characterised by a stable claims frequency and loss amounts for individual claims that were on a similar level to prior years. Against this backdrop, prices and conditions were mostly unchanged on both the insurance and reinsurance side.

Hannover Re writes the bulk of this business in the form of proportional treaties. It ranks among the market leaders in worldwide credit and surety reinsurance and in the reinsurance of political risks. Existing accounts were expanded and new clients added in the year under review, thereby further diversifying the portfolio.

Gross premium consequently increased by a very pleasing 11.5% in the 2018 financial year to EUR 743.2 million (EUR 666.7 million). The combined ratio for the entire segment amounted to 85.8% (91.1%). The operating profit (EBIT) reached EUR 155.0 million (EUR 112.8 million).

United Kingdom, Ireland, London Market and direct business

The gross premium booked from the United Kingdom, Ireland, the London Market and direct business rose from EUR 791.2 million to EUR 992.5 million. The combined ratio for this segment improved to 111.8% (140.9%). The operating profit (EBIT) totalled EUR 21.3 million (EUR -106.5 million).

United Kingdom, Ireland and London Market

The result of the property and casualty business that we reinsure for companies in the United Kingdom and on the London Market was satisfactory in 2018. In general terms, the market climate in the UK was still highly competitive, primarily due to excess capacity.

Rates in most lines on the London Market stabilised in the year under review. The increase in natural catastrophe losses caused by various hurricanes and the major fires in California did not, however, give rise to an additional strain for our portfolio. Further premium increases running well into double-digit percentages were obtained for the motor third party liability line, which covers private customer portfolios and had been adversely affected by the reduction of the Ogden rates in 2017. Prices in property reinsurance similarly rose sharply for business that had been impacted by Hurricanes "Harvey", "Irma" and "Maria" in 2017.

The Ogden rate (= discount rate used in the UK to calculate lump-sum compensation payments for personal injuries) was left unchanged in 2018 after the change made in 2017 – which had necessitated significant adjustments to loss reserves. We were, however, successful in our push to find a commercial solution for exposures to acts of terrorism committed in the UK where a motor vehicle is used to kill or injure. As a result, with effect from 1 January 2019 this risk is now excluded under reinsurance treaties across the entire UK motor reinsurance market and is instead placed as a standalone cover.

Direct business

We write a large portion of our direct business in the London Market and through our Swedish branch. We were satisfied with the development of this segment despite the prevailing intense competition, even though profitability in direct business was particularly impacted by the business that we wrote in the London Market. While this year's hurricane season was noticeably more benign and caused appreciably fewer losses, some markets and products saw hardening in the second half of the year. Rather than continuing to fall, the premium level here held stable or even trended higher. We were able to act on promising business opportunities in the year under review and enlarged our premium volume.

With effect from 1 January 2019 we are participating in a joint venture with HDI Global SE that focuses on specialty lines in primary business. In this connection we sold the majority interest in our subsidiary International Insurance Company of Hannover SE (Inter Hannover) to the Talanx subsidiary HDI Global.

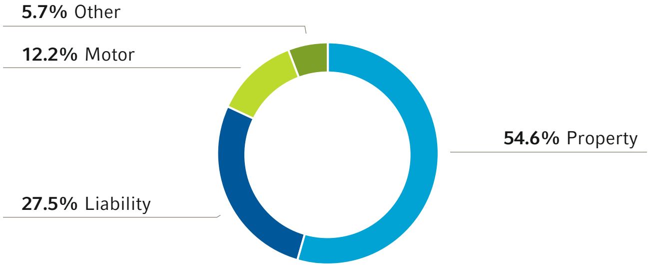
Its activities essentially remain centred on primary insurance, as has been the case to date. The business predominantly consists of tightly defined portfolios of niche or other non-standard business for which we provide reinsurance.

Facultative reinsurance

In contrast to obligatory reinsurance, a reinsurer underwrites primarily individual risks in facultative business. The general environment for both types of reinsurance in the various markets is, however, for the most part comparable.

In the first six months of the year under review it remained the case that extended coverage concepts and price reductions were observed in many areas. Faced with this market environment, we wrote our business selectively and increasingly focused on major, long-established customer relationships.

Property & Casualty reinsurance: Breakdown of gross written premium in facultative reinsurance M 17



Following on from the costly 2017 financial year, natural catastrophe losses remained on a high level. In contrast to the previous year, the results posted in facultative business in 2018 also reflected a growing number of mid-sized man-made losses. This unusual accumulation of medium-sized market losses, coupled with continuing large losses, led to capacity shortages in the affected regions and market segments. We responded to the attractive business opportunities opened up by this turnaround in keeping with our prudent underwriting approach and risk appetite.

Thanks to greater decentralisation of our underwriting activities and the associated expansion of competencies at regional entities, we were able to significantly strengthen our customer relationships. This led to potential avenues for new business and corresponding additional premium income in our target regions of the United States, Asia and Australia. What is more, the investments that we had made in past years in the areas of cyber risks and renewables were rewarded with attractive premium growth in the year under review.

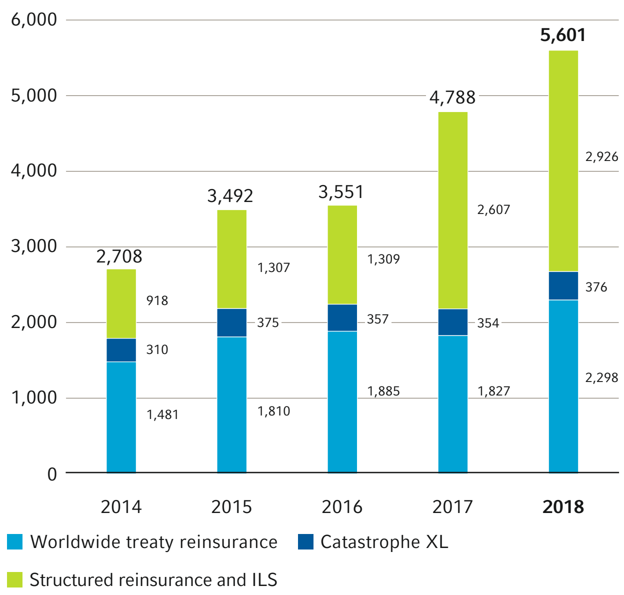
Despite a challenging year, we are satisfied with the development of our overall facultative portfolio in the financial year just ended. Along with the expenditures on catastrophe losses, substantial strains were also incurred in industrial fire insurance across all regions. The combined ratio improved only slightly on the previous year at 101.9% (103.7%). The operating profit (EBIT) came in at EUR 43.1 million (EUR 39.7 million).

Global reinsurance

We combine all markets worldwide under global reinsurance with the exception of our target markets and specialty lines. This segment also encompasses global catastrophe business, the reinsurance of agricultural risks, Sharia-compliant retakaful business as well as structured reinsurance and insurance-linked securities.

The premium volume increased by 17.0% in the year under review to EUR 5,600.8 million (EUR 4,787.7 million). The combined ratio improved to 95.4% (98.2%). The operating profit (EBIT) climbed to EUR 484.8 million (EUR 328.9 million).

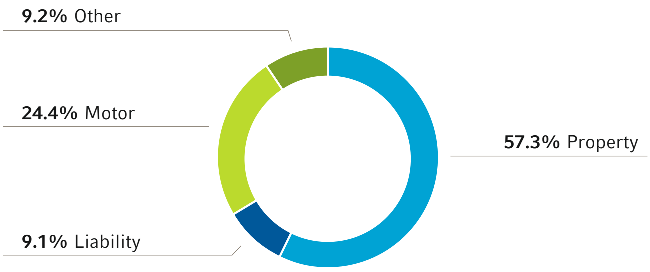
Property & Casualty reinsurance: Breakdown of gross written premium in global reinsurance **M 18**
in EUR million



Worldwide treaty reinsurance

We are thoroughly satisfied with the development of our worldwide treaty reinsurance. Gross premium income grew to EUR 2,298.3 million (EUR 1,826.7 million). The combined ratio of 93.0% was considerably better than in the previous year (96.3%). The operating profit (EBIT) increased to EUR 304.6 million (EUR 237.4 million).

Property & Casualty reinsurance: Breakdown of gross written premium in worldwide treaty reinsurance **M 19**



Asia-Pacific region

Highly destructive natural disasters such as typhoons and tsunamis shaped the market in the Asia-Pacific region. Most notably, Typhoons "Jebi", "Trami" and "Prapiroon" caused considerable windstorm and flood losses in Japan. Although we observed further modest price reductions in Japan for catastrophe covers during the first half of the year, the large losses should have an appreciable effect on demand for reinsurance capacities as well as on prices. Bearing in mind the general environment described above, our market position in Japan remained stable. Our result, however, declined significantly year-on-year due to the high level of catastrophe losses.

In China we further cemented our market position as a local reinsurer. Thanks to our very good relationships with selected customers and our innovative market presence, we were able to substantially grow our portfolio despite sustained intense competition. Profitability was in line with our expectations.

Along with China, the region of Southeast and South Asia continues to drive growth in the Asia-Pacific. We achieved good results here across the board, although we note that profitable growth in the primary market does not necessarily carry over to the reinsurance markets. Margins here continue to be very squeezed in many areas – a state of affairs that will likely continue in the years to come, especially in those markets that are not affected by large losses. Thanks to our focused underwriting policy, we generated a very pleasing result in the region of Southeast and South Asia served by our branch in Kuala Lumpur, Malaysia.

In general terms, we are committed to further diversifying our range of covers and our regional footprint in Asia. Systematic expansion of our business in defined areas assures profitability and growth over the medium term, especially from tailor-made reinsurance solutions.

In India we have been operating as a local reinsurer since 2017 and are thus able to share in the promising growth opportunities offered by this country. Outside of agricultural insurance, however, our business did not perform satisfactorily in the financial year just ended. Among other things, this was due to flood losses and the ongoing generally difficult market conditions.

We have had a presence in Australia and New Zealand for more than three decades and are positioned as the number three among Australian property and casualty reinsurers. Australia, in particular, remains fiercely competitive. We generated especially strong growth here with multi-line covers. Reinsurers such as ourselves with a very good rating, long-standing expertise and excellent business relationships have opportunities here to obtain more attractive prices than the market as a whole. We can therefore look back on a very pleasing overall result for the region. Australia and New Zealand continue to be attractive catastrophe markets for global reinsurance capacities.

South Africa

Our property and casualty reinsurance business in South Africa is produced by three companies: our subsidiary Hannover Reinsurance Africa Limited writes reinsurance in all lines. Compass Insurance is responsible for direct business generated mostly through underwriting management agencies (UMAs). Our third subsidiary, Lireas Holdings, holds interests in several of these UMAs. This enables us to comprehensively steer and control the business. Agency business forms the pillar of our activities in South Africa, although traditional reinsurance is also written in South Africa and other African countries.

The African insurance and reinsurance market was unremarkable in the year under review, with significantly fewer large losses than in the 2017 financial year. The market hardening observed in the previous year therefore continued to stabilise.

We see considerable potential to further grow our agency business. Additional expansion into other African markets is also conceivable, as soon as the local regulatory authorities give their backing to cross-border reinsurance solutions.

Our involvement in insurtech activities also gave grounds for satisfaction in the year under review. These include, among others, Pineapple. This start-up evolved directly out of our innovation competition held in 2016 under the name Journey Re, which delivered valuable stimuli for our business and led to the founding of several new start-ups. Not only has Pineapple gone on to commence insurance operations, it has also won numerous national and international awards. Taking the role of a digital broker, the company offers an insurance solution that enables its customers to participate in positive insurance results within a self-defined risk pool. Above and beyond this, we are involved in various other promising initiatives and start-ups in the South African market in what is a very dynamic environment.

Latin America

Despite the competitive landscape, we are very well positioned in Latin America and a market leader in several countries on the continent. The most important markets for our company are Brazil, where we are also present with a representative office, as well as Mexico, Argentina, Chile, Columbia and Ecuador. The main lines in Latin America and the Caribbean are property and motor insurance; liability lines are growing more slowly. We consistently offer our customers tailored solutions and suggest various alternative options. Our business relations have been cultivated in some instances over many years both on a direct basis and through reinsurance brokers. Above all in countries exposed to natural catastrophes, very attractive growth opportunities have opened up of late. Local insurers here specifically seek out our expertise and capacity.

The markets of Central and South America continue to see above-average growth rates, albeit with considerable differences from country to country. Heightened demand for high-quality risk protection still holds sway in most countries, enabling financially robust reinsurers to book business at adequate prices. Recent acquisitions of sizeable portfolios by primary insurers in Latin America have prompted increased demand for reinsurance capacities, a development from which our company will continue to benefit.

The prevailing price level is commensurate with the risks given the available worldwide capacities. When it comes to proportional capacity for the coverage of catastrophe risks, capacity would appear to be in somewhat short supply.

It is to be expected that the high frequency and severity of windstorm events in the Caribbean will continue. Particularly with this in mind, we offer our clients solutions designed to close potential gaps in coverage, such as for flood losses.

In the financial year just ended most Latin American markets continued to show very vigorous growth. Primary insurance premiums are currently rising here – depending on the market – by between 5% and 15% annually. This is driven not only by high rates of inflation, but also by the growing purchasing power of the middle class. The strongest demand for reinsurance covers was in the area of catastrophe risks, not only within individual markets but also increasingly across national borders.

Broadly speaking, we are satisfied with the development of our business in Latin America and the Caribbean, which delivered a clearly pleasing result in the year under review.

Agricultural risks

We expanded our market position for the coverage of agricultural risks. Particularly in emerging and developing economies, the growing need for agricultural commodities and foodstuffs combined with the increased prevalence of extreme weather events are generating stronger demand for insurance and reinsurance solutions. For example, the InsuResilience initiative of the G7 nations – in which we are participating – has set itself the goal of offering insurance protection against climate risks to millions of poor and at-risk individuals in developing countries by the year 2020. In Europe, too, the unusually dry summer prompted discussions around the subject of crop insurance.

The increasingly widespread implementation of public-private partnerships presents new opportunities for our company to write profitable business in markets that have still to mature. The growing availability of new technologies, such as remote sensing by satellites, will enable us to further enlarge our scope of business through innovative and efficient insurance products such as parametric covers.

Rates and conditions were stable in primary insurance business. On the reinsurance side, sustained pressure on prices and intense competition were evident in mature markets such as the United States and Canada.

We successfully moved forward with the geographical and line-based diversification of our portfolio. Our result was highly satisfactory thanks to the absence of large losses and our healthy diversification.

Retakaful business

We write retakaful business, i. e. reinsurance transacted in accordance with Islamic law, worldwide. Our focus is currently on the Middle East, North Africa and Southeast Asia. To this end, we are represented by our Bahrain-based subsidiary Hannover ReTakaful B.S.C. We also maintain a branch in Bahrain with responsibility for traditional reinsurance in the Middle East. Furthermore, we have established two branches in Labuan, Malaysia, that specialise in family-owned enterprises and retakaful business in the local markets.

Our retakaful business has grown very vigorously since we entered the segment in 2006 and we are now optimally positioned in the market. The development of our business in the year under review was satisfactory on the whole. The insurance markets of the Middle East and North Africa continue to post dynamic growth rates, with the United Arab Emirates and Saudi Arabia still constituting the largest single markets.

Our major markets nevertheless remain highly competitive. Even though the stubbornly low price of oil is a drag on economic momentum, the inflow of international underwriting capacities remains undiminished. A positive factor here is the action currently being taken to significantly improve the regulatory framework in the Middle East and North America (MENA) region. This is likely to increase the spread of insurance and open up opportunities for retakaful business and the broader reinsurance market.

Bearing in mind this market climate, we again put the focus on selective underwriting in the financial year just ended. Our premium income was consequently slightly lower.

Catastrophe XL (Cat XL)

We write the bulk of our catastrophe business out of Bermuda, the worldwide centre of competence for this segment. In the interest of diversifying the portfolio, our subsidiary Hannover Re (Bermuda) Ltd. has also written risks in some specialty lines.

After the historically high windstorm losses of 2017, the reinsurance of natural catastrophes continued to be a focus of renewal negotiations in the financial year just ended. The dominant factors were an unchanged excess supply of capacity and sustained high capital inflows from the ILS market, as a consequence of which prices increased only slightly. Rate increases were higher under loss-affected programmes, although they fell short of market expectations. In Florida, for example, increases of around 20% were booked under programmes that had suffered losses. Furthermore, certain programmes impacted by forest fires and mudslides in California saw rate rises of up to 30% in the course of the year under review. We are seeing growing demand for reinsurance covers from government programmes offering protection against flood risks.

While our expenditure on large losses in the first six months of the year came in below expectations, the second half of the year was significantly more eventful for the entire insurance sector. Along with losses from typhoons in Japan, hurricanes in the United States and forest fires in California, an increase in the cost of losses from the previous year – especially for Hurricane "Irma" – took a toll on results industry-wide. California was impacted by devastating forest fires for the second year in a row, and the coverage of such risks is therefore likely to draw even more attention.

The gross premium volume for our global catastrophe business grew to EUR 376.4 million (EUR 354.2 million). Given the reduced burden of large losses compared to the previous year, the combined ratio improved to 88.3% (121.1%). The operating profit (EBIT) also improved to EUR 50.9 million (EUR -3.3 million).

Structured reinsurance and insurance-linked securities

Structured reinsurance

With our Advanced Solutions segment we rank as one of the largest providers in the world for structured and tailor-made reinsurance solutions. In this context we assist our clients with their capital management and offer alternative reinsurance solutions that provide solvency relief or protection against the strain of frequency losses.

Growth in the financial year just ended was appreciable in many regions, especially in North and South America as well as in Europe, and played a significant part in the premium growth booked in our property and casualty reinsurance portfolio. Not only did the average premium per contract increase, but also the number of contracts in absolute terms. Looking to the future, we anticipate continued growth in demand for innovative and tailored reinsurance solutions. Over the past ten years we have tripled our premium volume in structured reinsurance to around EUR 2.6 billion. Altogether, almost half our business in structured reinsurance originates from the United States and roughly a third from Europe.

Going forward, we see further strong growth opportunities in North America, Europe and Asia. The purchasing habits of many customers have shifted of late towards holistic reinsurance solutions. This trend shows no signs of easing and will result in more and more customers seeking structured contracts with increasingly complex arrangements in the future. In general terms, though, premium income in this business can fluctuate sharply given that it is routinely based on large individual contracts.

Insurance-linked securities (ILS)

Demand on the capital market for insurance and reinsurance risks essentially remains strong, particularly due to the diversifying nature of such investments. The worldwide volume of newly issued catastrophe bonds was again in the order of USD 11 billion in 2018. The entire ILS market likely reached a volume of USD 95 billion. According to our estimates, up to two-thirds of this amount derives from collateralised reinsurance, under which insurers and investors conclude private risk transfer agreements which are secured by collateral held in trust accounts. We support these transactions through so-called fronting arrangements.

Investors have not lost faith in the ILS market despite taking a hit from various loss events in recent years. This underscores the important role played by the ILS markets in protecting against catastrophe risks.

We leverage the entire spectrum of opportunities offered by the insurance-linked securities market. On the one hand we take out reinsurance with ILS investors, while at the same time we transfer risks for our customers to the capital market as a service. This is done in the form of catastrophe bonds or through collateralised reinsurance. We are also active ourselves as an investor in catastrophe bonds.

In 2018 the volume of new exposures that we transferred to the capital market in the form of catastrophe bonds was in the region of USD 1.5 billion. The largest transaction this year was a USD 500 million catastrophe bond for the Federal Emergency Management Agency (FEMA). The bond provides protection against floods in the United States that result directly or indirectly from a named storm. This was the first time that FEMA transferred risks to the capital market using such an instrument.

In collateralised reinsurance business we continued to step up our cooperation with selected fund managers and in so doing generated attractive margins. It was also pleasing to note that we were able to further expand the transfer of life reinsurance risks to the capital market.

The key role played by the capital market in our purchasing of retrocession protection remains unchanged. Thus, for example, we were able to renew the protection cover for Hannover Re known as the "K cession" at a level of roughly USD 600 million for 2018. This is a modelled quota share cession consisting of non-proportional reinsurance treaties in the property, catastrophe, aviation and marine (including offshore) lines that has been placed inter alia on the ILS market since 1994. In addition to the K cession we use the ILS market for other protection covers as well.

The gross premium volume in structured reinsurance and from ILS activities grew by 12.2% to EUR 2,926.1 million (EUR 2,606.8 million). The combined ratio stood at 97.7% (97.7%). The operating profit (EBIT) increased to EUR 129.3 million (EUR 94.8 million).

Expertise in demand

Individual protection

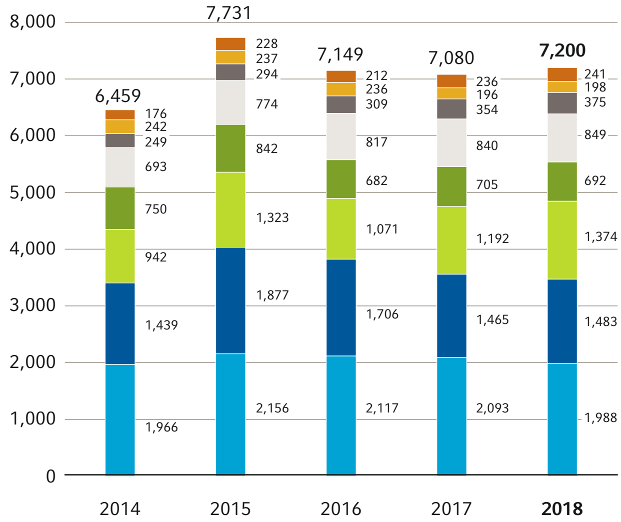
Flexible retirement products with the right level of security

People around the world are facing the challenge of securing a lifelong income at retirement age and finding a flexible retirement product to suit their individual needs. Drawing on our global experience and capacity, we are well placed to support insurance companies in developing tailor-made retirement solutions that meet a wide range of individual security needs in old age.

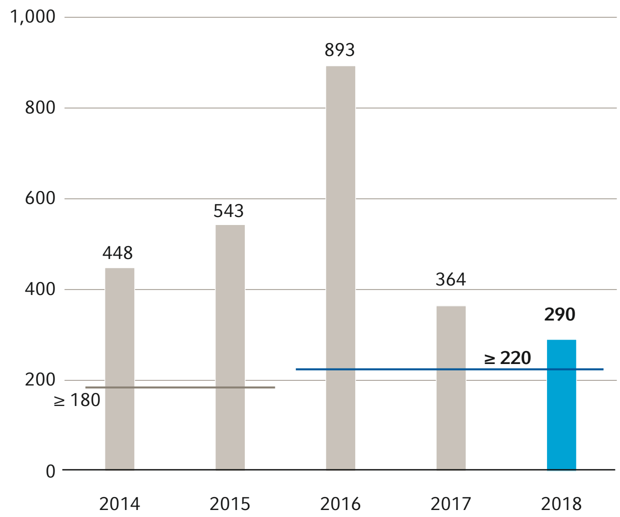
We can provide well-rounded support including new underwriting process design, implementation of our automated underwriting system at the point of sale as well as medical training by our experienced physicians. Our core competence is biometric risk assessment and we are flexible with regard to reinsurance solutions that mitigate these risks.

Life & Health reinsurance at a glance

Breakdown of gross premium by markets M 20
in EUR million

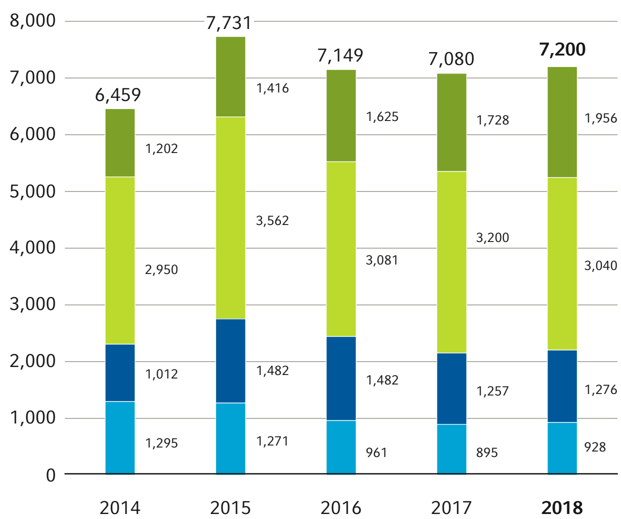


Value of New Business (VNB) growth[1] M 21
in EUR million

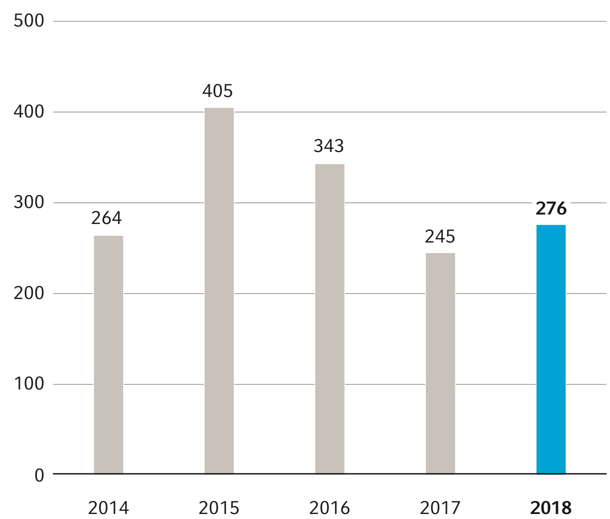


[1] Since 2016 based on Solvency II principles and pre-tax reporting; until 2015 MCEV principles (cost of capital already increased from 4.5% to 6% in 2015) and post-tax reporting

Breakdown of gross written premium by reporting categories M 22
in EUR million



EBIT performance M 23
in EUR million



Life & Health reinsurance

- Currency-adjusted gross premium growth of 4.6% in line with expectations
- One-time charge from recaptures in legacy US mortality business within the anticipated bounds
- US financial solutions business delivers another very good result

Life and health reinsurance contributed a substantial 38% share of Group gross premium in the year under review. Thanks to our global network and our know-how, we are able to drive both traditional business and new developments on the markets. We nevertheless consider the profitability and quality of the generated business to be the absolute overriding priority and we act accordingly.

Total business

Numerus positive developments in our international life and health reinsurance portfolio helped us to achieve a solid result in the financial year just ended. Treaty recaptures prompted by our announcement of rate increases in legacy US mortality business gave rise to a charge to income of EUR 272.6 million. Allowing for the necessary release of an expense reserve in an amount of EUR 87 million, we achieved an operating result (EBIT) of EUR 275.9 million (previous year: EUR 245.2 million). This reflected the consistently good quality and solid profitability of the portfolio outside of the book of US mortality business acquired in 2009.

Key figures for Life & Health reinsurance M 24

in EUR million	2018	+/− previous year	2017	2016[1]	2015	2014
Gross written premium	7,200.4	+1.7%	7,079.6	7,149.0	7,730.9	6,458.7
Net premium earned	6,484.8	+0.2%	6,472.8	6,425.0	6,492.4	5,411.4
Investment income	491.8	-12.3%	560.6	638.9	709.2	614.2
Claims and claims expenses	5,341.6	-5.7%	5,666.8	5,480.3	5,459.0	4,636.2
Change in benefit reserve	(50.8)		0.6	(83.0)	101.1	28.6
Commissions	1,263.6	+16.8%	1,081.8	1,020.4	1,075.1	946.4
Own administrative expenses	216.9	+2.9%	210.7	202.0	197.3	175.7
Other income/expenses	172.1	+0.9%	170.6	67.1	35.9	25.1
Operating result (EBIT)	275.9	+12.5%	245.2	343.3	405.1	263.8
Net income after tax	185.9	+7.7%	172.6	252.9	289.6	205.0
Earnings per share in EUR	1.54	+7.7%	1.43	2.10	2.40	1.70
Retention	90.7%		91.7%	90.4%	84.2%	83.9%
EBIT margin[2]	4.3%		3.8%	5.3%	6.2%	4.9%

1 Restated pursuant to IAS 8
2 Operating result (EBIT)/net premium earned

The highlights of the reporting period included thoroughly pleasing new business growth in Asia and good results in large parts of Europe as well as the opening of our new Abidjan representative office in Côte d'Ivoire. We have laid the foundation for the future with this local presence, enabling us to work closely with our customers on the spot in a developing region that offers considerable promise.

Insurers in our domestic German market are increasingly preoccupied with the capital adequacy and solvency ratios prescribed by the European Solvency II Directive. Reinsurance covers offer one possible solution for meeting the required ratios. Demand for reinsurance solutions was, however, more subdued in the year under review owing to transitional measures that allow insurers to satisfy reduced requirements for a certain period of time.

From a global perspective, we saw strong demand for reinsurance solutions to cover longevity risks – driven in part by the exacting capital requirements for such business on the primary insurance side. New business avenues also opened up to us through digitalisation initiatives and insurtechs. In most cases these are small start-up enterprises that are normally reliant on cooperations with experienced, cash-rich partners. By partnering with insurtechs we also generate benefits for primary insurers and policyholders. Through this type of partnership we are able to help our customers respond to the changing needs of policyholders and bring innovations to market.

The total gross premium income booked in life and health reinsurance for the year under review amounted to EUR 7,200.4 million (EUR 7,079.6 million). This is equivalent to modest growth of 1.7%; the increase would have been 4.6% at constant exchange rates, which was in line with our expectations. The level of retained premium stood at 90.7% (91.7%). Net premium earned was stable at EUR 6,484.8 million (EUR 6,472.8 million), corresponding to growth of 3.2% adjusted for exchange rate effects.

In view of the unchanged low level of interest rates, investment income in life and health reinsurance contracted as expected and totalled EUR 491.8 million (EUR 560.6 million). The share of the income attributable to our assets under own management amounted to EUR 319.6 million (EUR 343.5 million), while the contribution made by income from securities deposited with ceding companies came in at EUR 172.2 million (EUR 217.1 million).

The operating result (EBIT) reached EUR 275.9 million (EUR 245.2 million). Bearing in mind the charge to income associated with the aforementioned recaptures in legacy US mortality business, this is a pleasing performance. Group net income for life and health reinsurance improved by 7.7% to EUR 185.9 million (EUR 172.6 million).

We provide below a more detailed discussion of developments in the individual reporting categories of "Financial Solutions", "Longevity Solutions" and "Mortality and Morbidity Solutions" as well as an overview of our extensive range of services under the heading "Underwriting Services".

Financial Solutions

In our financial solutions business we concentrate on reinsurance solutions geared to optimising the solvency, liquidity and capital position of our customers. These forms of reinsurance are highly diverse and individually structured because they are always tailored to the customer's needs. The decisive differentiating feature is that the customer's primary motivation is not exclusively the coverage of biometric risks, but rather the protection of its financial and balance sheet position. We can draw on decades of global expertise in this field.

The US has long been an extremely important insurance market for us in this segment. Our financial solutions business performed superbly here and once again delivered a clearly positive contribution to the total result for the reporting category.

Primary insurers in Germany showed considerable interest in Solvency II issues, as they had in the previous year. While the minimal capital adequacy ratios required by the regulator (BaFin) were met by the companies across the board, the ratios varied sometimes markedly. Applying our expertise to the elaboration of possible solutions, we stand ready to support our customers as a reliable partner and we were able to successfully place corresponding business.

Demand for financing solutions to help fund the additional interest rate reserve ("Zinszusatzreserve") eased somewhat. The reserve requirements were softened through regulatory adjustments, as a consequence of which primary insurers were not under quite as much pressure as they had been in the previous year.

In general terms, considerable activity could be observed in the area of financial solutions on various European markets. In addition to Germany, we were successful in generating new business in Western and Central Europe and implemented financing solutions for a range of customers. Interest in reinsurance solutions with a bearing on Solvency II was also evident in the Scandinavian markets. This significance attached to this subject has increased in these markets, too, and we are engaging individual customers in an active dialogue.

Customers in Asia – especially China – showed a lively interest in the area of financial solutions and we were thoroughly successful in writing such business. Gross premium income from financial solutions rose by 3.7% to EUR 928.2 million (EUR 895.1 million). The written premium corresponds to 12.9% of the total gross premium booked in life and health reinsurance. Furthermore, financial solutions delivered another appreciable EBIT contribution from contracts with a reduced risk transfer, with income of EUR 197.0 million being recognised in other income / expenses. The operating result (EBIT) came in at a very pleasing EUR 319.4 million (EUR 223.8 million).

Longevity Solutions

In the longevity solutions reporting category we group together all reinsurance business where the primary risk covered is the longevity risk. We develop innovative annuity products tailored to the individual needs of policyholders in various life situations. The bulk of the business in this category consists of traditional annuity policies, pensions blocks taken out for new business and enhanced annuities – under which pensioners with a pre-existing condition are guaranteed a higher annuity payment for their remaining shortened life expectancy.

International demand for longevity solutions in the financial year was again sharply up on previous years. Interest in our tailor-made product solutions is no longer restricted just to our former core markets such as the United Kingdom and the Netherlands, but rather it spans the globe – with a focus on Canada, Asia, Australia and South Africa. Through these activities we are also able to play a part in the fight against poverty in old age, which is a major problem in some of these regions.

In Australia, for example, longevity was a dominant topic on the market following a change to retirement provision due to a regulatory adjustment. This compelled insurers to take action in relation to existing covers, hence opening up new business potential both for ourselves and our customers.

Another factor in the increased demand worldwide was the exacting solvency-based capital requirements imposed on insurers under the various local prudential regimes. Where longevity risks are involved, primary insurers need to hold very high reserves as collateral for pension commitments that are often still in the distant future. In some instances financial solutions arrangements can also be considered here, as discussed above.

The United Kingdom continues to be our largest and most mature market for longevity solutions. Minimal mortality improvements on the market could be discerned (provisionally) during the reporting period. On the one hand, this had positive implications for our existing book of longevity business. On the other hand, it also led to considerably more capacity in the longevity market and the associated pressure on prices. We have made a conscious choice not to follow this price trend at the present time, but instead only write selected risks.

In total, the gross premium for longevity business increased in the year under review by 1.5% to EUR 1,276.1 million (EUR 1,256.9 million). The operating result (EBIT) reached a level of EUR 5.6 million (EUR 20.0 million).

Mortality and Morbidity Solutions

In the global (re)insurance industry it is standard practice for mortality and morbidity risks to form a common element of one and the same business relationship, and in some cases both risks are even covered under one reinsurance treaty. In our reporting we therefore consolidate the profit contributions of these two reporting categories and provide below merely an overview of significant developments in the past year affecting our mortality and morbidity business.

Mortality Solutions

Mortality-exposed business forms the core of traditional life and health reinsurance and, in terms of premium volume, still accounts for the bulk of our total premium income in this business group. The business discussed in this reporting category consists of covers that protect our customers against the risk that people do not live as long as anticipated and hence the actual mortality negatively diverges from the originally expected mortality.

The most significant impact on the result for this reporting category in the financial year just ended derived from part of our legacy US mortality portfolio that we had acquired in 2009. In view of past experience we initiated rate increases for the relevant treaties in the second quarter of 2018. This prompted treaty recaptures on the part of the ceding companies. The total loss recognised in the balance sheet in this connection added up to EUR 273 million or USD 322 million. We are consciously willing to accept these losses because further strains on the corresponding treaties in subsequent years can be largely avoided. For 2019 we already expect to see an appreciable improvement in the result – in part also because new US mortality business written in the reporting period delivered a pleasing profit contribution.

Markets in Europe similarly showed dynamic growth. In Western and Central Europe we acquired new customers and were successful in generating new business. In Italy and Spain, for example, we enjoyed a robust business development throughout the reporting period and achieved a healthy profit contribution. Market competition was noticeably more intense in northern parts of Europe, especially in Sweden. Despite this, our business here lived up to our expectations.

The market in Australia was already undergoing a period of consolidation as large Australian banks have either sold their life insurance subsidiaries or are currently trying to do so. The banks are focusing on their core business which, in their assessment, offers the potential for higher margins than their insurance activities. It is evident that international players are usually the ones buying stakes in these life insurance operations and hence more and more Australian insurers are coming under foreign ownership. As a reinsurer, we are closely monitoring the ongoing developments and we are talking both to our own customers and new market entrants.

Gross premium for mortality business contracted by 5.0% to EUR 3,039.5 million (EUR 3,200.1 million). Altogether, it contributed 42.2% of the total gross premium income booked in life and health reinsurance (EUR 7.2 billion).

Morbidity Solutions

Within the morbidity solutions reporting category, we cover business centred around the risk of deterioration in a person's state of health due to disease, injury or infirmity. A hallmark of this business is the wide range of possible combinations of different covered risks, including for example strict (any occupation) disability, occupational disability and various forms of long-term care insurance. A dedicated team of staff equ ipped with both specialist expertise and access to our network of business centres stands ready to assist with transactions of this type. In this way, our customers are able to optimally benefit from our global know-how on a local basis.

Mature markets were increasingly preoccupied with the issue of long-term care (insurance) in old age. In Germany, for example, we have consistently expanded our range of solutions as part of an ongoing dialogue with our customers.

In the countries of Central and Eastern Europe, too, a greater awareness of life situations with critical health implications could be discerned in the reporting period just ended. In addition to the coverage offered by state-run schemes, the level of which is still inadequate, it is becoming increasingly important to have sufficient private provision. Consequently, it was evident that our customers generally showed stronger interest in critical illness products and health insurance coverage.

In the United States we continued to build on our leading position in the ACO (Accountable Care Organization) market. ACOs are groups of healthcare providers who come together voluntarily to give coordinated high-quality care to their patients. The goal is to ensure that patients – especially those with chronic diseases – get the best possible care at the right time through appropriate treatment. We have been a reliable partner of ACOs for some years now and provide actuarial and risk-related support for these organisations, which are managed exclusively by healthcare providers such as doctors and hospitals. From an overall perspective, our health and special risk business in the US developed as anticipated and delivered a healthy profit contribution.

In Australia we observed a market-wide deterioration in individual occupational disability business. The higher-than-expected losses adversely affected our result – in common with that of other market players – in this reporting category.

In Asia, on the other hand, our morbidity business fared exceptionally well. The Chinese market showed the most dynamic growth in the year under review. Most notably, we were able to substantially grow our critical illness business because, among other things, the Chinese regulator is encouraging more active marketing of these solutions. Along with the traditional critical illness product, modifications in the form of additional risk inclusions were also widely used. In China, alone, we consequently acquired numerous new customers and treaties, with appreciable positive effects on the premium volume. Our business in the other Asian markets developed largely in line with our expectations.

Gross premium for morbidity business grew by 13.3% in the financial year just ended to EUR 1,956.5 million (EUR 1,727.5 million).

Gross premium for our total mortality and morbidity solutions business increased by 1.4% to EUR 4,996.0 million (EUR 4,927.6 million). The operating result (EBIT) for the two reporting categories came in at EUR -49.1 million (EUR 1.4 million).

Underwriting Services

Under the heading of Underwriting Services we report on the activities and services that we perform for our customers above and beyond pure risk transfer. Our automated underwriting systems and the associated process automation for our customers are a major feature in this regard. In the year under review it was again evident that these services constitute a key competitive advantage and cement our business relationships with our customers. Furthermore, our automated underwriting systems help our customers to structure the underwriting process more efficiently, expand their product range and hence respond to the needs of individual policyholders in an optimal and timely manner.

Digitalisation, innovation and automation have significantly influenced the entire insurance industry around the world. This trend, which was already clearly evident in the previous reporting period, continued to shape the 2018 financial year.

Our expectations for the development and take-up rate of our underwriting systems were far exceeded. Most importantly, the consistently positive feedback received from our customers confirms that we have found the right concept for translating our experience into a future-ready and appropriately tailored solution. The combination of a state-of-the-art and flexibly customisable underwriting system that efficiently organises the application process with a comprehensive range of support and other services is seen as a clear win in the eyes of our customers.

We are currently in talks regarding our underwriting system hr|Quirc not only with customers in Africa and the Middle East but also with an increasing number of Asian insurance providers, who have signalled their interest in implementation.

Similarly, we were thoroughly satisfied with the progressive global roll-out of our state-of-the-art and flexibly customisable system hr|ReFlex in the reporting period. Along with the implementations already completed in prior years, we were again successful in launching hr|ReFlex with a large number of existing and new customers in the year under review.

In the context of the complex range of issues relating to digitalisation and innovation, we have increasingly engaged in a dialogue with start-ups specialising in insurance solutions – frequently in the form of (online) platforms. The trend towards policyholders tracking and systematically evaluating their health with the aid of wearables – small, smart electronic devices worn on the body – is no longer a new one. Quite the contrary, an attractive market has grown up around digital wellness – one in which we, too, are seeking to get actively involved. Working with our cooperation partners, we offer insurance products geared to a healthy and responsible lifestyle. These products enable insurers to combine broad-ranging technical solutions for health-conscious consumers with an innovative, digital experience while at the same time providing insurance coverage. The blend of our long-standing worldwide underwriting expertise and technical innovation opens up new possibilities in risk analysis, product design and health management.

In the United States, for example, we worked together with a US insurtech on the successful implementation of our underwriting system hr|ReFlex. Our cooperation partner uses online and mobile channels to sell life insurance directly to end consumers. This was a first for the US life insurance market. Sales were expanded to virtually all US states in the year under review. This innovative combination of online sales with our underwriting system hr|ReFlex delivers a cost-efficient and flexible solution for end consumer and provider alike. Initial results indicate that this solution has been well received by policyholders.

In the French market, too, a change in the law drove the need for innovation in the credit life sector. We support primary insurance partners by reinsuring a newly launched form of credit life insurance that rewards a healthy active lifestyle. Preferential rates are available to insureds who follow a defined but basic programme of sports activities.

All in all, the focus of all our activities – taking into consideration our corporate objectives – is on the needs of our customers. We aspire to be a reliable expert partner over the long term in every situation and for the widest possible range of concerns. Along with traditional reinsurance solutions, this means keeping a close eye on new products and developing concepts designed to satisfy supervisory requirements. Not only that, we must move with the times and keep pace with the trend towards increasing innovation and more technology, and we must also be willing to take on capital market risks. With minority interests in two companies specialising in the transfer of capital market risks, we have expanded our range of solutions and ensured that we can also meet this need on the part of primary insurers.

Investments

- Another good investment performance with stable ordinary income despite challenging environment
- Stronger earnings from fixed-income securities more than offset loss of dividend income
- Return on investment beats target at 3.2%

We are highly satisfied with the development of our investments. While the year under review was once again a challenging one in view of the continued low level of interest rates and global economic movements driven by a range of uncertainties and risks, we were nevertheless compelled to recognise only a minimal volume of impairments. We were able to outperform our targets despite quite appreciable portfolio regrouping in support of financing measures in life and health reinsurance, the tax reform in the United States, issuance of a senior bond and our amended strategy. Nor were we held back by a decrease in reserves due to USD interest rate hikes and widening credit spreads. Our exposures to emerging markets were also rewarded by the good performance of these markets and delivered stable earnings. This was again true of the real estate sector as well, the income from which – driven by the higher weighting in the portfolio – helped to push our ordinary investment income (excluding interest on funds withheld and contract deposits) to a very pleasing EUR 1,321.7 million, a level roughly on a par with the previous year (EUR 1,289.0 million). The partial reduction of our credit risk exposures in the course of the year proved advantageous as spreads widened towards year-end. Despite the difficult interest rate environment, our returns on fixed-income securities came in on a gratifying level that even surpassed the previous year. We were thus able to very comfortably make up for the dividend income lost after the liquidation of our equity portfolio in the previous year.

Net realised gains on disposals totalled EUR 127.7 million (previous year: EUR 377.1 million). The sharp decline can be attributed to the exceptionally high income realised in the previous year from the liquidation of our portfolio of listed equities. It also reflects the fact that we recognised not inconsiderable hidden charges in connection with our portfolio regrouping moves due to the steeper US yield curve. We were nevertheless able to more than offset this through attractive gains realised on the disposal of high-yield bonds. As a further factor, we benefit from rising interest rates in our reinvestment activities. We report further on this in the following section "Financial position and net assets" under the subsection "Investments" on page 61 et seq.

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 year under review gave rise to negative fair value changes recognised in income of EUR 11.9 million (positive changes of EUR 3.7 million). Altogether, the positive changes in the fair values of our financial assets recognised at fair value through profit or loss amounted to EUR 31.2 million (EUR 38.6 million). The principal items recognised here are various derivative financial instruments relating to the technical account or taken out as currency or interest rate hedges as well as fixed-income assets for which the fair value option provided by IAS 39 was applied.

Impairments and depreciation totalling EUR 52.7 million (EUR 71.9 million) were taken. An impairment loss of EUR 15.3 million (EUR 8.4 million) was recognised on alternative investments. The write-downs on fixed-income securities amounted to just EUR 0.5 million (EUR 0.3 million). Impairments were also taken on our real estate portfolio in a volume of EUR 2.9 million (EUR 18.0 million). Depreciation on directly held real estate increased to EUR 34.0 million (EUR 31.0 million), reflecting the further increase in our involvement in this sector. These write-downs contrasted with write-ups of EUR 3.6 million (EUR 0.9 million).

Investment income **M 25**

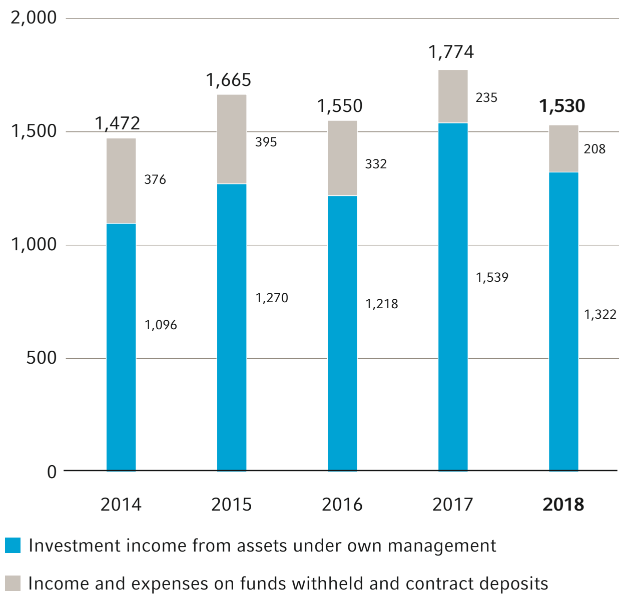
in EUR million	2018	+/- previous year	2017	2016	2015	2014
Ordinary investment income[1]	1,321.7	+2.5%	1,289.0	1,162.0	1,253.4	1,068.4
Result from participations in associated companies	5.0	-68.9%	16.0	9.1	19.2	1.0
Realised gains/losses	127.7	-66.1%	377.1	206.3	135.8	182.5
Appreciation	3.6		0.9	0.3	0.6	0.1
Depreciation, amortisation, impairments[2]	52.7	-26.6%	71.9	76.0	38.7	27.7
Change in fair value of financial instruments[3]	31.2	-19.2%	38.6	26.1	0.9	(33.3)
Investment expenses	114.3	+3.2%	110.8	109.1	101.2	95.3
Net investment income from assets under own management	1,322.0	-14.1%	1,539.0	1,218.3	1,270.1	1,095.8
Net investment income from funds withheld and contract deposits	208.0	-11.5%	234.9	332.1	395.0	376.1
Total investment income	**1,530.0**	**-13.7%**	**1,773.9**	**1,550.4**	**1,665.1**	**1,471.8**

[1] Excluding income and 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

Despite reduced income from funds withheld and contract deposits as well as lower realised gains, we were thus able to generate very healthy investment income of EUR 1,530.0 million (EUR 1,773.9 million). Key drivers here were the pleasing rise in ordinary income booked on fixed-income securities as well as very good earnings from real estate and private equity. Income from assets under own management accounted for EUR 1,322.0 million (EUR 1,539.0 million), producing an average return (excluding effects from ModCo derivatives) of 3.2%. We thus clearly beat our originally anticipated 2.7% target.

Development of investment income **M 26**

in EUR million



Financial position and net assets

- Risk-commensurate investment policy
- Highly diversified investment portfolio
- Equity base remains robust

Investment policy

Hannover Re's investment policy continues to be guided by the following core principles:

- generation of stable and risk-commensurate returns while at the same time maintaining the high quality standard of the portfolio
- ensuring liquidity and solvency at all times
- high diversification of risks
- limitation of currency exposure and maturity risks through matching currencies and maturities

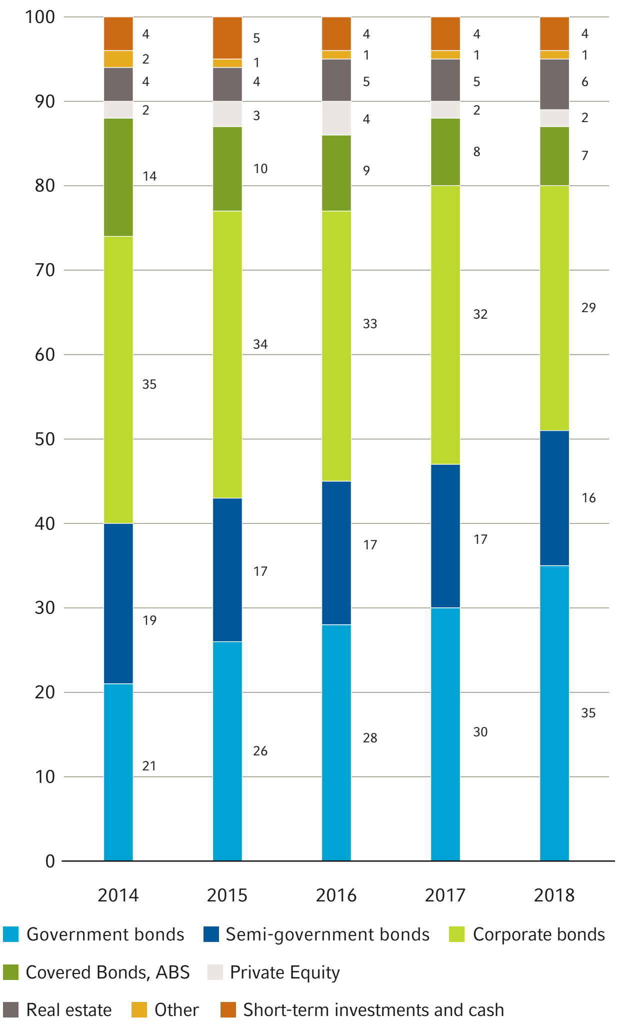
With these goals in mind we engage in active risk management based on balanced risk/return analyses. To this end we adhere to centrally implemented investment guidelines and incorporate insights gained from dynamic financial analysis. Both form the basis for investment ranges which are specified in light of the prevailing state of the market and the requirements on the liabilities side and within which operational management of the portfolio takes place. These measures are intended to safeguard the generation of an appropriate level of return. In so doing, we pay strict attention to compliance with our clearly defined risk appetite, which is reflected in the risk capital allocated to the investments and constitutes the foundation for the asset allocation of the entire Hannover Re Group and the individual portfolios. Our ability to meet our payment obligations at all times is also ensured in this way. Within the scope of our asset/liability management (ALM) the allocation of investments by currencies and maturities is determined by the technical liabilities. The modified duration of our bond portfolio is geared largely to the technical liabilities.

By adjusting the maturity pattern of our fixed-income securities to the expected payment patterns of our liabilities we reduce the economic exposure to the interest rate risk. In the current reporting period this gave rise to a broadly neutral modified duration of our bond portfolio, which stood at 4.8 (previous year: 4.8) as at 31 December 2018. Through active and regular management of the currency spread in our fixed-income portfolio we bring about extensive matching of currencies on the assets and liabilities sides of the balance sheet, as a consequence of which fluctuations in exchange rates have only a limited effect on our result. As at year-end 2018 we held 30.1% (30.1%) of our investments in euros, 45.8% (45.5%) in US dollars, 7.7% (8.2%) in pound sterling and 5.9% (5.9%) in Australian dollars.

Investment portfolio M 27

in EUR million	2018	2017	2016	2015	2014
Funds withheld	10,865	10,903	11,844	13,990	15,919
Investments under own management	42,197	40,057	41,793	39,347	36,228
Total	**53,062**	**50,960**	**53,637**	**53,337**	**52,147**

Breakdown of investments under own management M 28
in %



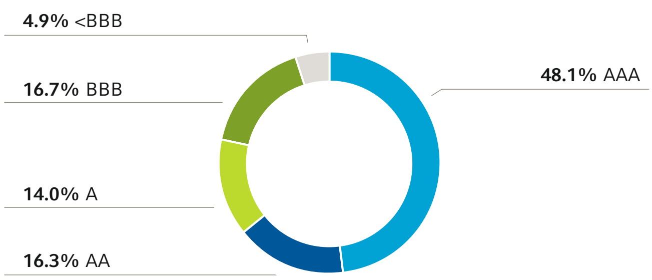
Investments

Our portfolio of assets under own management amounted to EUR 42.2 billion, a level significantly higher than at the end of the previous year (31 December 2017: EUR 40.1 billion). Along with the positive operating cash flow, this reflects the fact that the issuance of a senior bond in the second quarter and exchange rate effects more than offset valuation declines on fixed-income securities. We adjusted the allocation of our investments to the individual classes of securities in the reporting period in that we somewhat modified the nature of our government bond holdings and expanded our portfolio of instruments with inflation-linked coupons and redemption amounts. By taking this step we are counteracting inflation risks in our property and casualty reinsurance business. Through the reduction of certain positions in the area of high-yield bonds we also smoothed the risk profile of our investments and generated liquidity for future opportunities in the capital market as well as for financing transactions in life reinsurance. In addition, we improved the quality of our portfolio of covered bonds.

We further boosted our real estate portfolio as part of the strategic expansion of this asset category by acquiring one property in the United States and one in Australia. We also acted on market opportunities in the United States and sold one of our properties. The real estate allocation of our total asset portfolio thus increased slightly to reach the current level of 5.6% (5.3%). In all other asset classes we made only minimal changes in the context of regular portfolio maintenance.

The portfolio of fixed-income securities excluding short-term assets rose to EUR 36.5 billion (EUR 34.3 billion). This increase can similarly be attributed not only to the positive operating cash flow but also to the aforementioned issuance of a senior bond in the second quarter and exchange rate effects, which more than offset the valuation declines on fixed-income securities. Hidden reserves for available-for-sale fixed-income securities, which are included in shareholders' equity, totalled EUR 91.4 million (EUR 706.2 million). This reflects the yield increases observed in the course of the reporting period, especially in the area of USD-denominated sovereign bonds and debt securities issued by semi-governmental entities, as well as the broadly higher risk premiums on corporate bonds. As to the quality of the bonds measured in terms of rating categories, the proportion of securities rated "A" or better remained on a consistently high level and stood at 78.4% (76.6%) as at year-end.

Rating of fixed-income securities M 29



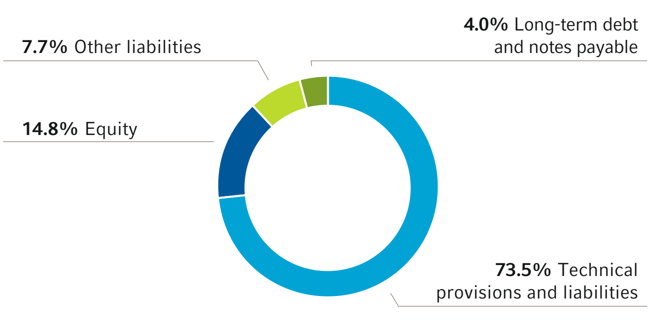
Holdings of alternative investment funds increased slightly overall. As at 31 December 2018 an amount of EUR 896.8 million (EUR 776.3 million) was invested in private equity funds; a further EUR 675.3 million (EUR 818.3 million) was attributable predominantly to investments in high-yield bonds and loans. In addition, altogether EUR 433.9 million (EUR 385.0 million) was invested in structured real estate investments. The uncalled capital with respect to the aforementioned alternative investments totalled EUR 1,326.4 million (EUR 1,201.9 million).

As at the end of the year under review we held a total amount of EUR 1.5 billion (EUR 1.8 billion) in short-term investments and cash. Funds withheld amounted to EUR 10.9 billion (EUR 10.9 billion).

Analysis of the capital structure

In terms of amount, the technical provisions and liabilities are of course by far the most significant item in our balance sheet. Further elements are equity and equity substitutes, which help to substantially strengthen our financial base and optimise our cost of capital. The following chart shows our capital structure as at 31 December 2018, broken down into percentages of the balance sheet total.

Capital structure as at 31 December 2018 M 30



The technical provisions and liabilities shown above, which include funds withheld/contract deposits and reinsurance payable, make up 73.5% (77.1%) of the balance sheet total and are more than covered by our investments, (assets-side) funds withheld/contract deposits, accounts receivable and reinsurance recoverables.

The equity including non-controlling interests at 14.8% (15.2%) of the balance sheet total as well as the long-term debt and – especially – notes payable at altogether 4.0% (2.8%) of the balance sheet total represent our most important sources of funds.

We ensure that our business is sufficiently capitalised at all times through continuous monitoring and by taking appropriate steering actions as necessary. For further information in this regard please see the following section "Management of policyholders' surplus".

Management of policyholders' surplus

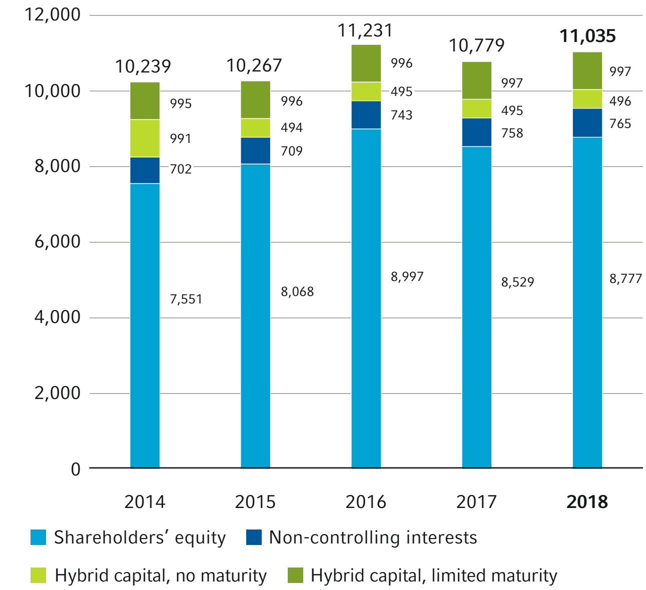
A key strategic objective of Hannover Re is long-term capital preservation. Just as in previous years, we issued hybrid capital as an equity substitute in order to keep the cost of capital on a low level. The policyholders' surplus is an important management ratio in the context of Hannover Re's comprehensive capital management. The total policyholders' surplus is defined as follows:

- shareholders' equity excluding non-controlling interests, composed of the common shares, additional paid-in capital, other comprehensive income and retained earnings,
- non-controlling interests and
- hybrid capital used as an equity substitute, which takes the form of subordinated bonds.

The policyholders' surplus totalled EUR 11,035.1 million (EUR 10,778.5 million) as at the balance sheet date. Retained earnings increased by EUR 455.9 million to EUR 7,440.3 million (EUR 6,984.4 million) on the back of the good Group net income booked in the year under review. On the other hand, the foreign currency gains and losses and the net gains on investments recognised in equity were lower in total. Overall, the policyholders' surplus consequently increased by 2.4%.

Hannover Re uses "Intrinsic Value Creation" (IVC) as its central value-based management tool. As part of this methodology, we apply the principles of economic allocation of equity and efficient use of debt as an equity substitute in order to achieve the lowest possible weighted cost of capital. This concept as well as the objectives and principles in accordance with which we conduct our enterprise management and capital management are described in greater detail in our remarks on value-based management on page 20 et seq. of this report.

Development of policyholders' surplus M 31
in EUR million



In its capital management Hannover Re is guided by the requirements and expectations of the rating agencies with an eye to its targeted rating. Furthermore, while making appropriate allowance for business policy considerations and factors that influence market presence, the allocation of capital to the Group's operational companies is based upon the economic risk content of the business group in question. The Group companies are also subject to national capital and solvency requirements. All Group companies met the applicable local minimum capital requirements in the year under review. Adherence to these capital requirements is continuously monitored by the responsible organisational units on the basis of the latest actual figures as well as the corresponding planned and forecast figures. If, despite the capital allocation mechanisms described above, a scenario occurs in which there is a danger of minimum capital requirements being undershot, suitable options are immediately discussed and measures set in motion to counteract such an eventuality. From the Group perspective we manage Hannover Re's solvency using our internal capital model (cf. "Opportunity and risk report", page 94 et seq.).

Group shareholders' equity

Compared to the position as at 31 December 2017, Group shareholders' equity increased in the year under review by EUR 255.5 million, equivalent to 2.8%, to EUR 9,542.0 million. After adjustment for non-controlling interests, it rose by EUR 248.3 million to EUR 8,776.8 million. The book value per share increased accordingly by 2.9% to EUR 72.78. The changes in shareholders' equity were shaped chiefly by the following developments:

The foreign currency gains and losses grew by EUR 263.9 million from EUR -62.5 million to EUR 201.4 million as a consequence of exchange rate movements of foreign currencies against the euro in the financial year. The rise in the reserve for currency translation adjustments resulted principally from the appreciation of the US dollar and translation of the shareholders' equity of those subsidiaries whose equity is denominated in USD.

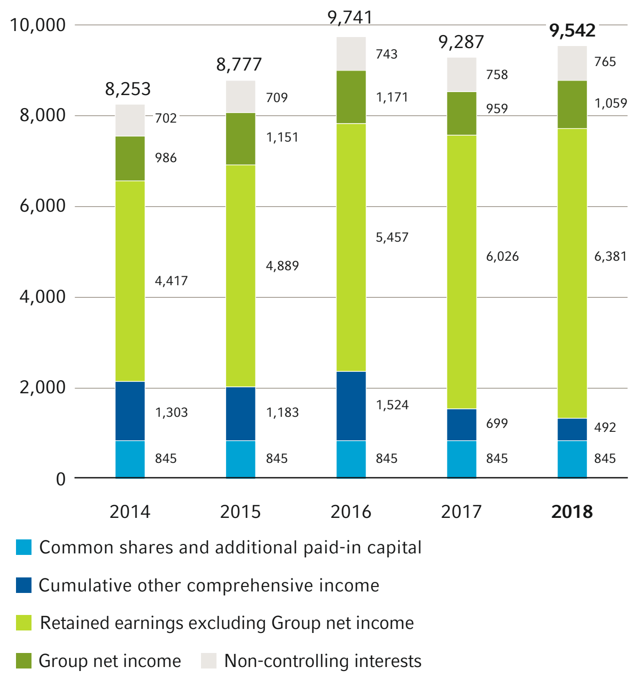
Net unrealised gains on investments stood at EUR 346.5 million, a drop of EUR 471.8 million compared to the beginning of the year under review. This reflected the yield increases observed in the course of the reporting period, especially in the area of USD- and GBP-denominated sovereign bonds, as well as higher risk premiums on corporate bonds across all rating categories.

Non-controlling interests in shareholders' equity increased by EUR 7.2 million to EUR 765.2 million as at 31 December 2018. The bulk of this – in an amount of EUR 706.1 million – is attributable to the non-controlling interests in E+S Rückversicherung AG.

The Group net income for 2018 attributable to the shareholders of the Hannover Re Group amounted to EUR 1,059.5 million (EUR 958.6 million). The non-controlling interest in the profit generated in the year under review totalled EUR 86.0 million (EUR 86.0 million).

Development of Group shareholders' equity M 32

in EUR million



Financing and Group debt

In addition to the financing effect of the changes in shareholders' equity described above, debt financing on the capital market is a significant component of Hannover Re's financing. It was essentially composed of bonds issued to ensure lasting protection of our capital base – in part also in observance of rating requirements. The total volume of long-term debt and notes payable stood at EUR 2,558.9 million (EUR 1,742.1 million) as at the balance sheet date.

Our bonds supplement our equity with the aim of reducing the cost of capital and also help to ensure liquidity at all times. As at the balance sheet date altogether four bonds had been placed on the European capital market through Hannover Rück SE and Hannover Finance (Luxembourg) S.A.

The following table presents an overview of the amortised cost of the issued bonds.

Amortised cost of our bonds M 33

in EUR million	Issue date	Coupon in %	2018	2017
Hannover Finance (Luxembourg) S.A. subordinated debt, EUR 500 million; 2010/2040	14.9.2010	5.75	499.3	499.1
Hannover Finance (Luxembourg) S.A. subordinated debt, EUR 500 million; 2012/2043	20.11.2012	5.00	498.2	497.8
Hannover Rück SE, subordinated debt, EUR 500 million; 2014/undated	15.9.2014	3.375	495.6	495.0
Hannover Rück SE, senior bond, EUR 750 million 2018/2028	18.4.2018	1.125	742.5	–
Total			2,235.6	1,492.0

Several Group companies have also taken up long-term debt – principally in the form of mortgage loans – amounting to EUR 323.2 million (EUR 250.1 million).

For further explanatory information please see our remarks in the notes to this report, section 6.12 "Long-term debt and notes payable", page 240 et seq., and section 6.13 "Shareholders' equity and treasury shares", page 242 et seq.

Various financial institutions have provided us with letters of credit for the collateralisation of technical liabilities. We report in detail on existing contingent liabilities in the notes, section 8.7 "Contingent liabilities and commitments", page 266 et seq.

Analysis of the consolidated cash flow statement

Liquidity

We generate liquidity from our operational reinsurance business, investing activities and financing measures. Regular liquidity planning and a liquid investment structure ensure that Hannover Re is able to make the necessary payments at all times. Hannover Re's cash flow is shown in the consolidated cash flow statement on page 168 et seq.

Hannover Re does not conduct any automated internal cash pooling within the Group. Liquidity surpluses are managed and created by the Group companies. Various loan relationships exist within the Hannover Re Group for the optimal structuring and flexible management of the short- or long-term allocation of liquidity and capital.

Consolidated cash flow statement M 34

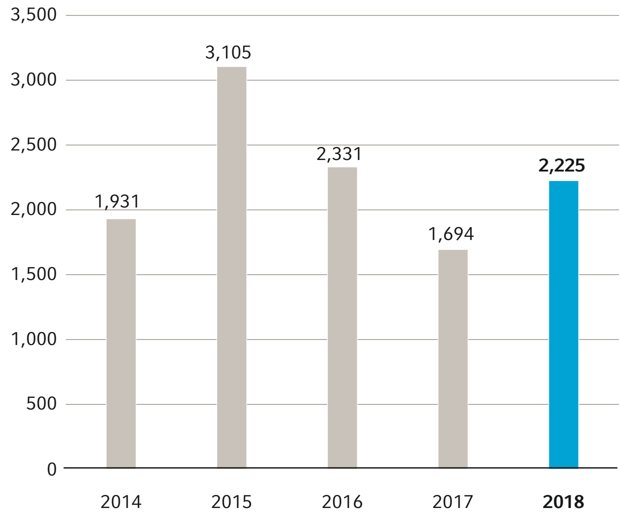
in EUR million	2018	2017
Cash flow from operating activities	2,224.6	1,693.9
Cash flow from investing activities	(2,075.2)	(942.3)
Cash flow from financing activities	149.5	(690.0)
Exchange rate differences on cash	16.9	(74.5)
Change in cash and cash equivalents	315.8	(13.0)
Cash and cash equivalents at the beginning of the period	835.7	848.7
Change in cash and cash equivalents according to cash flow statement	315.8	(13.0)
Cash and cash equivalents at the end of the period	**1,151.5**	**835.7**
Thereof cash and cash equivalents from IFRS 5	78.6	–
Thereof cash and cash equivalents at the end of the period excluding disposal group	1,072.9	835.7

Cash flow from operating activities

The cash flow from operating activities, which also includes inflows from interest received and dividend receipts, amounted to EUR 2,224.6 million in the year under review as opposed to EUR 1,693.9 million in the previous year. The increase of altogether EUR 530.7 million was essentially due to higher claims paid in the previous year as a consequence of the comparatively heavy burden of losses in 2017.

Cash flow from operating activities M 35

in EUR million



Cash flow from investing activities

The balance of cash inflows and outflows from operating activities and investing activities in an amount of EUR 2,075.2 million (EUR 942.3 million) was invested in accordance with the company's investment policy, giving particular consideration to the matching of currencies and maturities on the liabilities side of the technical account. Regarding the development of the investment portfolio please see also our remarks at the beginning of this section.

Cash flow from financing activities

The cash inflow from financing activities amounted to EUR 149.5 million (cash outflow of EUR 690.0 million) in the year under review. This item includes primarily the dividends paid out by Group companies in the financial year totalling EUR 657.7 million (EUR 647.1 million) and the receipts from issuance of a senior bond in a nominal amount of EUR 750.0 million.

Overall, the cash and cash equivalents therefore increased year-on-year by EUR 315.8 million to EUR 1,151.5 million.

For further information on our liquidity management please see page 94 et seq. of the risk report.

Financial strength ratings

A.M. Best and Standard & Poor's, the rating agencies of particular relevance to the insurance industry, assess the financial strength of Hannover Re on the basis of an interactive rating process and have awarded it very good ratings. The rating agencies highlight in particular the strength of the Hannover Re Group's competitive position, its capitalisation and its risk management.

Financial strength ratings of the Hannover Re Group M 36

	Standard & Poor's	A.M. Best
Rating	AA- (Very Strong)	A+ (Superior)
Outlook	stable	stable

Financial strength ratings of subsidiaries M 37

	Standard & Poor's	A.M. Best
E+S Rückversicherung AG	AA-	A+
Hannover Life Reassurance Africa Ltd. [1]	A-	–
Hannover Life Reassurance Bermuda Ltd.	AA-	A+
Hannover Life Reassurance Company of America	AA-	A+
Hannover Life Reassurance Company of America (Bermuda) Ltd.	AA-	A+
Hannover Life Re of Australasia Ltd.	AA-	–
Hannover Reinsurance Africa Ltd. [1]	A-	–
Hannover Re (Ireland) Designated Activity Company	AA-	A+
Hannover Re (Bermuda) Ltd.	AA-	A+
Hannover ReTakaful B.S.C. (c)	A+	–
International Insurance Company of Hannover SE [2]	A+	A+

[1] Hannover Reinsurance Africa Ltd. and Hannover Life Reassurance Africa Ltd. benefit from parental guarantees issued by Hannover Rück SE (the "Guarantor"). The guarantees cover all of the payment obligations of HR SA and HLR SA in respect of insurance and reinsurance contracts issued by them. The guarantees are unconditional and continuing and shall be binding upon the Guarantor. The owners of the insurance and reinsurance contracts issued by these subsidiaries are express third party beneficiaries of these guarantees. The obligations of the Guarantor under these guarantees rank pari passu with all other unsecured indebtedness of such Guarantor.

[2] International Insurance Company of Hannover SE was renamed HDI Global Specialty effective 1 January 2019.

Issue ratings of issued debt

As part of the process of rating Hannover Re the rating agencies also assess the debt issued by the Hannover Re Group.

Issue ratings of issued debt M 38

	Standard & Poor's	A.M. Best
Hannover Rück SE senior bond, EUR 750 m; 2018/2028	AA-	–
Hannover Rück SE subordinated debt, EUR 500 m; 2014/undated	A	a+
Hannover Finance (Luxembourg) S.A. subordinated debt, EUR 500 m; 2012/2043	A	aa-
Hannover Finance (Luxembourg) S.A. subordinated debt, EUR 500 m; 2010/2040	A	aa-

Information pursuant to § 315a Para. 1 German Commercial Code (HGB)

The common shares (share capital) of Hannover Rück SE amount to EUR 120,597,134.00. They are divided into 120,597,134 registered no-par shares.

The Executive Board of the company is not aware of any restrictions relating to voting rights or the transfer of shares, including cases where these may arise out of agreements between shareholders.

The following companies hold direct or indirect capital participations that exceed 10% of the voting rights: Talanx AG, Hannover, directly holds 50.2% (rounded) of the company's voting rights. HDI-Haftpflichtverband der Deutschen Industrie Versicherungsverein auf Gegenseitigkeit, Hannover, which holds a stake of 79.0% in Talanx AG, therefore indirectly holds 39.7% (rounded) of the voting rights in the company.

There are no shares with special rights granting their holders powers of control, nor is there any specially structured voting control for employees who have capital participations and do not directly exercise their rights of control.

The appointment and recall of members of the Executive Board are determined by §§ 84 et seq. Stock Corporation Act. Amendment of the Articles of Association is governed by §§ 179 et seq. Stock Corporation Act in conjunction with § 18 Para. 2 of the Articles of Association of Hannover Rück SE.

The powers of the Executive Board with respect to the issue and repurchase of shares are defined in the Articles of Association of Hannover Rück SE as well as in §§ 71 et seq. Stock Corporation Act. In this connection the Annual General Meeting authorised the Executive Board on 6 May 2015 pursuant to § 71 Para. 1 Number 8 Stock Corporation Act to acquire treasury shares on certain conditions for a period of five years, ending on 5 May 2020.

The following paragraphs explain major agreements concluded by the company that are subject to reservation in the event of a change of control, inter alia following a takeover bid, and describe the resulting effects. Some letter of credit lines extended to Hannover Rück SE contain standard market change-of-control clauses that entitle the banks to early termination of a credit facility if Talanx AG loses its majority interest or drops below the threshold of a 25% participation or if a third party acquires the majority interest in Hannover Rück SE. For details of the letter of credit lines please see our explanatory remarks on the letter of credit (LoC) facilities in the notes, section 8.7 "Contingent liabilities and commitments", page 266.

In addition, retrocession covers in property & casualty and life & health business contain standard market change-of-control clauses which in each case grant the other contracting party a right of termination if a significant change occurs in the ownership structure and participation ratios of the affected contracting party.

The company has not concluded any compensation agreements with the members of the Executive Board or with employees in the event of a takeover bid being made.

Expertise in demand

Financial strength

An excellent rating is the key to attractive business

Rating agencies testify to our excellent credit status and financial strength. Their assessment focuses on our company's stable profitability and superb competitive position.

We conduct our business with a sophisticated risk-based capital model. This enables us to optimally allocate our capital to business groups, regions and lines and to leverage potential scope for diversification. Our rigorous, selective underwriting policy establishes the basis for a stable operating performance.

Our robust capital resources – with an eye to both solvency requirements and our risk profile – are flexibly supported by a prudent reserving policy, hybrid capital and retrocession programmes.

Thanks to a superlative rating we can act on business opportunities at any time. Safeguarding our strong rating through outstanding and consistently practised risk management is therefore especially important.

Information on Hannover Rück SE

(condensed version in accordance with the German Commercial Code (HGB))

Hannover Re exercises the option to present a combined Group and company management report pursuant to § 315 Para. 3 of the German Commercial Code (HGB) in conjunction with § 298 Para. 3 of the German Commercial Code (HGB). Supplementary to the reporting on the Hannover Re Group, we discuss below the development of Hannover Rück SE.

The annual financial statement of Hannover Rück SE is drawn up in accordance with German accounting principles (HGB). The consolidated financial statement, on the other hand, conforms to International Financial Reporting Standards (IFRS). This gives rise to various divergences in accounting policies affecting, above all, intangible assets, investments, technical assets and liabilities, financial instruments and deferred taxes.

The annual financial statement of Hannover Rück SE – from which the balance sheet and profit and loss account in particular are reproduced here in condensed form – has been submitted to the operator of the electronic Federal Gazette and can be accessed via the webpage of the Companies Register. This annual financial statement can also be accessed on the company's website (www.hannover-re.com) and may be requested from Hannover Rück SE, Karl-Wiechert-Allee 50, 30625 Hannover, Germany.

Hannover Rück SE transacts reinsurance business in the business groups of Property & Casualty and Life & Health reinsurance. Through its global presence and activities in all lines of reinsurance the company achieves extensive risk diversification.

Since 1 January 1997 Hannover Rück SE has written active reinsurance for the Group – with few exceptions – solely in foreign markets. Responsibility within the Hannover Re Group for German business rests with the subsidiary E+S Rückversicherung AG.

Results of operations

The 2018 financial year was a pleasing one for Hannover Rück SE. The gross premium of Hannover Rück SE in total business grew by 10.1% to EUR 14.6 billion (previous year: EUR 13.3 billion). The level of retained premium retreated from 78.4% to 71.8%. Net premium earned increased by 2.0% to EUR 10.4 billion (EUR 10.2 billion).

Condensed profit and loss account of Hannover Rück SE M 39

in EUR thousand	2018	2017
Earned premiums, net of retrocession	10,412,941	10,208,864
Allocated investment return transferred from the non-technical account, net of retrocession	203,602	185,841
Other technical income, net of retrocession	174	–
Claims incurred, net of retrocession	7,787,352	7,636,262
Changes in other technical provisions, net of retrocession	(144,470)	(177,799)
Bonuses and rebates, net of retrocession	(50)	(139)
Operating expenses, net of retrocession	2,685,118	2,593,164
Other technical charges, net of retrocession	23	277
Subtotal	**(196)**	**(12,658)**
Change in the equalisation reserve and similar provisions	25,270	165,944
Net technical result	**25,074**	**153,286**
Investment income	1,450,018	1,302,933
Investment charges	218,338	105,401
Allocated investment return transferred to the technical account	(204,465)	(186,558)
Other income	162,730	176,862
Other charges	345,311	373,123
Profit or loss on ordinary activities before tax	**869,708**	**967,999**
Taxes on profit and income and other taxes	204,353	124,599
Profit for the financial year	**665,355**	**843,400**
Profit brought forward from previous year	671,014	431,014
Allocations to other retained earnings	369	414
Disposable profit	**1,336,000**	**1,274,000**

The underwriting result (before changes in the equalisation reserve) improved in the year under review from EUR -12.7 million to EUR -0.2 million. Following a withdrawal of EUR 165.9 million in the previous year, an amount of EUR 25.3 million was withdrawn from the equalisation reserve and similar provisions in the year under review.

After a thoroughly moderate major loss experience in the first half of 2018, the volume of losses incurred in the third and especially the fourth quarter was significantly higher. The burden of large losses consequently came in slightly above the large loss budget that we had set aside. The total net expenditure on major losses incurred by Hannover Rück SE was EUR 536.6 million (EUR 689.8 million).

Ordinary investment income including deposit interest was clearly higher than in the previous year at EUR 1,234.0 million (EUR 1,002.9 million), principally due to increased distributions from our investment holding companies as well as stronger ordinary income from fixed-income securities. Despite the continued low level of interest rates, the latter showed a pleasing rise to EUR 458.6 million (EUR 419.0 million) based on the substantial asset volume. Net gains of EUR 140.9 million (EUR 247.9 million) were realised on disposals. The sharp decline can be attributed for the most part to the liquidation of our portfolio of non-strategic listed equities in the previous year. Write-downs of EUR 88.4 million (EUR 20.7 million) were taken on investments, primarily on bearer debt securities held as current assets. The write-downs contrasted with write-ups of EUR 1.2 million (EUR 13.7 million) that were made on assets written down in previous periods in order to reflect increased fair values.

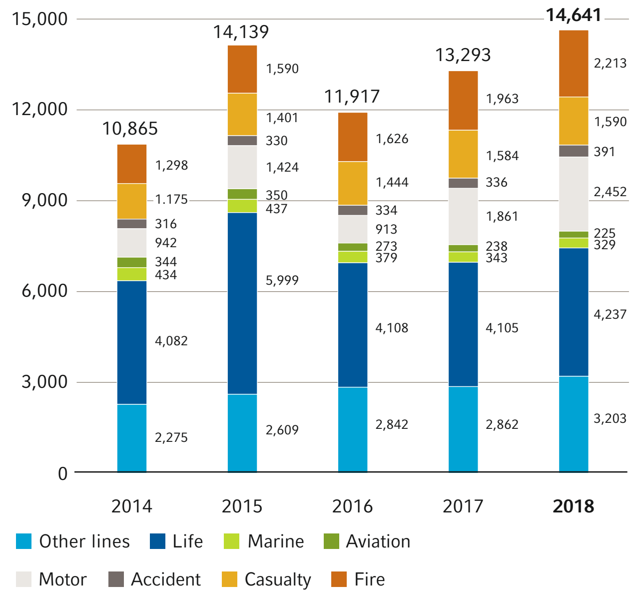
All in all, the net investment result climbed to EUR 1,231.7 million (EUR 1,197.5 million). The balance of other income and charges changed from EUR -196.3 million to EUR -182.6 million.

The profit on ordinary activities decreased to EUR 869.7 million (EUR 968.0 million). The year under review closed with a profit for the year of EUR 665.4 million (EUR 843.4 million).

Development of the individual lines of business

The following section describes the development of the various lines of business. With effect from the beginning of the 2014 financial year the cooperation and exchange of business between Hannover Rück SE and E+S Rückversicherung AG was reorganised. In this context a quota share retrocession from Hannover Rück SE to E+S Rückversicherung AG has since been maintained in property and casualty reinsurance.

Hannover Rück SE: Breakdown of gross premium by individual lines of business M 40
in EUR million



Fire
Total gross premium income for the fire line climbed by 12.7% in the 2018 financial year to EUR 2,213.3 million (EUR 1,963.4 million). The net loss ratio was virtually unchanged at 75.2% (75.7%). The underwriting result improved to EUR -56.5 million (EUR -122.5 million). An amount of EUR 54.1 million (EUR 337.2 million) was withdrawn from the equalisation reserve and similar provisions.

Casualty
Gross premium in casualty business rose by a modest 0.4% to EUR 1,590.1 million (EUR 1,584.0 million). The loss ratio increased from 44.3% to 91.9%. The underwriting result consequently deteriorated in the year under review to EUR -195.1 million (EUR 349.5 million). An amount of EUR 64.4 million was withdrawn from the equalisation reserve and similar provisions; the allocation in the previous year had totalled EUR 305.1 million.

Accident
Gross premium income for the accident line increased by 16.4% in the year under review to EUR 391.1 million (EUR 336.1 million). The net loss ratio retreated to 48.9% (64.6%). The underwriting result came in at EUR 34.7 million (EUR 18.0 million). After a withdrawal of EUR 24.9 million in the previous year, an amount of EUR 13.3 million was allocated to the equalisation reserve and similar provisions.

Motor
Gross premium for the motor line grew by 31.8% to EUR 2,452.3 million (EUR 1,860.8 million). The loss ratio decreased from 85.6% to 78.4%. The underwriting result closed at EUR -176.5 million after EUR -247.5 million in the previous year. An amount of EUR 27.5 million was allocated to the equalisation reserve and similar provisions, following a withdrawal of EUR 60.5 million in the previous year.

Aviation
The gross premium volume contracted by 5.3% from EUR 238.1 million to EUR 225.4 million. The loss ratio deteriorated sharply to 63.1% (-42.7%). The negative figure in the previous year had been influenced by the ending of a legal dispute, which led to the release of reserves. The underwriting result came in at EUR 18.6 million (EUR 198.6 million). An amount of EUR 3.3 million was allocated to the equalisation reserve and similar provisions in the year under review, after a withdrawal of EUR 57.1 million in the previous year.

Marine
Gross written premium for the marine line fell by 4.1% in the 2018 financial year to EUR 329.3 million (EUR 343.2 million). The net loss ratio improved appreciably from 96.2% to 37.9%. The underwriting result closed at EUR 75.8 million (EUR -35.8 million). An amount of EUR 9.8 million was allocated to the equalisation reserve and similar provisions in the year under review, following a withdrawal of EUR 28.6 million in the previous year.

Life
Gross premium income in the life line totalled EUR 4,236.5 million (EUR 4,104.9 million) for the period under review. Life and health reinsurance business has a clear international focus. We write our business on all continents and in many instances we are directly available as a local point of contact thanks to our extensive network. In addition to traditional mortality-oriented life reinsurance we write financial solutions business as well as health and longevity risks on a worldwide basis.

The underwriting result in life business amounted to altogether EUR 29.6 million (EUR 29.3 million) for the reporting period.

Other lines
The lines of health, credit and surety, other indemnity insurance and other property insurance are reported together under other lines. Other property insurance consists of the extended coverage, comprehensive householder's (contents), comprehensive householder's (buildings), burglary and robbery, water damage, plate glass, engineering, loss of profits,

hail, livestock and windstorm lines. Other indemnity insurance encompasses legal protection, fidelity as well as other pure financial losses and property damage.

The total gross premium volume in the other lines grew by 11.9% to EUR 3,202.8 million (EUR 2,862.4 million). The net loss ratio decreased from 80.9% to 65.6%. The underwriting result came in at EUR 269.3 million after EUR -202.3 million in the previous year. An amount of EUR 39.4 million (EUR 37.2 million) was allocated to the equalisation reserve and similar provisions.

Assets and financial position

Balance sheet structure of Hannover Rück SE M 41

in EUR thousand	2018	2017
Assets		
Intangible assets	65,655	69,384
Investments	36,874,145	34,460,839
Receivables	3,294,186	2,894,030
Other assets	417,488	292,824
Prepayments and accrued income	180,444	165,263
Total assets	**40,831,918**	**37,882,340**
Liabilities		
Subscribed capital	120,597	120,597
Capital reserve	880,608	880,608
Retained earnings	630,511	630,511
Disposable profit	1,336,000	1,274,000
Capital and reserves	**2,967,716**	**2,905,716**
Subordinated liabilities	1,500,000	1,500,000
Technical provisions	31,543,107	30,226,694
Provisions for other risks and charges	402,140	371,949
Deposits received from retrocessionaires	2,246,672	1,907,577
Other liabilities	2,172,283	970,404
Total liabilities	**40,831,918**	**37,882,340**

Our portfolio of assets under own management grew in the year under review to EUR 28.7 billion (EUR 26.5 billion), equivalent to an increase of 8.7%. Along with the positive operating cash flow, this reflects the fact that the issuance of a senior bond in the second quarter and exchange rate effects more than offset the valuation declines on fixed-income securities. The balance of unrealised gains on fixed-income securities and bond funds decreased to EUR 366.6 million (EUR 662.9 million). In addition to the yield increases on USD- and GBP-denominated sovereign bonds already mentioned, this is a reflection of sometimes substantially higher risk premiums on corporate bonds across all rating categories.

Deposits with ceding companies, which are shown under the investments, remained stable in the year under review at EUR 8.1 billion (EUR 8.0 billion).

Our capital and reserves – excluding the disposable profit – stood at EUR 1,631.7 million (EUR 1,631.7 million). The total capital, reserves and technical provisions – comprised of the capital and reserves excluding disposable profit, the subordinated liabilities, the equalisation reserve and similar provisions as well as the net technical provisions – increased during the year under review to EUR 34,674.8 million (EUR 33,358.4 million). The balance sheet total of Hannover Rück SE grew to EUR 40.8 billion (EUR 37.9 billion).

A dividend of EUR 3.50 plus a special dividend of EUR 1.50 per share, equivalent to EUR 603.0 million (EUR 603.0 million), was paid out in the year under review for the 2017 financial year.

It will be proposed to the Annual General Meeting on 8 May 2019 that a dividend of EUR 3.75 plus a special dividend of EUR 1.50 per share should be paid for the 2018 financial year. This corresponds to a total distribution of EUR 633.1 million. The dividend proposal does not form part of this consolidated financial statement.

Risks and opportunities

The business development of Hannover Rück SE is essentially subject to the same risks and opportunities as that of the Hannover Re Group. As a general principle, Hannover Rück SE shares in the risks of participating interests and subsidiaries according to the amount of its respective holding; these are described in the risk report. The relations with participating interests of Hannover Rück SE may give rise to losses from legal or contractual contingent liabilities (particularly novation clauses and guarantees). Please see our explanatory remarks in the notes to this report.

Other information

We received an adequate consideration for all transactions with affiliated companies according to the circumstances of which we were aware at the time when the transactions were effected. We incurred no disadvantages as defined by § 311 Stock Corporation Act (AktG).

Hannover Rück SE maintains branches in Australia, Bahrain, Canada, China, France, India, Hong Kong, Korea, Malaysia, Sweden and the United Kingdom.

Outlook

In view of the interrelations between the parent company and the Group companies and the former's large share of business within the Group, we would refer here to our remarks contained in the section entitled "Outlook for 2019" on page 150 et seq., which also reflect the expectations for Hannover Rück SE.

Hannover Re expects to generate a good profit on ordinary activities for the current financial year, although it will probably not quite reach the level of 2018. In terms of the ordinary dividend, Hannover Re envisages a payout ratio in the range of 35% to 45% of its IFRS Group net income. The ordinary dividend will be supplemented by payment of a special dividend if the present comfortable level of capitalisation remains unchanged in light of capital management considerations.

Combined non-financial information statement

The combined non-financial information statement is a section of the report that the legislator has expressly exempted from the audit of the financial statements (§ 317 (2) Sentence 6 and Sentence 4 German Commercial Code (HGB); unaudited information). The combined non-financial information statement presented here has, however, been audited with limited assurance by the auditing firm of PricewaterhouseCoopers in accordance with the audit standard ISAE 3000 (Revised) (see here the Independent Auditor's Report on page 270 et seq.).

Introduction

The present combined Group non-financial information statement was drawn up in accordance with §§ 315b and 315c in conjunction with 289b to 289e German Commercial Code (HGB). It combines the disclosures for the Group and the parent company Hannover Rück SE. Unless indicated separately, the disclosures are equally applicable to the Group and the parent company. The combined non-financial information statement contains the legally required information relating to significant environmental matters, employee matters, social matters, respect for human rights and combatting corruption and bribery. Within these individual aspects the underlying concepts and due diligence processes are discussed and available findings are reported. In addition, the combined non-financial information statement is to be used to report on material risks pursuant to § 289c (3) No. 3 and 4 German Commercial Code (HGB) to the extent necessary for an understanding of the business development, business result, position of Hannover Rück SE and the Group and implications for non-financial matters. In view of the fact that we purposefully enter into numerous risks in the context of our business operations, we have put in place an extensive and effective risk management system. For a description of the risk management system please see the "Risk report" section under "Opportunity and risk report" in the combined management report.

Within the Hannover Re Group risks are evaluated in light of risk-mitigating measures. In connection with non-financial aspects no material risks were identified by the established organisation for sustainability management or within risk management that are linked to our own business activities or the company's business relations, products or services and which are very likely to materialise and have or will have serious adverse implications for non-financial matters. Emerging risks, the content of which cannot yet be evaluated with any certainty, are monitored in the context of Group-wide risk management.

Hannover Re has defined exclusively financial management ratios and key financial performance indicators. For this reason, no non-financial performance indicators pursuant to § 289c (3) No. 5 German Commercial Code (HGB) are available that are relevant to the management of the Hannover Re Group's business.

Pursuant to § 315b (1) Sentence 3 German Commercial Code (HGB), reference is also made to non-financial information provided elsewhere in the combined management report with respect to certain aspects. Unless otherwise stated, all information refers to the Hannover Re Group.

References to information outside the combined management report and the consolidated and individual financial statement do not form part of the combined non-financial information statement.

The combined non-financial information statement is guided in the description of material issues by the internationally accepted framework of the Global Reporting Initiative (GRI) and reflects both the materiality definition of the GRI and that of the German Commercial Code (HGB). For more detailed information on the definition of materiality we would refer to the section entitled "Materiality analysis".

A detailed description of Hannover Re's sustainability efforts, which go above and beyond the legal requirements of the combined non-financial information statement, is provided in a separate sustainability report compiled annually by the Group on a voluntary basis.

Description of the business model

For a detailed description of the business model please see the section "Business model" under "Foundations of the Group" in the combined management report.

Group and sustainability strategy

Our Group strategy encompasses ten strategic principles that apply to all business units and help to ensure realisation of our vision for the strategy cycle 2018 to 2020 "Creating value through reinsurance". The objectives of our Group strategy are pursued in accordance with our holistic management system Performance Excellence 2.0. Based on the Excellence Model of the European Foundation for Quality Management (EFQM), this requires each organisational unit of our Group to explore and define its contribution to the Group strategy. In this way, we ensure that all initiatives and measures within our Group are rigorously linked to the Group strategy. Indicators for the status of target attainment are mapped centrally in our Target Matrix. For further details please see the section "Value-based management" in the combined management report.

Group strategy 2018–2020

1. We have ambitious economic growth targets
   - Generate a profit in excess of the cost of capital
   - Grow the premium volume (by more than the market average)
   - Generate an IFRS return on equity of at least 900 basis points above the risk-free interest rate
   - Outperform the Global Reinsurance Index (GloRe) over a three-year period
   - Consistently pay an attractive dividend

2. We are a preferred business partner
   - Enhance the commercial success of our clients through our risk solutions and services (attractive value proposition)
   - Maintain excellent ratings from the rating agencies most relevant to our industry

3. We aim for successful employees
   - Harmonise the size and skills of our workforce with the current and future requirements of our global market presence as well as with the requirements of increasing digitalisation
   - Foster motivation, dedication and teamwork through excellent leadership practices
   - Facilitate the greatest possible delegation of tasks, responsibilities and authority
   - Increase the proportion of women on all levels of management

4. We strive for an optimal balance between stability and yield of our investments
   - Achieve the target return – risk-free interest rate plus cost of capital

5. We manage risks actively
   - Ensure protection of capital through quantitative and qualitative risk management

6. We maintain an adequate level of capitalisation
   - Ensure that requirements for equity resources (economic capital model, solvency regulations etc.) are met
   - Optimise the overall cost of capital
   - Use special dividends to balance equity growth with profit growth

7. We conduct our business with lower costs than our competitors due to our high efficiency
   - Ensure a lower expense ratio than our competitors through an effective and efficient organisation

8. We support our business through efficient information technology and take advantage of digitalisation and automation
   - Develop new business opportunities on the basis of digitalisation and automation
   - Optimise internal processes and shape the interaction with our clients as efficiently as possible

9. We are committed to sustainability, integrity and compliance
   - Ensure conformity with all legal requirements, our own corporate policies and high ethical standards
   - Support social objectives particularly in the area of qualified training, not only within but also outside the company
   - Encourage sustainability in the transaction of our business, with a special focus on the avoidance of adverse impacts on the environment

10. We strive for Performance Excellence and continuous improvement
    - Ensure the rigorous derivation of strategic objectives across all areas of the company

In response to the progressive digital transformation in the world of business over the coming years, we have developed an additional digitalisation strategy for the strategy cycle 2018-2020. This considers in detail the opportunities and risks associated with digitalisation – with an eye to both our business processes and our work as a reinsurer.

Sustainability also forms an integral part of our actions. Our goal is to harmonise our business operations with environmental and social requirements. To do this, we have refined a sustainability strategy that complements the guiding model of our Group strategy. This defines four action fields (Governance and Dialogue, Product Responsibility, Employees, Environment and Society) as well as concrete goals and measures, while also taking into account the major requirements and interests of our stakeholders. Of particular relevance here are our customers, our investors and our employees.

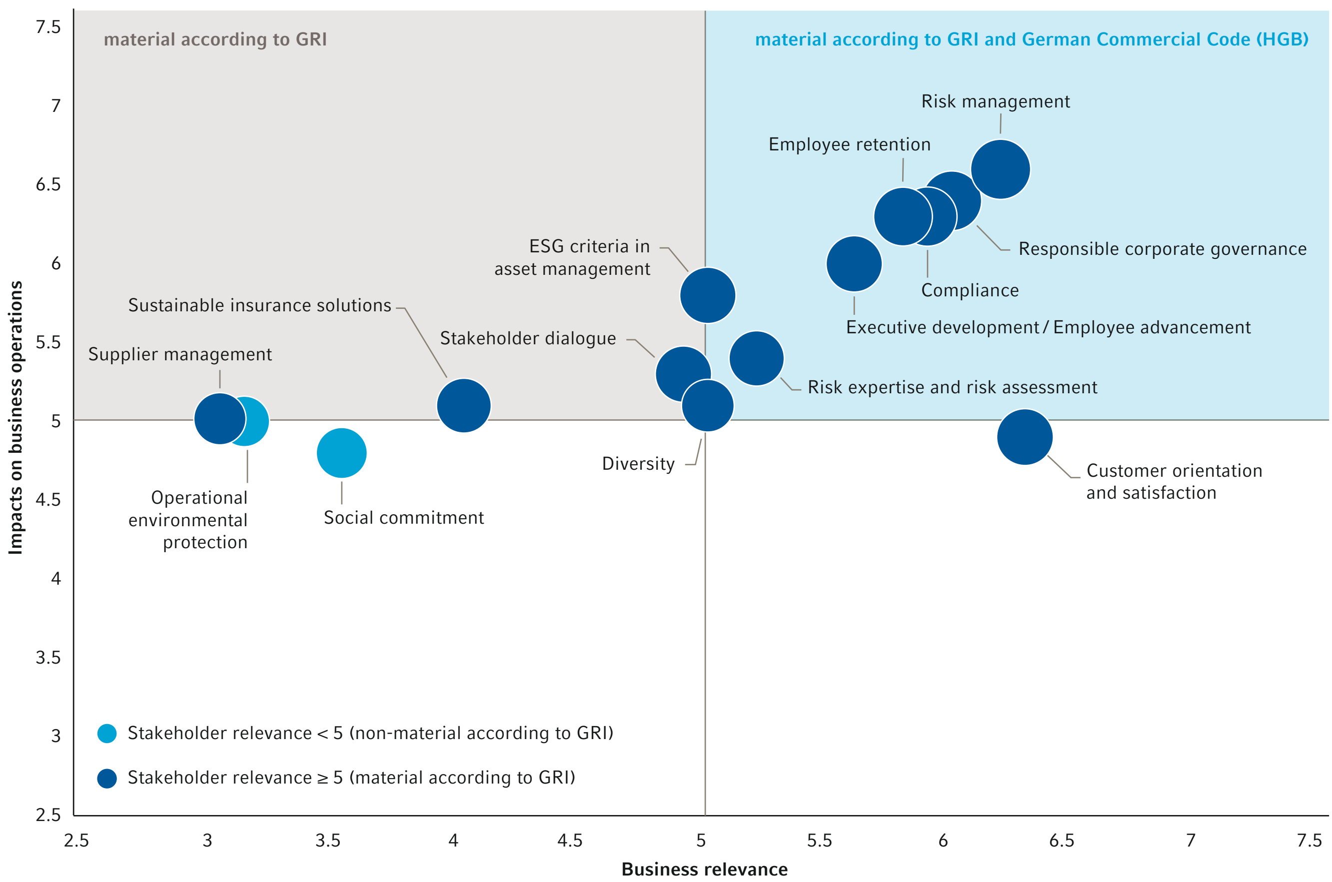
The sustainability strategy, goals and measures are reviewed and approved by the Executive Board. Sustainability measures are implemented on a decentralised basis in the various market and service departments. The coordination of strategic goals and measures as well as the collection of data for reporting purposes are handled by an interdisciplinary team composed of representatives of all relevant business units.

Materiality analysis

With a view to identifying material non-financial topics, we conducted another stakeholder survey with an external partner in 2018. Representatives of the stakeholder groups comprised of customers, brokers, the capital market, employees, non-governmental organisations (NGOs) and the public sector were surveyed by means of an online questionnaire and telephone interviews. On this basis, our already existing materiality analysis was reviewed and adjusted. In this context, we took into account the various materiality approaches of the GRI, which constitutes the basis for our extensive annual sustainability report, and the German Commercial Code (HGB), on which this combined non-financial information statement is based. As a first step, potential issues were identified using internal sources and already received stakeholder feedback as well as information obtained from media analysis, a peer comparison and global standards. The issues were then categorised according to our four action fields in the context of the sustainability strategy. While the external survey developed on this basis focused on the relevance of these issues, the internal survey carried out among our employees included additional dimensions, namely "business relevance" and "impacts on business operations". All three dimensions were rated on a scale of 1 to 7, with the lowest figure indicating very low relevance and the highest reflecting a very high degree of relevance. We considered issues rated 5.0 and higher to be material for our company within the meaning of this legislation. The survey findings were discussed and approved at an internal workshop attended by representatives of various specialist units and management.

In total, we identified 13 material sustainability issues in accordance with the German Commercial Code (HGB) and the GRI, which we discuss below in our non-financial information statement and will report on going forward on a voluntary basis in our annual sustainability report compiled in accordance with GRI standards.

Materiality matrix **M 42**



The following table compares the reportable aspects as defined by the German Commercial Code (HGB) with the material issues identified by our company and pinpoints thematic overlaps with the aspects. The individual material issues are then discussed.

Allocation of material issues to the reportable non-financial aspects pursuant to the German Commercial Code (HGB) M 43

		Non-financial aspect				
Strategic action field	Material issue	Environmental matters	Employee matters	Social matters	Respect for human rights	Combating corruption and bribery
Governance and Dialogue	Responsible corporate governance	x	x			x
	Compliance	x	x	x	x	x
	Risk management	x	x	x		
	Stakeholder dialogue	x		x	x	x
Product Responsibility	Risk expertise and risk assessment	x		x		
	Sustainable insurance solutions [1]	x		x		
	ESG criteria in asset management	x	x	x	x	x
	Customer orientation and satisfaction [1]					
Employees	Executive development and employee advancement		x		x	
	Employee retention		x		x	
	Diversity		x	x	x	
Environment and Society	Operational environmental protection [1]	x				
	Supplier management [1]	x	x	x	x	x

[1] Matter identified as non-material according to the dimensions of the German Commercial Code (HGB), but which has a high stakeholder relevance/impact on business operations and on which we therefore additionally report in conformity with the materiality approach of the GRI.

Responsible corporate governance

As an internationally operating company, Hannover Re bears responsibility in various senses. This is true of compliance with relevant laws and regulations, but also applies to the relationship with staff, shareholders, the public at large and the cultures within which the company operates.

As a listed European company (Societas Europaea – SE) based in Germany, the formal framework that shapes Hannover Re's corporate governance is determined by national law. The fundamental hallmarks of this corporate governance structure are a two-tier system with its transparent and effective split into management (Executive Board) and its oversight (Supervisory Board), the appointment of shareholder and employee representatives to the Supervisory Board and the rights of co-administration and supervision exercised by shareholders at the General Meeting. The interplay between these bodies is regulated by German stock corporation law and by the company's Articles of Association. Furthermore, our Group Strategy, the Corporate Governance principles and our Code of Conduct form the basis of our enterprise management.

In addition to our continuous engagement with the changing general legal framework, since 2003 we have provided an annual Declaration of Conformity with the German Corporate Governance Code (DCGK) which is published on our company's website and reproduced in the present management report. The Corporate Governance principles of Hannover Rück SE are also subject to regular review and fulfil the recommendations of the currently valid version of the German Corporate Governance Code as amended.

By aligning the remuneration structure with regulatory requirements and having the system of compensation reviewed by independent experts, we ensure that our remuneration policy is in keeping with our business and strategy and appropriately risk-adjusted. A detailed description of the remuneration scheme for both the Executive Board and Supervisory Board is provided in the "Remuneration report" on page 127 et seq. of the combined management report. Given that the trust of our various stakeholder groups and an immaculate reputation advance the success of our company, we make every effort to continuously maintain an active dialogue with our stakeholders. For more information on the dialogue with stakeholders we would refer to the section "Stakeholder dialogue".

In our annually published sustainability report we provide regular updates on our achievements as a responsible enterprise. In so doing, we follow the currently applicable and internationally recognised guidelines of the GRI. In our sustainability communication we also fulfil the transparency requirements of environmental, social and governance (ESG) rating agencies, as reflected in the favourable evaluations of our company. Hannover Re is rated by the following rating agencies specialising in sustainability: FTSE4Good, Robeco SAM, Oekom Research, Sustainalytics, VigeoEiris, CDP and MSCI. In addition, we are included in the FTSE4Good Index, the Global Challenges Index initiated by the Hannover Stock Exchange parent company BÖAG Börsen AG as well as in major STOXX indices.

Goal to be achieved by 2020:
Responsible corporate governance

M 44

Measures	Results
Optimisation of sustainability management	Our sustainability management is regularly reviewed and continuously improved. It is envisaged that a Web-based database will be created for central recording of sustainability information.
Raise employee awareness of the topic of sustainability by expanding internal communication and developing a training concept	Along with the intranet and the corporate website, sustainability information has been published through other internal communication platforms since 2018. Work is ongoing on a training concept.
Enhance our appeal in the eyes of value- and sustainability-minded investors by participating in major sustainability ratings	As part of the annual rating processes we engage in an ongoing dialogue on rating-specific sustainability issues and participate in various ratings. In 2018 we were again listed in the FTSE4Good Index and retained the "Prime" rating from oekom research. In March 2017 we were accepted for the first time into the Global Challenges Index (GCX) administered by the Hannover Stock Exchange and oekom. Based on our favourable evaluation from the CDP, we are included in the major STOXX family indices.
Refinement and optimisation of reporting on sustainability topics in accordance with the GRI standards	The Sustainability Report 2017 was drawn up in conformity with the GRI standards (2016) that have been mandatory since July 2018 and responds more closely to the information requirements of rating agencies. For further details please see the Sustainability Report 2017.

Compliance

The term "compliance" can be defined as the totality of all content-related and organisational safeguards that ensure lawful conduct on the part of the Hannover Re companies, the members of their governing bodies and their employees with regard to all legal and ethical standards as well as the internal corporate policies in the major areas of the organisation and operating processes.

We consider efficiently functioning compliance management to be essential, since legally correct, responsible and ethical actions constitute the fundamental precondition for trust in our company and for its competitiveness as well as for ensuring that licences to pursue our business activities are maintained and not denied. In our view, conformity with applicable legal requirements is a self-evident prerequisite for enduring successful business operations. This includes laws and regulations relating to the environment just as it does those with a bearing on, among other things, fighting corruption, the prevention of money laundering, data privacy and tax compliance. In addition, the compliance function is one of the four key functions of the system of governance pursuant to the Solvency II Directive and an important element of the internal control system under these rules governing European insurers and reinsurers.

The Corporate Compliance Organisational Manual summarises the major activities and defines the responsibilities within our company, the interfaces and the elements of the compliance organisation. Our compliance structure was reviewed most recently in 2015 against the backdrop of the compliance requirements associated with Solvency II. The Compliance department and the Chief Compliance Officer keep employees informed of changes in legislation, insofar as they affect their work. A worldwide network of compliance officers reports to and supports the Chief Compliance Officer in his duties. With a view to improving cooperation within the compliance network on the European level, we organise an annual gathering of European compliance officers. Conference calls are also held on a regular basis. The Chief Compliance Officer works to ensure compliance with internal corporate policies by cooperating with other departments, including Group Auditing, and updates the Executive Board on material compliance issues and developments in an annual compliance report. A Web-based whistleblower system is also in place for the companies within the Group. This enables employees, customers and third parties to report compliance violations anonymously in their local language or in English. Relevant tips and any countermeasures initiated are included in the annual compliance report. In the year under review no tips were received through the Group-wide whistleblower system regarding potential wrongdoing. Furthermore, no lawsuits were filed against our company in the reporting period on grounds of anti-competitive or anti-trust practices. Similarly, we were not required to pay any significant fines in the period under review due to violations of legal provisions; nor were any non-monetary sanctions imposed on our company.

Our Code of Conduct is accepted by our employees as an integral component of their employment contract and therefore has binding effect. It encompasses, among other things, specific rules of conduct in the form of instructions for the avoidance and disclosure of conflicts of interest, for the granting and acceptance of benefits, gifts and invitations, for the arrangement of donations and sponsorships as well as with respect to sideline activities and involvement in other companies and business transactions. The Compliance Officer is to be notified of any suspicious cases. As a general principle, all employees receive compliance training when they join the Group. In the year under review four training activities were held for altogether 107 employees. In order to stay updated on compliance issues such as combating corruption, we use traditional communication channels including intranet portals and online newsletters. Important information of company-wide relevance is made available to staff in the intranet.

As a listed company, we also emphasise to our employees the necessity of observing rules on insider trading and we specify blocking periods during which shares may not be traded.

Generally speaking, the risk of human rights violations in connection with our business operations is minimal. We have nevertheless put special emphasis on respect for human rights within the supply chain. For further information we would refer to the section "Supplier management".

With the aid of our Tax Guideline, which applies throughout the Group, a Tax Compliance System that is currently under development and the associated review of all relevant task areas, processes and responsibilities, we want to ensure – going forward, as in the past – that despite growing complexity we satisfy tax liabilities arising out of our international business operations in accordance with the respective national legal requirements.

Data privacy and security

As part of our business activities we process and store personal data. The data are required primarily in the context of underwriting, for providing customer and contract-related services as well as in claims and benefit management. Furthermore, personal data are collected, processed and stored in connection with, among other things, human resources management and shareholder administration. We also process personal data in order to assert our own legitimate interests or those of third parties. In particular, this may be necessary in order to safeguard IT security and IT operations and to meet official requirements. It is incumbent on the Hannover Re Group to uphold the statutory data privacy rights of data subjects, and we have implemented appropriate procedures and methods for this purpose. The general principle is that personal data may only be collected, processed and stored by Group employees to the extent that this is necessary for a precisely defined purpose as part of their lawful task fulfilment or a corresponding basis exists in law. We make use of external service providers to some extent in order to perform our contractual and statutory duties. These external data recipients are to be viewed as part of the data processing operations, as is the case with brokers, outside experts, business partners etc. All external recipients are contractually bound to comply with statutory data protection requirements and are checked in this regard. The EU General Data Protection Regulation does not directly affect all Hannover Re companies if their registered office is located outside the European Union or European Economic Area. The respective national legal frameworks are primarily determinative for these companies. The existing structures of the established compliance organisation are used to implement the minimum standards required by data privacy law. Irrespective of the scope of application of the EU General Data Protection Regulation, the designated Compliance Officers and contact persons are responsible for local data protection requirements. As necessary, they draw up additional local data privacy guidelines and serve as the interface to the Data Protection Officer at Hannover Re in Germany. The Data Protection Officer coordinates overarching aspects of the installed data privacy management system within the Hannover Re Group. He gives advice on how to resolve specific data privacy issues and monitors compliance with the EU General Data Protection Regulation and other data protection standards. In this context, the monitoring of data privacy requirements takes place in close coordination with Group Auditing. The findings of the separate reporting on data protection are integrated into the annual compliance report. No complaints were received about privacy breaches affecting personal data or the loss of such data during the period under review. There was therefore no requirement to fulfil the duty to notify data breaches pursuant to Articles 33 and 34 of the GDPR.

An information security management system geared to ISO 27001 has been set up Group-wide for operational assurance of the protection requirements under data privacy law as well as for ensuring the security of all other sensitive information within the company. In organisational terms, information security management is coordinated centrally by the Group Information Security function and incorporates all other relevant functions, including for example Group IT for matters of IT security or Facility Management with respect to building security. In addition, awareness among our employees of such security risks is raised through practically oriented assistance measures, training activities and a staff information campaign.

Risks arising out of the areas of data protection and information security are integrated into the system of risk management as operational risks and monitored here.

In addition to an annual self-assessment, we participate in various cooperative projects undertaken by our industry and engage in a regular dialogue with advocacy groups such as the Bundesverband der IT-Anwender e.V. in the context of the Cyber Security Competence Center.

Observance of sanctions regulations

Observance of applicable sanctions regulations plays a central role for us on account of our international orientation. We have enshrined compliance with relevant sanctions provisions in our Code of Conduct and Underwriting Guidelines. In addition, a Sanctions Screening Guideline is in place, stipulating when members of staff must perform sanctions screening with respect to the initiation of contracts and / or the payment of claims. A software-supported check continuously verifies whether the company's data inventories include the names of persons who are subject to sanctions and hence with whom no business may be transacted. Each working day staff in Group Legal Services check the Official Journal of the European Union for changes in sanctions law on the EU level and publicise relevant changes Group-wide without delay. The compliance training given to new members of staff also includes basic instruction in sanctions law. New underwriters and claims managers receive additional training in the use of the screening software as well as in the scenarios in which a sanctions check must be made. In addition, all underwriting and accounting departments received training in the topic of trade embargos in the year under review.

Goal to be achieved by 2020:
Compliance

M 45

Measures	Results
Optimisation of compliance management	Appropriate measures to improve compliance standards are regularly coordinated in the context of the meetings of European Compliance Officers and routine conference calls. In the year under review work began on the creation of a Group-wide compliance plan and a consistent Group-wide Compliance Risk Matrix was elaborated in cooperation with the European locations. The compliance reports of the international offices are evaluated and analysed on an ongoing basis. Furthermore, new legislative developments such as the statutory requirements of the European Insurance Distribution Directive were examined and appropriate processes were put in place at the Hannover location. The processes for implementation of this directive, which applies Europe-wide, are progressively being established at our European locations in accordance with local legal and timing requirements. As a consequence of the roll-out of the new General Data Protection Regulation (GDPR), we specified our existing policies in greater detail and also created new processes, including for example the conduct of a data protection impact assessment if a particular instance of data processing will likely pose considerable risks to the rights and freedoms of natural persons.

Risk management

Our Group-wide risk management minimises the business risk on all levels and is vital to the long-term success of our company. It therefore constitutes a material issue that we also consider as part of our sustainability activities. A detailed description of our risk management is provided in the "Risk report" on page 94 et seq. of the combined management report.

Stakeholder dialogue

We maintain an open and ongoing dialogue with our stakeholders. By sharing information and opinions with them, we are able to integrate, as far as possible, the expectations and aspirations of the company's various stakeholder groups into our business operations. Furthermore, this dialogue helps us to identify risks and opportunities at an early stage and serves to build trust. Key stakeholders are determined by our business operations and our geographical presence. The following stakeholder groups are particularly relevant to us: our clients, our employees, the capital market, the public sector and non-governmental organisations (NGOs).

Through conferences, roadshows and one-to-one meetings, for example, we stay in contact with representatives of the capital market, rating agencies and private investors. In addition, analysts and institutional investors use our annual Investors' Day and the analysts' conference to participate in an intensive exchange with management. We continue to expand the dialogue with ESG rating agencies. Our employees engage with our worldwide customers through direct, face-to-face discussions. For further information we would refer to the section "Customer orientation and satisfaction".

We similarly engage in an ongoing dialogue with political decision-makers, supervisory authorities and insurance industry associations – mostly in relation to topical issues in insurance supervision and financial market regulation in Germany, the EU and on the wider international level. In this context we contribute our specialist expertise from business practice to the public debate; in return, we are able to integrate helpful insights gained from such exchanges into our business activities and reporting.

Furthermore, we take part in various initiatives that address the financial costs of natural disasters in developing and emerging countries due to underinsurance. To this end we engage in an exchange with state actors such as the Federal Ministry for Economic Cooperation and Development and we work with the German Corporation for International Cooperation (GIZ). Not only that, in the context of the InsurResilience Solutions Fund we are partnering with a leading broker and an NGO on a pilot project for the development of an innovative coverage concept designed to protect communities in Colombia against natural disasters. In addition, we participate in the Munich Climate Insurance Initiative (MCII) and we are a member of the Insurance Development Forum, the CRO Forum and the "Extreme Events and Climate Risks" working group of the Geneva Association.

Goal to be achieved by 2020: Stakeholder dialogue **M 46**

Measures	Results
Intensification of the stakeholder dialogue	We maintain an ongoing dialogue with our stakeholders in a variety of ways. Through conferences, roadshows and one-to-one meetings, for example, we stay in contact with representatives of the capital market, rating agencies and private investors. We are also a member of the Insurance Development Forum, the Chief Risk Officer (CRO) Forum and the "Extreme Events and Climate Risks" working group of the Geneva Association. We have been a sponsor of the Global Earthquake Model Foundation for ten years.

Risk expertise and risk assessment

In the context of our business operations we knowingly enter into a broad range of risks. As a leading player in the reinsurance industry, our commercial success is crucially dependent on the correct assessment of present and emerging risks. This process of evaluating risks is growing in complexity owing to the constant monitoring and analysis of new and emerging risks, trends and future-related factors; sustainability aspects are also playing a greater role here. In some instances these have direct strategic and operational relevance to our reinsurance products and the management of our investments. We can gain insights from the risks and opportunities for our own risk management and also use them as a basis for product and service innovations. In this way, we constantly adjust to societal changes and the needs of our clients. Not only does this enhance our competitiveness, it also boosts trust among our customers and business partners.

A detailed description of our risk expertise and risk assessment is provided in the "Opportunity and risk report" starting on page 94 et seq. of the combined management report.

Sustainable insurance solutions

The consideration given to sustainability in our business operations relates principally to our reinsurance products and services as well as the management of our investments and is taking on added importance given the growing awareness among the general public of sustainability issues.

Our business activities do not give rise to any direct negative impacts on society or the environment. Rather, our reinsurance services help to ensure that societal and environmental risks can be adequately insured and that the effects in the event of loss or damage can be rectified or mitigated. At its very heart, the business of insurance involves cushioning the burden caused by loss events and providing financial protection for companies and private individuals alike through the transfer and spreading of risks. In this way, we can prevent risks having adverse impacts on society and our company. Often, it is only the backing of internationally operating reinsurers such as Hannover Re that enables primary insurers to cover large individual risks and the risks associated with natural perils. We thereby help to increase insurance density, especially in emerging and developing countries, and promote social and financial inclusion. Furthermore, by offering sustainable reinsurance solutions and supporting sustainable primary insurance solutions, we are able to respond to the opportunities and risks associated with these issues and come up with innovations. With this in mind, we support sustainable insurance solutions that are designed to minimise negative environmental and social repercussions. It is nevertheless important to bear in mind the potential indirect environmental and social impacts of the reinsurance industry. Extensive exclusions can, for example, even cause the insurance gap to grow inasmuch as the protection in place against risks becomes inadequate. It is therefore vital to give comprehensive consideration to all possible implications.

In property reinsurance we support the expansion of renewable energy sources, ranging from wind power generated on- and offshore to photovoltaic and geothermal energy. Insurance protection begins with the construction phase and accompanies the customer through many years of operation.

Furthermore, we encourage the expansion of products in response to climate change, such as weather insurance and coverage for energy-saving warranties, and by delivering insurance solutions in areas such as microinsurance and agricultural risks we also play a part in the societal development of more structurally deprived regions. These enable people with scant financial means to protect themselves against fundamental risks such as illness, disability, impacts of natural disasters or crop failures. We are also taking an active part in the development of index-based disaster finance concepts that guarantee rapid financial assistance for countries in South America and Asia in the event of natural catastrophes.

In life and health reinsurance demographic changes around the world are leading to stronger demand for the reinsurance of longevity risks. We are also seeing rising demand for so-called lifestyle products, which principally involve insurance solutions under which the premium is linked to an insured's healthy lifestyle (e.g. fitness and nutritional habits).

Goal to be achieved by 2020:
Sustainable insurance solutions

M 47

Measures	Results
Supporting, developing and expanding sustainable insurance solutions	We continue to support weather-related products as well as insurance solutions for renewable energy sources such as solar, hydro and wind power. We also support energy-saving warranty products in California. In 2018 we wrote a premium volume in the mid-triple-digit millions of euros in the area of agricultural risks, roughly three quarters of which stemmed from developing and emerging markets of South America, Asia and Africa. In addition to developing agricultural insurance products, we are involved in various initiatives and projects. For example, we assume risks through African Risk Capacity, which offers insurance covers against extreme weather events for African countries.

ESG criteria in asset management

Along with our direct impacts on the environment and society, we are able to make a positive contribution to sustainable development through our investing activities by avoiding socially harmful investments. Sustainability in asset management is therefore a major concern for our company.

Investors, analysts and clients are increasingly taking an interest in how we incorporate social and environmental aspects into the management of our investments. In general terms, when it comes to the management of our asset portfolio we aim to generate a stable and commensurate market return in the interests of our clients and shareholders. We also take into account environmental, social and governance (ESG) criteria. Our sustainability approach on the investment side is defined in writing in our "Responsible Investment Policy", which we developed in 2011 and have subsequently already updated on two occasions. Specifically, we are guided here by, inter alia, the ten principles of the United Nations Global Compact, i.e. we also take into account considerations relating to human rights, working conditions, the environment and anti-corruption. Instruments issued by companies that fail to respect human rights or are complicit in human rights abuses are excluded from our investment universe, as are issuers that disregard basic labour standards and environmental protection considerations. Similarly, exposures to companies that have been noted for their use of compulsory/child labour or their involvement in discrimination or corruption are also avoided. In our review of government issuers the focus is on whether they are currently subject to sanctions and, if so, what these sanctions are. Furthermore, we avoid exposures to issuers who are involved in the development and proliferation of controversial weapons. With regard to the fossil fuels sector, from 2018 onwards we are no longer purchasing securities of issuers who generate 25% or more of their turnover from coal mining and coal-based energy generation.

Our investments are subject to negative screening every six months by an external service provider to verify compliance with these ESG criteria. Securities of issuers defined as "non-adequate" are actively reduced while minimising the market impact. In addition, potential new investments are checked in advance to see whether the issuers violate the defined ESG criteria. Such exposure is avoided if this is found to be the case. The portfolio subjected to this screening encompasses major asset classes such as fixed-income securities (government debt securities and debt securities issued by semi-governmental entities, corporate bonds and covered bonds) and listed equities. Altogether, depending on strategically motivated allocation changes, virtually 90% of our investments under own management (EUR 42,197.3 million) are therefore screened according to ESG criteria.

In the year under review we also implemented a "best-in-class" investment approach as an additional tool within our responsible investment policy. An ESG officer on the investment team assures the development and application of our sustainable investment guideline. In addition, major investment decisions are discussed and approved by the Investment Committee, two of whose members belong to the Executive Board.

Given that the proportion of listed equities in our asset portfolio accounts for less than 1% of our investments under own management, we have not adopted any voting guidelines to date on environmental and social issues in connection with the sustainable orientation of our investments, nor have we defined any corresponding processes or measures. Should the proportion of listed equities in our portfolio increase significantly, we shall revisit the topic of active ownership.

Goal to be achieved by 2020:
ESG criteria in asset management

M 48

Measures	Results
Refinement of the sustainability approach in asset management	The existing ESG Investment Guideline was expanded in 2018 to include sustainability criteria in the area of fossil fuels. Investments in issuers who generate 25% or more of their turnover from coal mining and coal-based energy generation are excluded. Furthermore, a best-in-class investment approach was developed and technically implemented as an additional tool.

Customer orientation and satisfaction

It is crucial to our company's success that we are perceived by our customers as a preferred business partner. If we are to achieve this, we must offer prices commensurate with the risks, adequate capacities and a reliable value proposition. In addition, we foster an active dialogue with our clients. In the context of customer events we initiate an exchange of knowledge on current insurance topics and developments and we enable our customers to give feedback on our products and services in face-to-face discussions.

Customer relationships at our company are normally managed on the level of individual divisions. In property and casualty reinsurance we cultivate our customer relationships both through reinsurance brokers and directly by making regular business trips or holding videoconferences. Furthermore, our employees attend trade fairs and expert conferences worldwide. In life and health reinsurance we have a direct local presence in most markets due to our decentralised approach and are thus able to engage in a quick and flexible exchange with our customers. In addition to business trips to visit individual clients, we also organise seminars – usually on specific topics – and training workshops in the markets where we operate so as to keep our customers informed about the latest issues and developments relating to life and health reinsurance as well as underwriting.

We conduct regular surveys to measure the satisfaction of our customers – not only independently but also with the support of external market research institutes when it comes to certain markets. In view of the importance that we attach to accommodating the specific features of individual markets, we consciously do not carry out any general uniform survey of customer satisfaction on a global basis across all our divisions. We process the results of our customer surveys and studies in-house so as to identify potential action fields. The steps taken not only served to improve the perception of our brand, they also made our services and products stronger. In recent years, for example, we have enhanced our automated underwriting systems according to the wishes of our customers and we have brought new product ideas to market.

Goal to be achieved by 2020: Customer orientation and satisfaction M 49

Measures	Results
Fostering customer dialogue including on ESG-related topics	In the year under review we continued to actively promote knowledge sharing with our customers in the context of product- and/or market-specific seminars and workshops. In April and May 2018, for example, we held customer seminars in Istanbul and China on the topic of digitalisation. In the Life&Health reinsurance business group we developed a concept in 2018 for an online platform that is designed to enable customers and external business partners to exchange (re) insurance products and services on an independent basis in the future.

Executive development/ Employee advancement

The success of our company depends directly on the successful work of our employees. We therefore pay particularly close attention to the qualifications, experience and commitment of our staff and foster these attributes through our excellent personnel development and leadership practices. Our strategic human resources planning enables us to harmonise the size and skills of our workforce with the current and future requirements of our global market presence as well as with the requirements of increasing digitalisation.

We employed 3,317 staff (previous year: 3,251) Group-wide as at the end of the year under review. Our company's continuing growth prompted further expansion of the workforce in the financial year just ended. Consequently, there were no major job losses in the year under review, as was also the case in previous years.

Number of employees by country M 50

Country	2018	2017
Germany	1,426	1,385
South Africa	479	488
United Kingdom	371	386
United States	293	290
Sweden	227	199
Australia	113	105
China	86	75
Malaysia	74	68
France	56	58
Bahrain	46	48
Ireland	46	48
Bermuda	44	45
Canada	27	25
India	18	20
Korea	9	9
Luxembourg	2	2
Total	**3,317**	**3,251**

Breakdown of employees by country and gender **M 51**

	2018		2017	
Country	Men	Women	Men	Women
Germany	47.1%	52.9%	47.4%	52.6%
South Africa	29.0%	71.0%	29.3%	70.7%
United Kingdom	59.6%	40.4%	59.3%	40.7%
United States	51.5%	48.5%	51.7%	48.3%
Sweden	51.1%	48.9%	51.8%	48.2%
Australia	48.7%	51.3%	46.7%	53.3%
China	50.0%	50.0%	54.7%	45.3%
Malaysia	39.2%	60.8%	36.8%	63.2%
France	48.2%	51.8%	46.6%	53.4%
Bahrain	54.3%	45.7%	60.4%	39.6%
Ireland	43.5%	56.5%	43.8%	56.2%
Bermuda	59.1%	40.9%	57.8%	42.2%
Canada	51.9%	48.1%	44.0%	56.0%
India	66.7%	33.3%	80.0%	20.0%
Korea	77.8%	22.2%	77.8%	22.2%
Luxembourg	50.0%	50.0%	50.0%	50.0%
Total	**47.0%**	**53.0%**	**47.2%**	**52.8%**

As a global entity, we are able to offer our employees an attractive workplace that fosters motivation, dedication and teamwork. Our attractiveness as an employer is further reinforced by systematic career development programmes. We are committed to clearly expressing our appreciation of employees and we enable them to participate in the sustained success of the business.

The basis of our common corporate culture is the greatest possible delegation of tasks, responsibilities and authority. In this way we ensure that our employees are able to act in a quick and flexible manner. This is supported through management by objectives, and we expect our managers to instil a sense of individual accountability in their staff. Our managers therefore play a particularly important role. They lead their staff according to our management principles. We support them in developing their leadership qualities, inter alia with the aid of the management feedback process that gives members of staff an opportunity to provide feedback to their supervisor on how his or her management style is experienced. For further information we would refer to the section “Employee retention”.

Where qualifications are equivalent, vacant management posts are filled whenever possible from within our own ranks, and we therefore consider leadership potential even at the recruitment stage. As part of a standardised process that takes place every other year at the Hannover location, all positions from management level (General Manager/Director) upwards are reviewed at corporate headquarters and at selected international entities. With a view to achieving a better gender balance we strive for an increasing proportion of women on all levels of management.

When it comes to expanding and establishing our personnel development measures, we set particularly great store by a range of activities tailored to specific needs and target groups. Our programme of further training, which is open to all employees, encompasses above all offerings in the fields of reinsurance, information technology, social and methodological skills as well as language courses. The range of measures is continuously reviewed and extended.

In the financial year just ended we focused our training and development activities especially on supporting our employees and managers in dealing with the implications of markedly changing work environments. In this context the effects of agile forms of working or automated and digitalised workflows play a particularly important role. For example, we launched a new workshop called “Fit for changes”. This event has a preparatory purpose inasmuch as change processes are simulated for both employees and managers in order to prevent the stressful situations that can arise. The workshop is thus consciously designed to serve as a bridge between the topics of change and health.

We also supported our managers by holding “practical training days” on which the challenges of a manager’s daily routine were explored by small groups operating in a safe space with the help of a trainer and issues could be worked through with the aid of coaching and conflict resolution techniques. We continued to cover subjects such as “Wellness - Management Task and Individual Responsibility" and "Gender-specific Communication"; the latter event also supports our mentoring programme for women on the management level. At the same time our managers were offered special expert seminars, including for example updated and redesigned workshops on matters of employment law.

The health management programme, which has been expanded in recent years, continued unchanged in the year under review. Seminars and workshops geared to enhancing the resilience and relaxation skills of our staff and managers are integral components of our preventive support measures.

The Employee Assistance Programme is another component of our health management. This provides external and anonymous immediate counselling on personal, professional and health concerns for our employees, managers and their family members, including access to a service for families. This support tool once again proved helpful and popular in the financial year just ended.

Last but by no means least, we took steps to further improve our occupational reintegration management, a process that is required by law in Germany. A company agreement was concluded in this regard in 2018, ensuring a harmonised internal process with the participation of all relevant areas of the company.

Staff at our Hannover head office also enjoy access to an extensive range of fitness opportunities, including company sports groups dedicated to various types of sport and cooperation arrangements with fitness studios. When it comes to individual workstations, we take care to provide an optimal room layout and ergonomic furnishings.

Goal to be achieved by 2020:
Executive development/Employee advancement

M 52

Measures	Results
Optimisation of further training measures for employees and executives (training days per employee and year > 4 days (Group-wide))	In 2017 the average number of training days per employee was 4.0 at the Hannover location. The number of training days Group-wide was 2.7. As at the reporting date a complete record of the number of training days per employee for the 2018 financial year was not yet available.
Promote, preserve and restore the physical and mental well-being of employees, including through our Employee Assistance Programme (EAP)	In the financial year just ended the EAP once again proved to be a helpful and popular support tool.

Employee retention

We believe in enabling our employees to strike a healthy balance between their professional and private life. With this in mind, we offer part-time and teleworking models that can be individually structured and flexible working-time arrangements without core hours. Through this flexibility we want to make it easier for our employees to organise everyday life in phases such as starting a family or preparing for the end of their professional career, e. g. through partial retirement arrangements. These benefits are reflected in a low staff turnover rate and the long periods of time that our employees stay with the Group.

We also operate our own company daycare centre at the Hannover location that provides all-day care for infants up to the age of three.

We attach great importance to the satisfaction of our employees in order to remain a consistently attractive employer. Regular feedback from our staff is taken very seriously and we therefore offer various channels through which this can be communicated. In 2018 we initiated a new implementation round of what we refer to as management feedback: the employees working under a defined group of managers are able to give their direct supervisors feedback on just how their style of leadership is experienced. This raw feedback is then aggregated into a results report that forms the basis for discussion between the manager and his or her staff, thereby making it possible to identify measures for improving management effectiveness and teamwork.

Our employees are paid according to their specific tasks, their skills and qualifications and their performance. At the same time, employees in Germany benefit from the security and advantages of the collective agreement for the private insurance industry. 93% of our employees at the Hannover location are covered by the collective bargaining agreement. The remaining 7% can be attributed to some non-collective agreements with managers.

Furthermore, we offer our employees a number of additional voluntary benefits. All members of our staff are granted the same benefits in proportion to their working hours.

Goal to be achieved by 2020: Employee retention **M 53**

Measures	Results
Maintaining strong employee affinity (low staff turnover rate of 3–5% at the Hannover location)	The staff turnover rate as at 31 December 2018 was 4.1%
Holding of Group-wide employee surveys on a recurring basis (participation rate of at least 60%)	An employee survey was not carried out in the year under review. Instead, a new round of management feedback was launched in order to enable employees working under a defined group of managers to give their direct supervisors feedback on how their leadership style is experienced.

Diversity

One of the cornerstones of our successful business activities, along with our employees' skills and commitment, is a considerable degree of diversity in the workforce. At our Hannover location, for example, the members of staff come from altogether 43 different nations, a reflection of the international dimension of our operations. Our worldwide Code of Conduct stipulates that nobody may be disadvantaged on grounds of his or her gender, ethnic origin, religion or ideology, disability, age or sexual persuasion. Salary increases and promotions follow a clearly defined process. Our employees are paid according to their specific tasks, their skills and qualifications and their performance.

Diversity and the advancement of women are topics that have come under increasing public scrutiny in recent years. Within the Hannover Re Group, too, it is evident that women are under-represented in the company's higher hierarchical levels. With a view to changing this, the Executive Board initiated a number of measures geared specifically to furthering women in their professional development. In 2017 we therefore launched another implementation round of our in-house mentoring programme for women at the Hannover location, which ended in March 2018. A further round is already planned for 2019/2020.

The specific focus of the internal mentoring programme on a purely female group of participants is part of our initiative to give targeted support to promising junior female managers by raising their profile in the organisation and giving them individual support. The number of participants was expanded to seven mentoring tandems. Female employees (mentees) are paired with senior managers (mentors) for a period of twelve months to engage in a targeted, regular dialogue. In the course of the mentoring programme the mentees are encouraged to reflect on their professional development to date and to take steps to actively shape their future career. They also gain insights into new fields of work and are able to learn from their mentor's experience. We are particularly pleased that as many as three members of our company's Executive Board participated as mentors in the 2017/2018 round of the programme.

In a survey conducted after its completion both mentees and mentors alike expressed considerable satisfaction with the process and the individually attained learning outcomes. This positive feedback strengthened our resolve to continue the programme. Two informational events were already held in 2018, giving interested employees an opportunity to learn more about the contents and objectives and subsequently to apply for the next implementation round in 2019/2020.

Goal to be achieved by 2020: Diversity **M 54**

Measures	Results
Promoting diversity and equal opportunities (proportion of women on the second and third levels of management 18% at the Hannover location)	Proportion of women on the second and third levels of management at the Hannover location on the reference date of 31 December 2018: 15.6%
Improving the conditions needed to ensure a healthy work/life balance for our employees	In the year under review we pressed ahead with our measures relating to the conditions needed for a healthy work/life balance. Along with our part-time and teleworking models, these include our flexitime arrangements and an in-house infant daycare centre.

Operational environmental protection

The environmental impacts of our commercial operations are comparatively slight, deriving principally from business trips taken by our employees and their commuting to and from work as well as the operation of our office premises. Nevertheless, we take our responsibility for the environment very seriously. In our Sustainability Strategy we regularly define concrete targets and measures for protecting the environment and conserving resources.

Back in 2012 we put in place standard processes at the Hannover location to address environmental protection and we specified concrete measures in our environmental programme. Our environmental management system has since been recertified annually, from 2016 onwards according to the revised standard DIN EN ISO 14001:2015. Since 2016 we have also published annually a validated EMAS III Environmental Statement in fulfilment of the Europe-wide legal requirement to perform energy audits. The environmental management system records the consumption and emissions data for the Hannover sites of Hannover Rück SE, E+S Rückversicherung AG and (until the end of 2018) International Insurance Company of Hannover SE (Inter Hannover SE) as well as the associated infant daycare centre and hence covers roughly 43% of the global workforce.

The focus of our efforts to conserve the environment is on reducing CO_2 emissions caused by the supply of electricity and heat to our premises as well as those resulting from our business travel. We have operated with a net zero carbon footprint at the Hannover location since 2016. The changeover to renewable energy and the offsetting of greenhouse gas emissions caused by air travel through payments to the climate protection organisation atmosfair were key factors in this achievement.

Having already converted our power supply at the Hannover location to renewables, we now want to extend this progressively to our international offices as well.

We actively support the work of local and international initiatives for climate protection. For example, we are engaged in a number of environmental conservation projects, including the local initiative "Climate Alliance Hannover 2020".

Goal to be achieved by 2020:
Operational environmental protection

M 55

Measures	Results
Continuous refinement of environmental management	Since 2016 our Hannover location has been carbon-neutral. In 2018 we began to record the business trips made by plane at our offices in the Asia-Pacific region. The goal is to fully offset the CO_2 emissions caused there by plane travel from 2020 onwards. In relation to our direct environmental aspects we have set various operational goals to be achieved by 2020, which are published in our EMAS environmental statement. These include, inter alia, reducing our power consumption by 10% per employee, cutting the need for climate-neutral heating energy by 5%, lowering paper consumption by 15% and maintaining our levels of water consumption and CO_2 emissions.

Supplier management

As a reinsurer, our business activities have lower impacts on the environment than other industries. Through our selection of suppliers and based on specifications for the production process used by our suppliers, we are nevertheless able to indirectly influence labour practices.

Since mid-2012 our Code of Conduct for Suppliers has been applied throughout large parts of the company at the Hannover location. Reviewed on a regular basis and adjusted as necessary, it obliges all main suppliers and subcontractors to fulfil sustainability criteria, inter alia respect for human rights and observance of the core labour standards of the International Labour Organisation (ILO). We rate new suppliers based on self-reporting and using an application-supported process; those that are assessed critically in an ESG risk category are assigned to a blacklist, as a consequence of which no further orders are placed with them. The process is used as warranted by Facility Management and IT at the Hannover location.

Altogether, we procure goods for IT, the operation of our premises and the conduct of our business from some 360 suppliers. Roughly two-thirds of these suppliers are from Germany or indeed the Greater Hannover region. In addition, we purchase IT products from primarily the European Union and the United States.

Goal to be achieved by 2020: Supplier management **M 56**

Measures	Results
Ongoing evaluation of ~90% of suppliers (measured by purchasing volume) according to environmental and social standards	80% of the purchasing volume in Facility Management and more than 90% in the IT sector are currently evaluated according to these ESG criteria.

Expertise in demand

Risk models

Extreme weather events meet rising insured values

Storm surge damage is normally covered in the US under private and industrial windstorm insurance. Flood damage resulting from heavy rainfall, on the other hand, often needs to be covered separately. Torrential rain from Hurricane Harvey caused extensive damage throughout South Texas in 2017, while precipitation from Hurricane Katrina in 2005 flooded parts of New Orleans.

In the private sphere, householders and car owners are particularly hard hit by inadequate protection: some half a million vehicles were written off in the region flooded by Harvey. In industry, too, flood damage to structures is often not covered – or the indemnity limits are too low. Depending on the timing and duration of the bad weather, losses can also result from business interruption and crop failures and they may impact shipping and aviation.

Loss scenarios for windstorm risks can be reliably simulated using existing models. We are continuously developing and refining our risk models in order to calculate affordable, risk-appropriate prices for flood damage covers as well.

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.

Strategy implementation

Our current corporate strategy encompasses ten guiding principles that safeguard the realisation of our vision "Creating value through reinsurance" across the various divisions. For further information on the corporate strategy and the strategic principles we would refer to our website (www.hannover-re.com/135441/group-strategy-at-a-glance).

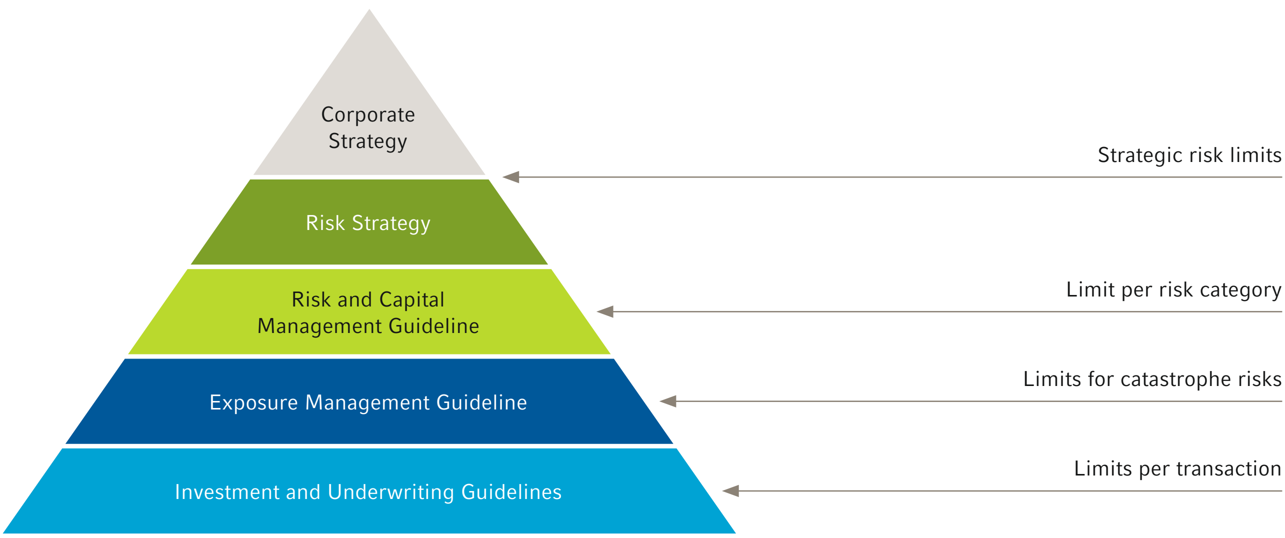
Our risk strategy is derived from the corporate strategy. The following principles of the corporate strategy constitute the key strategic points of departure for our Group-wide risk management:

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

The risk strategy is the core element in our handling of opportunities and risks. It 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 monitor adherence 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.

Risk management through multiple levels of limits M 57



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. Our solvency ratio must amount to at least 180%, although 200% is already considered to be a threshold; countermeasures would be triggered if the solvency ratio were to fall below this threshold. 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 risk 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.

Strategic targets for the risk position **M 58**

in EUR million	Limit	Indicator as at 31.12.2018
Probability of positive net income under IFRS	> 90%	96.2%
Probability of loss of shareholders' equity under IFRS	< 0.03%	0.02%
Probability of loss of economic equity	< 0.03%	0.01%

Major external factors influencing risk management in the financial year just ended

Regulatory developments: A review of selected aspects of Solvency II was conducted in the year under review at the instigation of the European Commission. In this regard the European Insurance and Occupational Pensions Authority (EIOPA) made technical recommendations to the European Commission. Implementation of the new rules is still pending, but will most likely do not have any material implications for the Hannover Re Group.

In the year under review the reinsurance entities belonging to the Hannover Re Group in the European Union received approval from the Federal Financial Supervisory Authority (BaFin) to calculate their operational risks using the internal model with retroactive effect from the year-end reporting 2017. The Hannover Re Group has already had such approval since 2017. This means that both the Hannover Re Group and the specified individual companies are now calculating their capital requirements under Solvency II on the basis of a full internal model. In addition, Hannover Re was granted approval by the BaFin in 2018 to use volatility adjustments pursuant to § 82 VAG. This is intended to mitigate the effect of value fluctuations on the bond market.

Parallel to the regulatory developments in Europe, we are seeing adjustments worldwide to the regulation of (re)insurance undertakings.

Capital market environment: A major external influencing factor is the protracted low level of interest rates, especially with an eye to the return that can be generated on our investments. While significant rate increases are now being seen on the USD and GBP side, negative yields persist on euro area government bonds well into the medium maturity segment. The ending of the ECB's programme of monthly corporate sector purchases (CSPP) at year-end, protracted uncertainty surrounding the process for the United Kingdom's exit from the European Union and numerous geopolitical flashpoints as well as simmering trade and tariff wars impacted the capital market climate in the period under review. As a result, many areas of the capital market were rather unsettled. Thus, for example, risk premiums on corporate bonds increased – sometimes markedly – in the course of the year, while the losses seen on stock markets towards the end of the year were in some instances appreciable. Owing to the liquidation of our equity portfolio in the previous year, however, we remained unaffected. As far as our investments are concerned, we anticipate elevated volatility on global equity and credit markets in the immediate future, although we also see this as an opportunity and believe that we are appropriately prepared with the currently more defensive posture of our asset portfolio. For further information please see the "Investments" section of the management report on page 58 et seq.

Brexit: The terms of the United Kingdom's withdrawal from the European Union have still not been determined. The possibility of the UK leaving the EU without an agreement continues to exist. The Hannover Re Group is prepared for this and all other scenarios and a Group-wide working group has been set up to address readiness measures.

The Hannover Re Life UK Branch will be materially affected. In order to be able to continue its activities even after a "hard" Brexit, an application to operate under the so-called temporary permissions regime (TPR) has been filed and already approved by the financial regulator. Increased administrative expenses and higher capital costs cannot be ruled out over the medium term. Argenta Holdings Limited is a wholly owned subsidiary of Hannover Re that operates on a standalone basis in the United Kingdom and is already authorised as a member of Lloyd's. We also write reinsurance business in the United Kingdom through Group companies in Hannover, Ireland and Bermuda. In this regard we do not anticipate any significant changes as a result of Brexit.

All in all, our current analyses indicate that the implications of Brexit are manageable for the Hannover Re Group.

US tax reform: The changes in tax legislation adopted by the US administration at the end of 2017 entered into force on 1 January 2018. They provide for new tax regulations that have far-reaching financial implications for subsidiaries operating in the United States. On the one hand, the reform cuts the corporate tax rate from 35% to 21%. On the other hand, the legislative package includes the introduction of the so-called “Base Erosion and Anti-Abuse Tax” (BEAT). In this connection, premiums for ceded insurance risks within the corporate group are also included in the taxable base and will in future be taxed at a rate of 5% to 12.5% (rising over the next nine years). We have undertaken some restructuring activities within the Group in order to avert this increased burden of taxation. Most notably, US life reinsurance business previously written through Hannover Re Ireland was transferred to a Bermuda-based subsidiary. The latter is subject to US taxation, thereby avoiding a substantial tax loss; the solvency ratio decreased, however, due to a higher risk margin for the Hannover Re Group.

Risks from electronic data retention: Recent years have seen the increasing emergence of risks relating to electronic systems and their data. Hannover Re, in common with other companies, is at risk of attacks on its IT systems and has put in place extensive safeguards. Furthermore, Hannover Re offers reinsurance coverage for risks connected with electronic systems and the associated data. The dynamic pace of developments in the context of digitalisation presents a particular challenge to the assessment of such risks.

Natural catastrophe risks and climate change: 2017 was notable for an above-average number of natural disasters. Large losses caused by typhoons and hurricanes left their mark on 2018 as well. The scale of the natural disasters recorded in the financial year was reflected in the assumptions underlying the natural perils models which are used for pricing and managing catastrophe risks. The possibility that the increased storm activity of recent years is due in part to progressive global warming cannot be ruled out. Hannover Re works together with partners to closely monitor the implications of global warming for extreme weather events so as to be able to incorporate the insights gained into the models and the management of risks.

Risks from US mortality business: The actual mortality experience of the portfolio acquired by Hannover Re at the beginning of 2009 proved to be better than expected in 2018. As part of our inforce management measures we initiated rate adjustments for the portfolio concerned. In a few remaining isolated instances one-time charges to the IFRS result may arise if cedants affected by rate adjustments exercise their right of recapture. We are monitoring the further development of the underlying mortality on an ongoing basis.

Joint venture with HDI Global Specialty: In the year under review Hannover Rück SE and HDI Global SE already began making preparations, under the umbrella of Talanx AG, to launch a joint initiative in worldwide specialty business. To this end, the two companies are transferring their specialty activities to a new joint venture. The new company, HDI Global Specialty SE, will write agency and specialty business in lines including professional indemnity, directors’ & officers’ liability, legal expenses, sports and entertainment, aviation, offshore energy and pet and farm pack. Subject to regulatory approval, the joint venture will commence operational business on 1 January 2019.

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. The internal capital model – a stochastic enterprise model – is a central tool in this context. It covers all subsidiaries and business groups of the Hannover Re Group. The core variable in risk and enterprise management is the economic equity, 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 equity. 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 exclusive industry data and 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. For its capitalisation under Solvency II Hannover Re has set a limit of 180% and a threshold of 200% for the capital adequacy ratio.

The capitalisation prescribed by regulatory requirements diverges from the capitalisation shown in accordance with the Hannover Re Group's internal capital model. Since approval was given to use the model for operational risks, the difference now rests solely in the Solvency II requirements that non-controlling interests are to be treated as partially ineligible. The solvency ratio calculated in accordance with Solvency II stood at 245.7% as at 31 December 2018. The key risk indicators and own funds shown for the Hannover Re Group and Hannover Rück SE as at 31 December 2018 reflect the static volatility adjustment of the yield curves.

Hannover Re is thus well capitalised and our available capital comfortably exceeds the required capital, both from the economic and the regulatory perspective:

Available capital and required risk capital[1] **M 59**

in EUR million	31.12.2018 (internal)		31.12.2018 (Solvency II)[2]	31.12.2017 (internal)		31.12.2017 (Solvency II)[3]
Available economic capital/ Eligible capital	13,323.1		12,616.2	13,041.0		12,295.8
Confidence level	**99.97%**	**99.5%**	**99.5%**	**99.97%**	**99.5%**	**99.5%**
Required risk capital/ Solvency capital requirement	10,990.5	5,135.4	5,135.4	9,877.3	4,729.0	4,729.0
Excess capital	2,332.5	8,187.7	7,480.8	3,163.7	8,312.0	7,566.8
Capital adequacy ratio	121.2%	259.4%	245.7%	132.0%	275.8%	260.0%

1 This table contains information that has not been audited by the independent auditor.
2 The figures were based on the Solvency II reporting as at 31 December 2018.
3 Minor differences for 31 December 2017 compared to the Annual Report 2017. Figures based on final Solvency II year-end reporting as presented in the Solvency and Financial Condition Report.

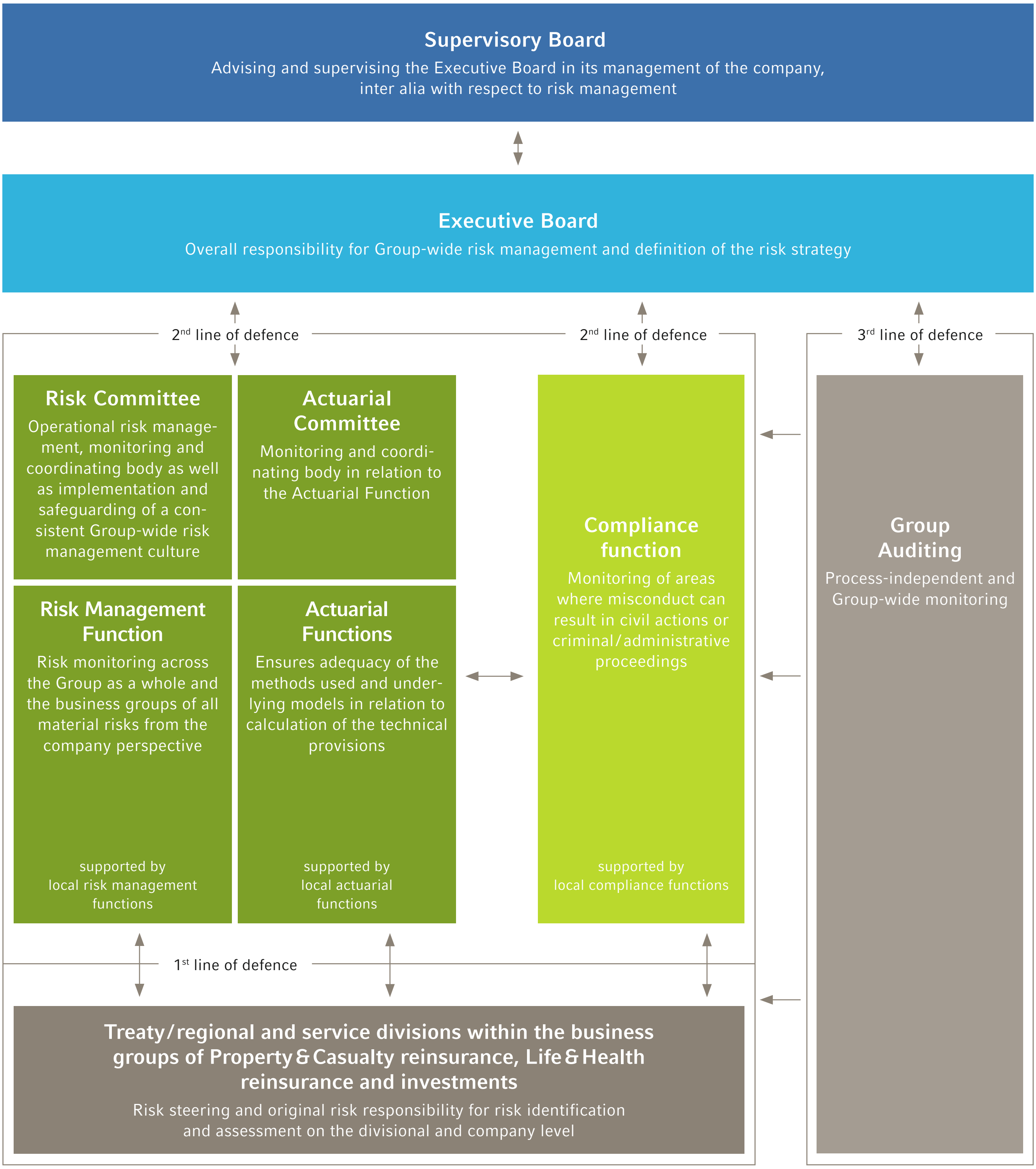
The figures shown above refer to the Hannover Re Group. In addition, Hannover Rück SE is also subject to regulatory capital requirements, which in accordance with Solvency II reporting were clearly fulfilled as at 31 December 2018 with a solvency ratio of 250.5%. The solvency ratio of Hannover Rück SE is normally higher than the solvency ratio of the Hannover Re Group because there are no restrictions with regard to the use of own funds attributable to non-controlling interests. The details provided here regarding the solvency ratio of the solo entity Hannover Rück SE constitute information that has not been audited by the independent auditor.

We strive for a rating from the rating agencies most relevant to our industry that facilitates and secures our access to al 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. 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.

In awarding these ratings the agencies highlighted the company's very good risk management, the consistent and systematic implementation of corporate strategy by management and its excellent capital resources. Hannover Re's internal capital model was also subjected to expert appraisal. As a result of this review, Standard & Poor's factors the results of the Hannover Re Group's internal capital model 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 is made up of the core risk management functions, 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 following chart provides an overview of the central functions and bodies within the overall system as well as of their major tasks and powers.


Supervisory Board
Advising and supervising the Executive Board in its management of the company, inter alia with respect to risk management
Executive Board
Overall responsibility for Group-wide risk management and definition of the risk strategy
2nd line of defence
2nd line of defence
3rd line of defence
Risk Committee
Operational risk management, monitoring and coordinating body as well as implementation and safeguarding of a consistent Group-wide risk management culture
Actuarial Committee
Monitoring and coordinating body in relation to the Actuarial Function
Risk Management Function
Risk monitoring across the Group as a whole and the business groups of all material risks from the company perspective
supported by local risk management functions
Actuarial Functions
Ensures adequacy of the methods used and underlying models in relation to calculation of the technical provisions
supported by local actuarial functions
Compliance function
Monitoring of areas where misconduct can result in civil actions or criminal/administrative proceedings
supported by local compliance functions
Group Auditing
Process-independent and Group-wide monitoring
1st line of defence
Treaty/regional and service divisions within the business groups of Property & Casualty reinsurance, Life & Health reinsurance and investments
Risk steering and original risk responsibility for risk identification and assessment on the divisional and company level

Group-wide risk communication and an open risk culture are important to our risk management. Regular global meetings attended by the actuarial units and risk management functions serve as a major anchor point for strategic considerations in relation to risk communication. In addition, risk management requirements are formulated in guidelines that are communicated throughout the organisation.

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 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 the funds required to cover all 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.

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 Hannover Re's internal capital 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 function of 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 activities for staff. The regular sharing of information between risk-steering and risk-monitoring units is also fundamental to the proper functioning of risk management.

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. Complementary to the regular risk reporting, immediate internal reporting on material risks that emerge at short notice takes place as necessary.

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 monitoring system. The risk management system is rounded off with process-integrated procedures and rules, such as those of the internal control system.

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. These include, among other things, the principle of dual control, separation of functions, documentation of the controls within processes as well as 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.

Risk landscape of Hannover Re

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

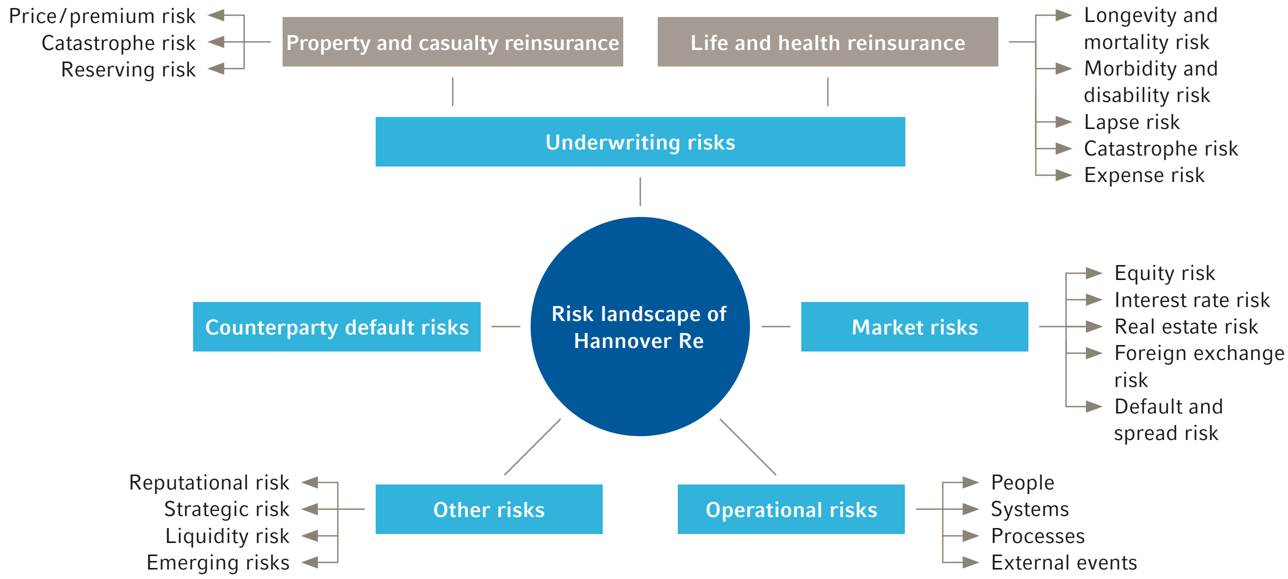
The risk landscape of Hannover Re encompasses:

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

At the present time our most significant individual 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. With regard to mortality risks, as a general principle annuity portfolios are impacted by improvements in mortality while death benefit portfolios are adversely affected by deteriorations in mortality.

The specific risk characteristics and the principal monitoring and steering mechanisms are described in the following sections.

Risk landscape of Hannover Re M 61



Internal risk assessment

In this section we compare the available economic capital with the required risk capital in greater detail. 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 potential 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 calculated in accordance with Solvency II requirements and also for the first time effective 31 December 2018 the static volatility adjustment approved by the supervisory authority. 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 volume of these options and guarantees in our portfolio is, however, comparatively slight. The adjustments for assets under own management shown in the following table indicate the difference between fair value and book value of those investments recognised under IFRS at book values. Other adjustments encompass above all the deferred taxes. 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. Hybrid capital is recognised at market-consistent value as required by Solvency II, with changes in the own credit risk not being included in the valuation.

The available economic capital increased to EUR 13,323.1 million as at 31 December 2018, compared to EUR 13,041.0 million as at 31 December 2017 (pursuant to the final Solvency II year-end reporting for 31 December 2017). The primary factors here were the positive business result and the adoption of the volatility adjustment. The development of shareholders' equity was adversely impacted by, among other things, the increase in credit spreads and associated valuation declines in fixed-income securities, the large loss expenditure in property and casualty reinsurance and one-time charges in US mortality business.

Reconciliation (economic capital/shareholders' equity)[1] **M 62**

in EUR million	31.12.2018[2]	31.12.2017[3]
Shareholders' equity including minorities	9,542.0	9,286.6
Adjustments for assets under own management	513.6	502.7
Adjustments for technical provisions[4]	4,055.3	3,980.3
Adjustments due to tax effects and other	(1,719.0)	(1,698.4)
Economic equity	**12,391.9**	**12,071.2**
Hybrid capital	1,617.1	1,626.2
Foreseeable dividends	(685.9)	(656.4)
Available economic capital	**13,323.1**	**13,041.0**

1 This table contains information that has not been audited by the independent auditor.
2 The figures were based on the Solvency II reporting as at 31 December 2018.
3 Minor differences for 31 December 2017 compared to the Annual Report 2017. Figures based on final Solvency II year-end reporting as presented in the Solvency and Financial Condition Report.
4 Adjustments for technical provisions in life & health and property & casualty reinsurance including risk margin.

The required risk capital of the Hannover Re Group with the target confidence level of 99.5% increased to EUR 5,135.4 million as at 31 December 2018, compared to EUR 4,729.0 million as at 31 December 2017. This was driven principally by the larger business volumes, which led to an increase in market risks and underwriting risks in property and casualty reinsurance. In addition, the weakening of the euro against the US dollar contributed to a rise in foreign-currency volumes and an increase in risks in euro.

Along with the larger volumes, elevated default and spread risks – as are also evident in the generally higher spread level – are a major reason for the increase in market risks. The underwriting risks in property and casualty reinsurance increased primarily as a consequence of higher underwriting capacities for natural perils and model adjustments made to specific large loss models. The underwriting risks in life and health reinsurance decreased due to a reduced exposure to longevity and mortality risks. This contrasts with a higher exposure to morbidity risks resulting from expansion of the business. The increase in counterparty default risks can be attributed principally to a higher volume of receivables due from ceding companies and retrocessionaires as well as elevated volatility of the modelled losses due to generally increased credit spreads.

The decrease in operational risks can be attributed above all to an updated expert assessment regarding the impact of individual scenarios.

The loss-absorbing effect of taxes remained stable. The slight decline in the diversification effect reflects the increase in certain key risks, namely the market risk and the underwriting risk in property and casualty reinsurance.

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 biometric and lapse 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.

Required risk capital | M 63

in EUR million	31.12.2018 Confidence level 99.5%	31.12.2017 Confidence level 99.5%
Underwriting risk property and casualty reinsurance	3,819.3	3,485.4
Underwriting risk life and health reinsurance	2,212.5	2,354.7
Market risk	3,833.5	3,462.2
Counterparty default risk	312.6	282.0
Operational risk	575.3	637.0
Diversification	(3,648.2)	(3,710.2)
Tax effects	(1,969.6)	(1,782.1)
Required risk capital of the Hannover Re Group	5,135.4	4,729.0

The required risk capital with a confidence level of 99.5% reflects the loss from the respective risk that with a probability of 0.5% will not be exceeded. The risk capital required for specific risks is shown in each case before tax.

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. In addition, the active limitation of individual risks – such as natural catastrophes – enhances the diversification effect. The risk capital with a confidence level of 99.5% for underwriting risks in property and casualty reinsurance breaks down as follows:

Required risk capital[1] for underwriting risks in property and casualty reinsurance | M 64

in EUR million	31.12.2018	31.12.2017
Premium risk (including catastrophe risk)	2,862.3	2,472.0
Reserve risk	2,275.7	2,253.8
Diversification	(1,318.7)	(1,240.4)
Underwriting risk property and casualty	3,819.3	3,485.4

[1] Required risk capital with a confidence level of 99.5%

The largest share of the required risk capital for the premium risk (including catastrophe risk) is attributable to risks from natural disasters. They constitute the main concentration risk in property and casualty reinsurance. The following table shows the required risk capital for four of our largest natural hazards scenarios:

Required risk capital[1] for four natural hazards scenarios | M 65

in EUR million	2018	2017
Hurricane US/Caribbean	1,774.51	1,605.57
Earthquake US West Coast	1,437.56	1,071.20
Earthquake Japan	707.44	613.91
Winter storm Europe	609.77	665.15

[1] Required risk capital with a confidence level of 99.5% on an aggregate annual loss basis

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 importance to maintaining a conservative reserving 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.

Liability claims have a major influence on the segment reserve. The segment reserve is calculated on a differentiated basis according to risk categories and regions. The segment reserve established by the Hannover Re Group amounted to EUR 7,134.6 million in the year under review.

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 using actuarial methods.

Our own actuarial calculations regarding the adequacy of the reserves are also subject to annual quality assurance reviews conducted by external firms of actuaries and auditors. For further remarks on the reserve risk please see our comments in section 6.7 "Technical provisions" on page 229 et seq.

In the case of asbestos- and pollution-related claims it is difficult to reliably estimate future loss payments. The adequacy of these reserves can be estimated using the so-called "survival ratio". This ratio expresses how many years the reserves would cover if the average level of paid claims over the past three years were to continue.

Survival ratio in years and reserves for asbestos-related claims and pollution damage **M 66**

	2018			2017		
in EUR million	Individual loss reserves	IBNR reserves	Survival ratio in years	Individual loss reserves	IBNR reserves	Survival ratio in years
Asbestos-related claims/ pollution damage	19.5	157.9	30.0	20.1	155.3	27.2

In order to partially hedge inflation risks Hannover Re holds securities in its portfolio with inflation-linked coupons and redemption amounts. 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. The specified bonds protect these parts of the loss reserves against inflation risks.

For the purpose of assessing our material catastrophe risks from natural hazards (especially earthquake, windstorm and flood) we use licensed scientific simulation models, supplemented by the expertise of our own specialist departments, that deliver probability distributions for losses from natural catastrophes. The monitoring of the risks resulting from natural hazards is rounded out by scenario analyses. Major scenarios and stress tests are shown in the following table:

Stress tests for natural catastrophes after retrocessions **M 67**

Aggregate annual loss in EUR million	2018	2017
	Effect on forecast net income	
Winter storm Europe		
100-year loss	(312.0)	(378.2)
250-year loss	(526.0)	(542.5)
Hurricane US/Caribbean		
100-year loss	(1,033.2)	(921.0)
250-year loss	(1,471.6)	(1,274.8)
Typhoon Japan		
100-year loss	(216.4)	(183.1)
250-year loss	(294.0)	(256.6)
Earthquake Japan		
100-year loss	(344.3)	(282.2)
250-year loss	(664.3)	(522.0)
Earthquake US West Coast		
100-year loss	(634.8)	(420.2)
250-year loss	(1,194.7)	(921.7)
Earthquake Australia		
100-year loss	(191.9)	(154.4)
250-year loss	(499.8)	(445.3)

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 equity 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 Executive Board, Risk Committee and P&C Executive Committee are kept regularly updated on the degree of capacity utilisation. The limits and thresholds for the 200-year aggregate loss as well as the utilisation thereof are set out in the following table:

Limit and threshold for the 200-year aggregate annual loss as well as utilisation thereof M 68

in EUR million	Limit 2018	Threshold 2018	Actual utilisation (July 2018)
All natural catastrophe risks[1]			
200-year aggregate annual loss	1,873	1,686	1,446

[1] Loss relative to the underwriting result

Net expenditure on major losses in the year under review amounted to EUR 849.8 million (EUR 1,127.3 million). Our company incurred the following catastrophe losses and major claims in the 2018 financial year:

Catastrophe losses and major claims[1] in 2018 M 69

in EUR million	Date	gross	net
"Camp" forest fire, United States	8 November–3 December 2018	352.6	129.5
Typhoon "Jebi", Japan	4 September 2018	352.2	134.7
Hurricane "Michael", United States	10–16 October 2018	144.0	46.3
"Woolsey" forest fire, United States	8–22 November 2018	122.7	63.8
6 property claims		111.3	90.5
Typhoon "Trami", Japan	28 September–1 October 2018	107.2	26.9
5 credit claims		102.5	102.5
Hurricane "Florence", United States	14–20 September 2018	81.7	37.4
Torrential rain, Colombia	28 April–11 June 2018	77.1	48.4
1 marine claim		54.4	31.2
Storm "Friederike", Europe	17–18 January 2018	49.5	24.3
Typhoon "Prapiroon", Japan	29 June–6 July 2018	25.2	11.0
Tornadoes, United States	19–20 July 2018	24.7	22.3
Typhoon "Mangkhut", Guam, Philippines, China	10–19 September 2018	24.4	12.3
Earthquake, Papua New Guinea	25–26 February 2018	22.1	12.9
1 liability claim		16.4	16.4
"Carr" forest fire, United States	23 July–30 August 2018	13.4	8.0
Storm, Europe	27–30 October 2018	14.2	11.4
Cyclone "Mekunu", Oman	24–26 May 2018	14.0	7.7
Hailstorm, Australia	20 December 2018	12.3	12.3
Total		**1,722.1**	**849.8**

[1] Natural catastrophes and other major claims in excess of EUR 10 million gross

The price/premium risk lies 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:

Ensuring the quality of our portfolios **M 70**

Step 1

Calculation of the loss expectancy
- Historical loss and exposure analysis
- Changes in the quality of underlying risks
- Changes in the quantity of underlying risks
- Discounting of future cash flows

Step 2

Cost estimation
- Commissions
- Broker fees
- Internal administration

Step 3

Calculation of the cost of capital
- Level of capital allocation determined by volatility of the business covered and contribution to diversification
- Expected return on equity
- Capital structure

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 in 2018 and prior years is shown in the table below:

Combined and catastrophe loss ratio **M 71**

in %	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009
Combined ratio (property and casualty reinsurance)	96.5	99.8	93.7	94.4	94.7	94.9	95.8	104.3	98.2	96.6
Thereof catastrophe losses [1]	7.9	12.3	7.8	7.1	6.1	8.4	7.0	16.5	12.3	4.6

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)

For further information on the run-off of the loss reserves please see our explanatory remarks in the section "Run-off of the net loss reserve in the property and casualty reinsurance segment" on page 230 et seq.

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 contributes to diversification within life and health reinsurance. We calculate the diversification effect between mortality and longevity risks prudently in view of the fact that the contracts are normally taken out for different regions, age groups and individuals. The required risk capital with a confidence level of 99.5% for underwriting risks in life and health reinsurance breaks down as follows:

Required risk capital[1] for underwriting risks in life and health reinsurance **M 72**

in EUR million	31.12.2018	31.12.2017
Mortality risk[2]	1,668.3	1,922.0
Longevity risk	1,176.6	1,531.4
Morbidity and disability risk	881.1	632.4
Lapse risk	426.6	422.7
Expense risk	206.5	217.1
Diversification	(2,146.6)	(2,370.9)
Underwriting risk life and health	**2,212.5**	**2,354.7**

1 Required risk capital with a confidence level of 99.5%
2 Mortality risk incl. catastrophe risk

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). In addition, the assumptions are continuously reviewed on the basis of empirical data and modified if necessary. 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. Large transactions are also examined by our risk management department. Individual actuarial reports and documentation 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, which have been poorer than anticipated. The reason for this development was the negative earnings performance of a large portfolio that we, as reported at the time, acquired at the beginning of 2009.

As part of our inforce management measures we initiated rate adjustments for the portfolio concerned. It is to be anticipated that individual cedants will seek arbitration proceedings with respect to the implemented rate increases. Based on the information currently available to us, we take a favourable view of our legal position.

The actual mortality experience for the portfolio in question proved to be better than expected in 2018. We are monitoring the further development of the underlying mortality on an ongoing basis.

Based on the information available to us today, we continue to assume a positive VIF for our US mortality business as a whole. Should additional information lead to the determination that this is no longer the case, this would result in a one-off charge to the IFRS result. Similarly, one-time charges to the IFRS result may arise in a small number of remaining individual cases, insofar as the cedants affected by rate adjustments exercise their right of recapture.

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. Our portfolio currently consists in large part of fixed-income securities, and hence default and spread risks account for the bulk of the market risk. We minimise interest rate and foreign exchange risks through the greatest possible matching of payments from fixed-income securities with the projected future payment obligations from our insurance contracts. Market risks derive from the investments managed by Hannover Re itself and from investment risks of ceding companies that we assume in connection with insurance contracts. The following table shows the risk capital with a confidence level of 99.5% for the market risks from investments under own and third-party management.

Required risk capital[1] for market risks M 73

in EUR million	31.12.2018	31.12.2017
Default and spread risk	2,689.3	2,403.2
Interest rate risk	711.6	1,038.4
Foreign exchange risk	1,177.9	901.1
Equity risk[2]	932.3	820.6
Real estate risk	608.9	549.5
Diversification	(2,286.5)	(2,250.6)
Market risk	**3,833.5**	**3,462.2**

1 Required risk capital with a confidence level of 99.5%
2 Including private equity

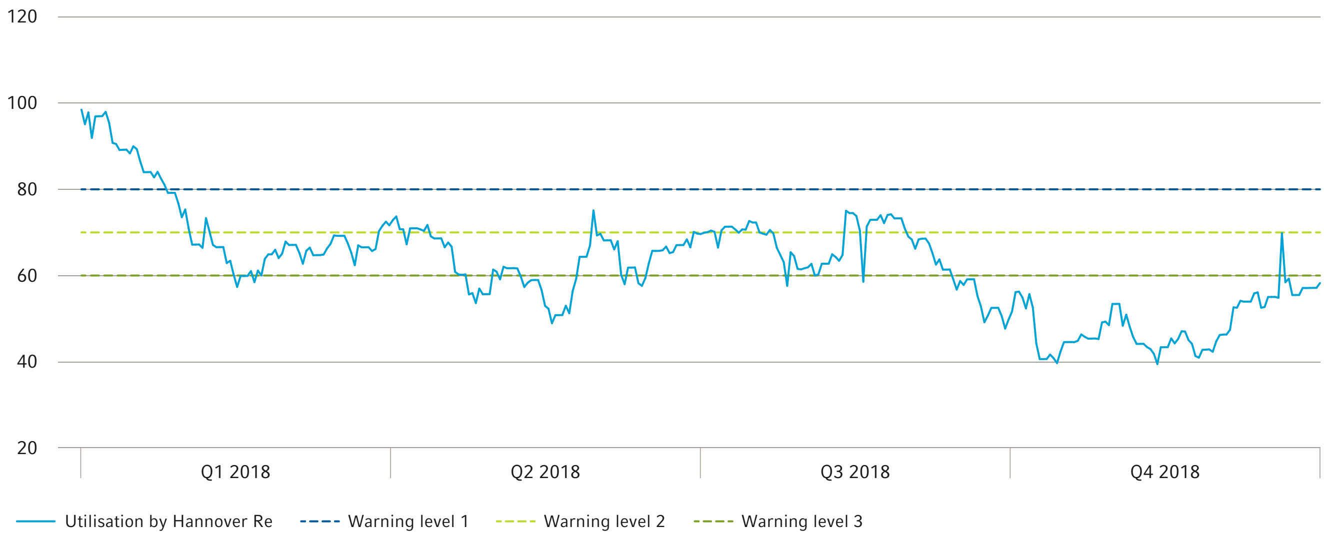
With a view to preserving the value of our assets under own management, we constantly monitor adherence to a trigger mechanism based on a clearly defined traffic light system that is applied across all portfolios. This system defines clear thresholds and escalation channels for the cumulative fluctuations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

Interest rate and spread markets were relatively volatile over the course of the year under review. Needless to say, our conservatively oriented investment portfolio was not left unaffected by these market movements. While EUR interest rates were rather stable on a low level, USD and GBP interest rates recorded appreciable increases and risk premiums on corporate bonds fluctuated sharply during the year before settling for the most part on a substantially higher level at year-end than at the beginning of the reporting period. A significant decrease – albeit one in line with our planning – was thus booked in the hidden reserves for fixed-income securities over the year as a whole.

The predefined discussion and analysis mechanisms in connection with a triggering of the early-warning system's escalation levels reached the assessment in each case that the general market movements would not have any intolerable or strategy-altering implications for our portfolio or our economic capitalisation. For this reason, our trigger system did not cause us to make any changes to the asset allocation in the reporting period.v

Utilisation of the trigger system **M 74**

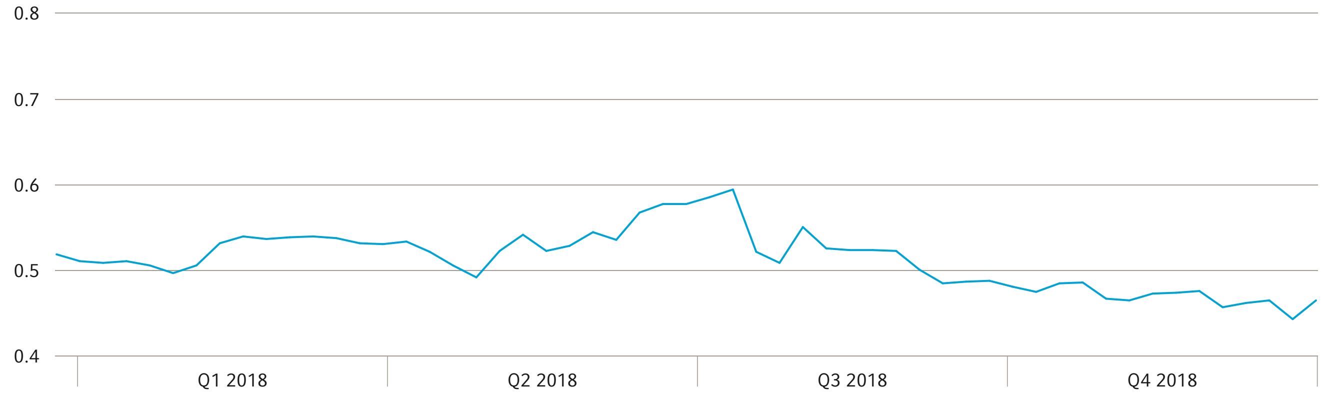
in %



The short-term loss probability measured as the Value at Risk (VaR) is another vital tool used for operational monitoring and management of the market price risks associated with our securities positions. 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 securities 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 standard market model is used to calculate the VaR indicators for the Hannover Re Group; the risk model used in the previous reporting period was replaced with a more state-of-the-art variant in the year under review as part of our continuous efforts to strengthen our risk models. It is based on historical time series of relevant market parameters (equity prices, yield curves, spread curves and exchange rates). Against the backdrop of what was still a difficult capital market and interest rate environment, volatilities – especially of fixed-income assets – were again on a high level in the year under review. Based on continued broad risk diversification and the orientation of our investment portfolio, our VaR was nevertheless clearly below the VaR upper limit defined in our investment guidelines. It amounted to 0.5% (previous year: adjusted 0.5%) as at the end of the reporting period.

Value at Risk[1] for the investment portfolio of the Hannover Re Group **M 75**

in %



[1] VaR upper limit according to Hannover Re's investment guidelines: 2.5%

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 **M 76**

in EUR million	Scenario	Portfolio change on a fair value basis	Change in equity before tax
Equity securities and private equity	Share prices -10%	-92.6	-92.6
	Share prices -20%	-185.2	-185.2
	Share prices +10%	+92.6	+92.6
	Share prices +20%	+185.2	+185.2
Fixed-income securities	Yield increase +50 basis points	-906.4	-836.5
	Yield increase +100 basis points	-1,769.2	-1,632.2
	Yield decrease -50 basis points	+954.5	+881.5
	Yield decrease -100 basis points	+1,961.6	+1,812.3
Real estate	Real estate market values -10%	-239.2	-99.0
	Real estate market values +10%	+239.2	+44.6

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. It should be borne in mind that the issued subordinated bonds and resulting induced interest rate exposure are actively factored into our ALM. Further information on the risk concentrations of our investments can be obtained from the tables on the rating structure of fixed-income securities as well as on the currencies in which investments are held. Please see our comments in section 6.1 of the notes entitled "Investments under own management" on page 204 et seq.

Equity risks derive from the possibility of unfavourable changes in the value of equities, equity derivatives or equity index derivatives in our portfolio. Their relevance to our investments decreased sharply in the year under review, however, because we liquidated our holdings of non-strategic listed equities and equity funds at the end of the previous year. This leaves only a minimal portfolio in the context of strategic holdings. Our exposure to the private equity market remains unchanged. Changes in fair value here tend to be prompted less by general market conditions and more by entity-specific assessments. The risks are associated principally with the business model and profitability and less so with the interest rate component in the consideration of cash flow forecasts. Please see our comments in section 6.1 of the notes entitled "Investments under own management" on page 204 et seq.

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. We minimise interest rate risks by matching the durations of payments from fixed-income securities as closely as possible with the projected future payment obligations under our insurance contracts.

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. A detailed presentation of the currency spread of our investments is provided in section 6.1 of the notes entitled "Investments under own management" on page 212.

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 worldwide; 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 developments on capital markets. A portion of our cash flows from the insurance business as well as foreign exchange risks arising because currency matching cannot be efficiently achieved are hedged to some extent 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 holds 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 transactions. The remaining exposures are controlled according to the restrictive parameters set out in our investment guidelines.

Derivatives connected with the technical account play a minor role in Hannover Re's portfolio.

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] **M 77**

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	77.0	11,517.6	60.8	4,031.7	1.2	141.1	60.9	1,844.0
AA	13.0	1,935.2	25.1	1,665.0	13.7	1,628.1	23.8	722.5
A	5.4	800.8	6.1	407.1	30.1	3,564.2	10.9	331.4
BBB	2.7	401.3	1.2	77.6	46.5	5,503.6	3.4	103.0
< BBB	1.9	278.0	6.8	453.4	8.5	1,012.7	1.0	30.1
Total	**100.0**	**14,932.8**	**100.0**	**6,634.8**	**100.0**	**11,849.7**	**100.0**	**3,031.0**

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

In general terms, Hannover Re gears its investment portfolio to the principles of a balanced risk/return ratio coupled with broad diversification. Accordingly, we counter the risk concentrations that nevertheless arise in individual asset classes with the broadest possible spread of different issuers per asset class. This is just as much a key component of our investment policy as credit rating assessment and management based on the quality criteria defined in the investment guidelines.

On a fair value basis EUR 4,126.2 million of the corporate bonds held by our company were issued by entities in the financial sector. Of this amount, EUR 3,285.4 million was attributable to banks. The vast majority of these bank bonds (65.7%) 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. The following table shows the required risk capital for counterparty defaults with a confidence level of 99.5%.

Required risk capital[1] **for the counterparty default risk** **M 78**

in EUR million	31.12.2018	31.12.2017
Counterparty default risk	312.6	282.0

1 Required risk capital with a confidence level of 99.5%

Since the business that we accept is not always fully retained, but instead portions are retroceded as necessary, the counterparty default risk is also 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. The following table shows how the proportion of assumed risks that we do not retrocede (i.e. that we run in our retention) has changed in recent years:

Gross written premium retained M 79

in %	2018	2017	2016	2015	2014
Hannover Re Group	90.7	90.5	89.3	87.0	87.6
Property and casualty reinsurance	90.7	89.7	88.5	89.3	90.6
Life and health reinsurance	90.7	91.7	90.4	84.2	83.9

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, among other things because we prefinance acquisition costs for our ceding companies. Our cedants, 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.

Lastly, short-term deposits at banks are also at risk of counterparty default.

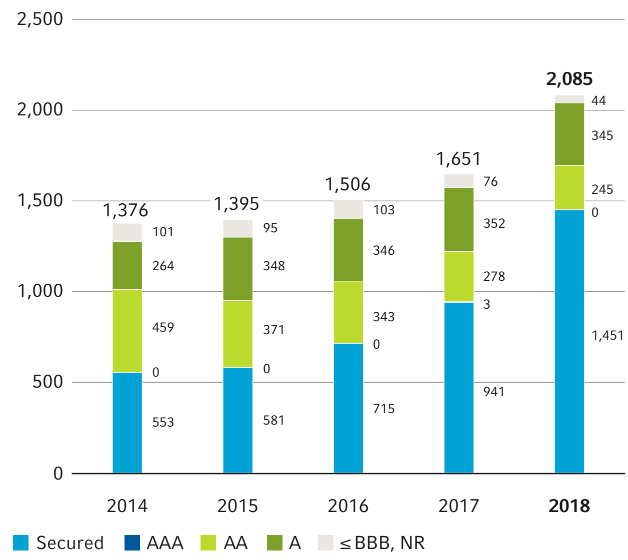
69.6% of our recoverables from reinsurance business are secured by deposits or letters of credit. For the majority of our retrocessionaires we also function as reinsurer, meaning that in most cases recoverables can potentially be set off against our own liabilities. In terms of the Hannover Re Group's major companies, EUR 241.8 million (6.1%) of our accounts receivable from reinsurance business totalling EUR 3,975.8 million were older than 90 days as at the balance sheet date.

The average default rate from retrocessions over the past four years was 0.09%.

Retrocession gives rise to claims that we hold against our retrocessionaires. These reinsurance recoverables – i. e. the reinsurance recoverables on unpaid claims – amounted to EUR 2,084.6 million (EUR 1,651.3 million) as at the balance sheet date.

The following chart shows the development of our reinsurance recoverables – split by rating quality – due from our retrocessionaires.

Reinsurance recoverables as at the balance sheet date M 80
in EUR million



Further remarks on technical and other assets which were unadjusted but considered overdue as at the balance sheet date as well as on significant impairments in the year under review are provided in section 6.4 "Technical assets" on page 222 et seq., section 6.6 "Other assets" on page 225 et seq. and section 7.2 "Investment result" on page 246 et seq.

The amount of assets subject to collateral arrangements is well below 60% of Hannover Re's total assets. This statement is relevant for the calculation of the counterparty default risk with respect to Hannover Re.

As the parent company, Hannover Re provides a guarantee to clients for the small number of low-risk structured transactions. In this context, it guarantees the payment of liabilities by Hannover Re under these specific transactions in the event that the subsidiary is unable to meet its assumed obligations. Since each of these guarantees is associated with a specific transaction and formulated in such a way that each potential payment can only arise once per corporate entity of Hannover Re (i. e. either at the subsidiary itself as part of the transaction or at Hannover Re as a consequence of the guarantee), the existence of a guarantee on the part of Hannover Re has no effect on the underwriting risk from Hannover Re's property & casualty or life & health reinsurance business.

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 minimisation. Unlike market, counterparty default and underwriting risks, operational risks are categorised as non-financial risks.

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 risk management function or the respective risk monitoring and reporting. The system enables us, among other things, to prioritise operational risks. In order to calculate the capital commitment in our internal capital model we perform extensive scenario analyses and use the findings as a basis for specifying the parameters for the stochastic model.

Required risk capital[1] for operational risks **M 81**

in EUR million	31.12.2018	31.12.2017
Operational risk	575.3	637.0

[1] Required risk capital with a confidence level of 99.5%

Within the overall framework of operational risks we consider, in particular, business process and data quality risks, compliance risks, outsourcing risks, fraud risks, personnel risks, information security risks and business interruption risks.

Subcategories of operational risks

- Business process and data quality risk
- Compliance risk
- Outsourcing risk
- Fraud risk
- Personnel risk
- Information security risk
- Business interruption risk

Business process risks are associated with the risk of deficient or flawed internal processes, which can arise inter alia as a consequence of an inadequate process organisation. We have defined criteria for managing the risk that result in a high process quality. Data quality is similarly a highly critical success factor, especially in risk management, because for example the validity of the internal model is largely based 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. Compliance with regulatory standards, the company’s Code of Conduct, tax regulations, data privacy requirements as well as the stipulations of anti-trust and competition law have been defined as issues of particular relevance.

We use sanctions screening software on the main parts of the Hannover Re Group’s portfolio as well as on loss advices 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. For further information on compliance-related topics, including for example lawsuits, contingent liabilities and commitments, please see section 8.6 “Lawsuits” and section 8.7 “Contingent liabilities and commitments” on page 266 et seq.

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. Our external partners are additionally subject to regular due diligence checks.

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

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.

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) in order to obtain a personal gain. 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.

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 provided online in the intranet, by way of training opportunities and through a staff information campaign.

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 act as a temporary steering body in the event of an emergency. The system is complemented by regular exercises and tests. A leaflet is available setting out the correct behaviour in the event of a business interruption; this condenses in compact form the key information that all employees need to know, such as the information channels to use in a crisis situation.

Regular quarterly risk reporting to the Risk Committee and the Executive Board takes place with regard to all operational risks. Risks are also evaluated as part of the reporting.

Other risks

Under other risks we include emerging risks, strategic risks, reputational risks and liquidity risks. Reputational risks are categorised as non-financial risks.

Subcategories included under other risks
- Emerging risk
- Strategic risk
- Reputational risk
- Liquidity risk

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, risks associated with possible climate change are analysed by this working group. Global warming would affect not only natural perils, but also human health, the world economy, the agricultural sector and much more besides. These problematic issues may also have implications for our treaty portfolio – in the form of not just risks but also opportunities, such as increased demand for reinsurance products. Further examples of emerging risks include pandemics (spread of disease across multiple countries or continents), supply chain risks and autonomous machines.

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 operational implementation of the strategic principles and objectives; 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. The process for the management of strategic risks continues to be assessed annually as part of the monitoring of business process risks. For more information on the topic of strategy please see the section "Combined non-financial information statement" on page 75 et seq.

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

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 (necessary cash could not be obtained or could only be obtained at increased costs) and the market liquidity risk (financial market transactions could 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 such as the 2008 financial crisis. Our holdings of unrestricted German, UK and US government bonds as well as cash during the year under review were larger than possible disbursements for assumed extreme events, which means that our liquidity is assured even in the unlikely case of financial crises coinciding with an extreme event that needs to be paid out quickly. The liquid asset reserve stood at EUR 4.9 billion as at the balance sheet date. In addition, we manage the liquidity of the portfolio by checking on each trading day the liquidity of the instruments contained therein. These measures serve to effectively reduce the liquidity risk.

Regular quarterly risk reporting to the Risk Committee and the Executive Board takes place with regard to the other risks. Risks are also evaluated as part of the reporting.

As part of the risk management process we also take into account the impacts on the operational and reputational risks of aspects of environmental management, employee matters, social matters, respect for human rights and the combating of corruption and bribery, as required by the CSR Directive Implementation Act in accordance with § 289b and c German Commercial Code (HGB) and § 315c German Commercial Code (HGB).

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 (see the Forecast on page 150 et seq.).

Trends are systematically identified and analysed with the support of external sources and partners and the needs of our clients are anticipated along the entire insurance-related value-added chain. Targeted consideration is given to new business opportunities that promise access to innovative technologies and enhance our appeal in the eyes of customers. To this end Hannover Re cultivates business-related partnerships with accelerators, incubators, company builders, start-ups and research institutes in order to boost our competitiveness in the insurtech sector and the area of digital solutions. A competence centre has been set up specifically to evaluate the strategic and technical significance of innovative new digital technologies.

A key project initiated back in 2016 went by the name "Journey Re". It forged a connection to students, university graduates and young professionals with a view to developing new business models for primary insurance and reinsurance and translating the creativity that exists outside the industry into new business opportunities. The project activities were focused on locations in Berlin, Dublin, Boston and Johannesburg. Based on the project results, Hannover Re partnered with investors on the launch of three insurtechs in 2018. The young start-ups have also been recognised with a number of international prizes and awards.

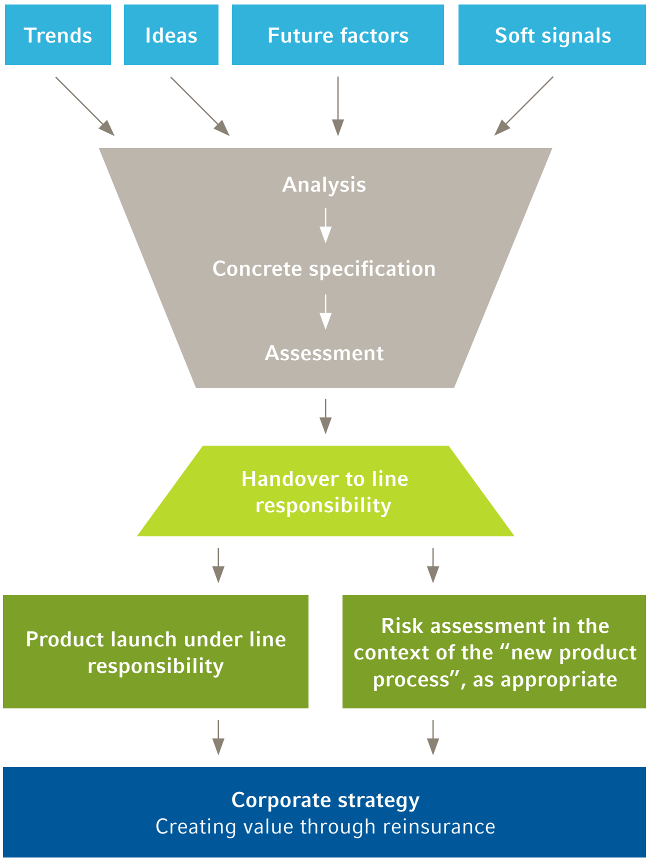
The networking of the innovative minds at work within Hannover Re gives rise to close links with other projects, working groups and bodies, such as with the working group on "Emerging Risks und Scientific Affairs" in regard to emerging risks and opportunities (see page 117 et seq. "Other risks"). This working group carries out qualitative assessments of emerging risks. As a result, however, not only are the potential risks explored but also any available business opportunities.

Cyber risks

Cyber attacks on critical systems are becoming increasingly common. They can cause considerable financial losses and also damage corporate reputations. Not only that, they can severely hamper private and public life, especially if critical infrastructures are impacted – such as the health, transportation/traffic and energy sectors. In such instances supply bottlenecks with lasting effects as well as major disruptions to public safety may ensue. In a networked world the repercussions of cyber attacks are intensifying because the volume of data stored around the world is constantly growing – and in this context it is not only one's own technical infrastructure that needs to be secured. On the contrary, the trend towards cloud computing is increasingly shifting the focus to third-party infrastructures and the associated network connection. As part of our holistic risk and opportunity management activities, we are also tackling the question of what new insurance products can be developed in order to protect against the relevant threats. Our presence in this market thus goes as far back as 2007 and we have already developed corresponding products.

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.

Opportunity management process M 82



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 efficiently brings together both qualitative and quantitative information. 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. Specific monitoring indicators, corresponding notification thresholds 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: the total policyholders' surplus (hybrid capital, non-controlling interests and shareholders' equity) stands at 150% of the corresponding figure from 2011. In this context, our 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 (see page 66) also testify to our financial stability. The quality of our Enterprise Risk Management (ERM) is evaluated separately by Standard & Poor's. In the year under review Standard & Poor's gave our risk management its highest possible grade of "Very Strong". Most notably, our established risk management culture – one of the rating agency's benchmark criteria – promotes the development of appropriate risk monitoring systems and strategic risk management. The evaluation further encompasses the areas of risk controls, emerging risk management and risk models. This external appraisal confirms the quality of our holistic approach to risk management.

We would also refer to the explanatory remarks on the financial strength ratings of our subsidiaries in the "Financial position" section of the management report on page 66. 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 Forecast on page 150 et seq.

Enterprise management

Declaration on Corporate Governance pursuant to §§ 289f, 315d German Commercial Code (HGB)

This subsection is a section of the report that the legislator has expressly exempted from the audit of the financial statement/audit of the management report (§ 317 Para. 2 Sentence 6 and Sentence 4 German Commercial Code (HGB); unaudited information).

The objective of Hannover Re continues to be to consolidate and further expand its position as one of the leading, globally operating reinsurance groups of above-average profitability. In aspiring towards this goal, it is particularly important to observe and fulfil the principles of good and sustainable enterprise management. In so doing, we not only comply with the German Corporate Governance Code (DCGK, hereinafter also referred to as the Code), but have also developed our own model for responsible enterprise management which we consistently pursue and adjust to the latest requirements in accordance with our best practice standards.

The Executive Board and Supervisory Board of Hannover Rück SE expressly support the suggestions and recommendations of the German Corporate Governance Code that are practicable for the reinsurance industry and recognise their central importance in guiding our activities. The principles of responsible and good enterprise management therefore constitute the core of our internal Corporate Governance principles (www.hannover-re.com/50889/corporate-governance-principles.pdf). These remained unchanged in the year under review. We cultivate integrity at all times in our dealings with business partners, staff, shareholders and other stakeholder groups and support the principles of value-based and transparent enterprise management and supervision defined in the German Corporate Governance Code. The Supervisory Board, Executive Board and employees of Hannover Re identify with these principles, which thus form part of our corporate self-image. The Executive Board ensures that the principles are observed Group-wide.

Hannover Rück SE hereby provides insight into its enterprise management practices as part of the Declaration on Corporate Governance pursuant to § 289f German Commercial Code (HGB) and pursuant to § 315d German Commercial Code (HGB) in conjunction with § 289f German Commercial Code (HGB) for the Hannover Re Group:

Corporate Governance

As an instrument of self-regulation for the business world, the German Corporate Governance Code – the latest version of which dates from 7 February 2017 – sets out recommendations and suggestions that are intended to maintain and foster the trust of investors, customers, employees and the general public in the management and supervision of German companies. Although the Code does not have binding legal force, the enterprises addressed by the Code are nevertheless required by § 161 Stock Corporation Act (AktG) to provide an annual declaration as to whether or not the recommendations of the Code were and are complied with in the reality of the company's business activities. If recommendations were not acted upon, this is to be explained and disclosed as part of the Declaration of Conformity.

The positive attitude of Hannover Rück SE towards the Code is not contradicted by the fact that in the year under review we did not comply with certain Code recommendations, since a well justified deviation from the recommendations of the Code may – as in the present cases – be very much in the interests of good corporate governance tailored to a particular company, i. e. by reflecting enterprise- and industry-specific features (cf. Foreword to the German Corporate Governance Code). Based on what is still a high degree of fulfilment of the recommendations and suggestions of the Code, Hannover Re continues to rank very highly among the companies listed on the DAX and MDAX.

Declaration of Conformity pursuant to § 161 Stock Corporation Act (AktG) regarding compliance with the German Corporate Governance Code at Hannover Rück SE

The German Corporate Governance Code sets out major statutory requirements governing the management and supervision of German listed companies. It contains both nationally and internationally recognised standards of good and responsible enterprise management. The purpose of the Code is to foster the trust of investors, clients, employees and the general public in German enterprise management. Under § 161 Stock Corporation Act (AktG) it is incumbent on the Management Board and Supervisory Board of German listed companies to provide an annual declaration of conformity with the recommendations of the "German Corporate Governance

Code Government Commission" published by the Federal Ministry of Justice or to explain which recommendations of the Code were/are not applied.

The Executive Board and Supervisory Board declare pursuant to § 161 Stock Corporation Act (AktG) that in its implementation of the German Corporate Governance Code Hannover Rück SE diverges in three respects from the recommendations contained in the version of the Code dated 7 February 2017:

Code Section 4.2.3 Para. 2; Caps on the amount of variable compensation elements in Management Board contracts

The variable compensation of the members of the Executive Board is granted in part in the form of Hannover Re share awards. The maximum number of share awards granted at the time of allocation depends upon the total amount of variable compensation, which is subject to an upper limit (cap), i. e. the allocation of share awards is limited by the cap. The share awards have a vesting period of four years. During this period the members of the Executive Board therefore participate in positive and negative developments at the company, as reflected in the share price. The equivalent value of the share awards is paid out to the members of the Executive Board after the end of the vesting period. The amount paid out is determined according to the share price of the Hannover Re share applicable at the payment date plus an amount equivalent to the total dividends per share distributed during the vesting period. The share awards consequently follow the economic fortunes of the Hannover Re share.

The amount of variable compensation deriving from the granting of share awards is thus capped at the time when the share awards are allocated, but it is not capped again at the time of payment. Bearing in mind the harmonisation of the interests of shareholders and of the members of the Executive Board of Hannover Rück SE that is sought through the share awards, the company does not consider further limitation of the amount of variable remuneration resulting from the granting of share awards at the time of payment to be expedient. From the company's perspective, the use of Hannover Re share awards as a method of payment constitutes – in economic terms – a compulsory investment in Hannover Re shares with a four-year holding period.

For formal purposes and as a highly precautionary measure, Hannover Rück SE is therefore declaring a divergence from Code Section 4.2.3 Para. 2.

Code Section 4.2.3 Para. 4; Caps on severance payments in Management Board contracts

Premature termination of a service contract without serious cause may only take the form of cancellation by mutual consent. Even if the Supervisory Board insists upon setting a severance cap when concluding or renewing an Executive Board contract, this does not preclude the possibility of negotiations also extending to the severance cap in the event of a member leaving the Executive Board. In addition, the scope for negotiation over a member leaving the Executive Board would be restricted if a severance cap were agreed, which could be particularly disadvantageous in cases where there is ambiguity surrounding the existence of serious cause for termination. In the opinion of Hannover Rück SE, it is therefore in the interest of the company to diverge from the recommendation contained in Code Section 4.2.3 Para. 4.

Code Section 5.3.2 Para. 3; Independence of the Chair of the Audit Committee and recommendation that the Chair of the Supervisory Board and Chair of the Audit Committee shall not be the same person

The current Chair of the Supervisory Board and Chair of the Finance and Audit Committee of Hannover Rück SE at the same time also served as the Chair of the Board of Management of the controlling shareholder until the end of the Annual General Meeting of Talanx AG on 8 May 2018 and hence cannot, in the company's legal assessment, be considered independent.

In the period from 1994 to 2002 he served as the company's Chief Financial Officer. During this time he acquired superb knowledge of the company and he is equipped with extensive professional expertise in the topics that fall within the scope of responsibility of the Finance and Audit Committee. With this in mind, the serving Chair of the Supervisory Board is optimally suited to chairing the Audit Committee.

This assessment is also not cast into question by the fact that the Committee Chair cannot be considered independent within the meaning of the German Corporate Governance Code for the period from 1 January 2018 to 8 May 2018. Furthermore, since his service as Chief Financial Officer of Hannover Rück SE dates back to a period that is already some fifteen years ago, it is also the case that the reviews and checks performed by the Finance and Audit Committee no longer relate to any timeframe within which he himself was still a member of the Executive Board or decisions initiated by him as a member of the Executive Board were still being realised.

In the opinion of Hannover Rück SE, it is therefore in the interest of the company to diverge from the recommendation contained in Section 5.3.2 Para. 3.

We are in compliance with all other recommendations of the Code.

Hannover, 7 November 2018

Executive Board, Supervisory Board

Further enterprise management principles of Hannover Re

In addition to the Corporate Governance principles, Hannover Rück SE has adopted its own more extensive Code of Conduct (www.hannover-re.com/50943/code-of-conduct.pdf) that is applied Group-wide as a set of minimum standards. Complementing our corporate strategy and the Corporate Governance principles, it establishes rules governing integrity in the behaviour of all employees of Hannover Re and is intended to help members of staff cope with the ethical and legal challenges that they face as part of day-to-day work. The rules defined in the Code of Conduct reflect the high ethical and legal standards that guide our actions worldwide. It is our belief that integrity in dealings with our stakeholders constitutes the foundation of a successful enterprise. In both our strategic planning and our day-to-day business activities, we therefore aspire to consistently apply the highest ethical and legal standards; for our actions and the way in which every single one of us presents and conducts himself or herself are crucial in shaping the image of Hannover Re.

Sustainability of enterprise management

The strategic orientation of Hannover Re towards sustainability constitutes an important element of the enterprise strategy. The aim is to achieve commercial success on the basis of a results-driven business model in accordance with the needs of our staff and the company as well as with an eye to protecting the environment and conserving natural resources. The current Sustainability Strategy for the period from 2018 to 2020 defines four action fields and specifies concrete goals and measures that are to be implemented in the strategy cycle. In accordance with the CSR Directive Implementation Act of 11 April 2017, Hannover Rück SE has also published a combined non-financial statement which can be found on page 75 et seq. of this year's Group Annual Report.

We thus strive to reduce as far as possible the greenhouse gas emissions produced by our day-to-day business activities in order to come closer to reaching our goal of a net zero carbon footprint. Furthermore, we have defined strategic principles for our human resources management, since we consider our employees to be a crucial factor in the success of our company. Along with skills, qualifications and commitment, a high degree of diversity is one of the cornerstones of our successful business operations. Performance indicators have therefore been defined for personnel development and advancement. Employee retention is encouraged, while diversity and equal opportunities are promoted.

Following a by-election four of the members of the Supervisory Board of Hannover Rück SE in the year under review were women. In addition, one woman sits on the Supervisory Board's Finance and Audit Committee and one is a member of the Nomination Committee. Detailed information on the topic of sustainability is provided on our website (www.hannover-re.com/60729/sustainability).

Targets pursuant to § 289f Para. 4 Sentence 1 in conjunction with Para. 2 No. 4 German Commercial Code (HGB)

The proportion of women serving on the Supervisory Board in 2018 was 44% and thus exceeded the 30% target currently defined pursuant to §§ 76 Para. 4, 111 Para. 5 Stock Corporation Act (AktG) for the period from 1 July 2017 to 30 June 2022. This is equivalent to an increase of 33% compared to the previous year. The target for the Executive Board is 14%, which means that one woman shall serve as a member of the Executive Board in the specified period.

The target for the two levels of senior management below the Executive Board is 18%.

Working practice of the Executive Board and Supervisory Board

The Executive Board and Supervisory Board of Hannover Rück SE work together on a trusting basis to manage and monitor the company and the Group as a whole. In accordance with the Rules of Procedure of the Executive Board, matters of fundamental importance require the consent of the Supervisory Board. The Supervisory Board is comprised of nine members. Six members are elected as shareholder representatives by the shareholders at the Annual General Meeting. The three seats held by employee representatives, which are currently allocated to Germany pursuant to Part III. § 13 (3) of the Agreement regarding the Participation of Employees in Hannover Rück SE of 23 January 2013, are elected in accordance with the provisions of the SE Participation Act (SEBG) by the responsible representative body (currently the joint Employee Council of Hannover Rück SE and E+S Rückversicherung AG). The Supervisory Board appoints the members of the Executive Board. Since members of the Supervisory Board cannot at the same time belong to the Executive Board, a high degree of independence in the oversight of the Executive Board is thus already ensured by structural means. In addition, the Supervisory Board is kept informed on a regular and timely basis of the business development, the execution of strategic decisions, material risks and planning as well as relevant compliance issues. The Chairman of the Supervisory Board stays in regular contact with the Chairman of the Executive Board in order to discuss with him significant business occurrences. The composition of the Executive Board (including areas of responsibility) as well as of the Supervisory Board and its committees is set out on pages 6 et seq. and 286 respectively of the present Annual Report.

The Rules of Procedure of the Executive Board are intended to ensure that a consistent business policy is elaborated and implemented for the company in accordance with its strategic objectives. Within the framework of a consistent business policy, the principle of "delegation of responsibility" enjoys special status. In the interests of shareholders, importance is expressly attached to an organisation that facilitates cost-effective, quick and unbureaucratic decision processes. Open and trusting cooperation geared to the interest of the whole is the foundation of success. In this context, the members of the Executive Board bear joint responsibility for the overall management of business. Irrespective of their overall responsibility, each member of the Executive Board leads their own area of competence at their individual responsibility within the bounds of the resolutions adopted by the Executive Board. Only persons under the age of 65 may be appointed to the Executive Board. The term of appointment shall be determined such that it expires no later than the end of the month in which the member of the Executive Board turns 65. The Supervisory Board takes account of diversity considerations in the composition of the Executive Board.

The Rules of Procedure of the Supervisory Board provide inter alia that each member of the Supervisory Board must have the knowledge, skills and professional experience required for orderly performance of their tasks and that the Supervisory Board must have a sufficient number of independent members. Currently, at least two of the six shareholder representatives are independent as defined by Item 5.4.1 Para. 4 of the German Corporate Governance Code. Persons suggested to the Annual General Meeting as candidates for election to the Supervisory Board may not be older than 72 at the time of their election and shall normally not belong to the Supervisory Board as a member for longer than three full consecutive terms of office; the term of office commencing from the end of the 2014 Annual General Meeting shall be counted as the first term of office in this regard. Nominations shall take account of the company's international activities as well as diversity. Furthermore, it shall be ensured that the proposed person can allocate the expected amount of time. For their part, each sitting member of the Supervisory Board shall also ensure that they have sufficient time to discharge their mandate. The Supervisory Board meets at least twice each calendar half-year. If a member of the Supervisory Board has only participated in half of the meetings of the Supervisory Board and the committees or less in a financial year, this shall be noted in the Supervisory Board's report. No more than two former members of the company's Executive Board may belong to the Supervisory Board.

Working practice of the committees of the Supervisory Board

In order to efficiently perform its tasks the Supervisory Board has formed a number of committees: the Finance and Audit Committee, the Standing Committee and the Nomination Committee. The Supervisory Board committees are each comprised of three members and prepare matters within their scope of competence for discussion and adoption of a resolution by the full Supervisory Board. In addition, the committees are also assigned their own authority to adopt resolutions.

The Finance and Audit Committee monitors the accounting process and the effectiveness of the internal control system, the risk management system and the internal auditing system. It also handles issues relating to compliance and the information system for the Supervisory Board and discusses the Quarterly Statements as well as the Half-yearly Financial Report prior to their publication. It prepares the Supervisory Board's examination of the annual financial statement, management report and proposal for the appropriation of profit as well as of the consolidated financial statement and Group management report. In this context, the Finance and Audit Committee receives detailed information on the auditor's view of the net assets, financial position and results of operations as well as explanations of the effects of any modified recognition and measurement principles on the net assets, financial position and results of operations together with available alternatives. In addition, the committee prepares the Supervisory Board's decision on the commissioning of the independent auditor for the financial statements. It considers matters associated with the necessary independence of the auditor, the awarding of the audit mandate to the independent auditor, the determination of the audit concentrations and the fee agreement. The minutes of the meetings of the Finance and Audit Committee are also made available to the members of the Supervisory Board who do not sit on the committee.

The Standing Committee prepares personnel decisions for the Supervisory Board. It bears responsibility for granting loans to the group of persons specified in §§ 89 Para. 1, 115 Stock Corporation Act (AktG) and those considered equivalent pursuant to § 89 Para. 3 Stock Corporation Act (AktG) as well as for approving contracts with Supervisory Board members in accordance with § 114 Stock Corporation Act (AktG). It exercises the powers arising out of § 112 Stock Corporation Act (AktG) in lieu of the Supervisory Board and – in cooperation with the Executive Board – ensures that long-term succession planning is in place.

The Nomination Committee is tasked with proposing to the Supervisory Board appropriate candidates for the nominations that it puts forward to the Annual General Meeting for election to the Supervisory Board.

For further details of the activities of the Supervisory Board committees please see the explanations provided in the Supervisory Board Report on page 281 et seq..

Compliance

Hannover Re considers a properly functioning compliance structure to be an essential tool for ensuring compliance with external rules and regulations as well as requirements imposed internally by the company. Our compliance structure, which consists of compliance modules precisely tailored to the specific features of our Property & Casualty and Life & Health reinsurance business groups, facilitates optimal application. The compliance committees, which examine questions of risk transfer as well as other compliance aspects associated with the Group's reinsurance treaties, are comprised of members from the respective business groups as well as from the areas of Legal, Finance, Accounting and Investments. The chairs report directly to the Executive Board. This structure safeguards adherence to the standards that have been set.

The compliance report for the 2018 calendar year will be submitted to the Finance and Audit Committee in March 2019. The reporting sets out the structure and diverse range of activities of Hannover Re in this regard. The findings of the separate data privacy reporting for the 2018 calendar year are also included in the compliance report. After in-depth examination of topics such as directors' dealings, ad hoc and other disclosure requirements, the insider register, consulting agreements, data protection, international sanctions and the Group-wide whistleblower system, the report concludes that only a few circumstances have been identified which point to breaches of relevant compliance standards. After detailed exploration of these incidents, the necessary safeguards were put in place to ensure that in the future Hannover Re is in conformity with the internal and external requirements governing its business activities.

Risk monitoring and steering

The risk management system applicable throughout the entire Hannover Re Group is based on the risk strategy, which in turn is derived from the corporate strategy. A core component is the systematic and comprehensive recording of all risks that from the current standpoint could conceivably jeopardise the company's profitability and continued existence. Further details in this regard may be obtained from the risk report contained in this Annual Report on pages 94 et seq.

Diversity concept – Goals for the composition of the Executive Board and Supervisory Board as well as status of implementation (§ 289f Para. 2 Number 6 German Commercial Code (HGB))

When appointments are made to the Executive Board and Supervisory Board, Hannover Rück SE is guided by a number of considerations including the principle of diversity. Wide-ranging qualifications, expertise and relevant experience on the part of the members of the Executive Board and Supervisory Board facilitate a nuanced evaluation of the commercial opportunities and risks associated with business operations and enable balanced and professional actions and decisions to be taken on this basis. Due consideration is given to the aspect of diversity when members of the Executive Board and Supervisory Board are appointed. In addition to specialist and personal qualifications (competencies), this aspect encompasses in particular age, gender, education and professional career. With a view to ensuring that the concept of diversity is applied on an ongoing basis, an assessment is made in the context of every new appointment to the Executive Board or Supervisory Board as to whether the envisaged appointment is also in keeping with the diversity concept.

The composition of the Supervisory Board shall be such that overall its members are equipped with the knowledge, abilities and specialist experience necessary for proper performance of the tasks. The make-up of the Supervisory Board shall ensure that the Executive Board in an internationally operating, broadly positioned reinsurance group receives qualified supervision and advice from the Supervisory Board. Above and beyond the legally required specialist expertise in investing, underwriting and accounting, the topics of internationality, taxation, M & A, human resources, risk management, IT and compliance have been taken into account on a voluntary basis. The goal is that the Supervisory Board as a whole has all the know-how and experience considered to be material in light of the activities of the Hannover Re Group. In addition, special attention is to be paid to the integrity, character, commitment, professionalism and independence of individuals put forward for election. In accordance with the Code of Conduct of the Supervisory Board, for example, members of the Supervisory Board shall ensure that they have sufficient time at their disposal for their activities and that potential conflicts of interest are avoided. Furthermore, candidates shall be put forward to the Annual General Meeting for election to the Supervisory Board only if they will not have passed the age of 72 by the time of their election and – with effect from the election of the new Supervisory Board in 2014 – provided they have not sat on the Supervisory Board for more than three full consecutive terms of office. With regard to the appropriate number of independent Supervisory Board members from the perspective of the Supervisory Board, the Supervisory Board has decided that it shall have at least two independent members as defined by Section 5.4.2 German Corporate Governance Code (DCGK). The Supervisory Board currently meets this target. Staff representatives on the Supervisory Board are disregarded in this context.

In order to ensure that the relevant selection criteria are met, the Supervisory Board followed the recommendation of the Nomination Committee and defined a requirements profile for Supervisory Board members; this is intended, among other things, to assure the availability on the Supervisory Board of the expertise needed to cover all the Group's areas of business. In addition, Supervisory Board members may not hold mandates on governing bodies at major competitors of the company or of a Group undertaking, nor may they perform individual advisory tasks for such competitors.

With an eye to Hannover Re's international orientation, it is to be ensured that a sufficient number of members with long-standing international experience belong to the Supervisory Board. Based on their current or former service as a board member / chief executive officer or in a comparable role as managing director with internationally operating undertakings or organisations, all the shareholder representatives on the Supervisory Board have long-standing international experience. In the opinion of the Supervisory Board, due consideration is given to the international dimension of operations. The goal is to maintain the currently existing international profile.

When it comes to selecting candidates who are to be put forward to the Annual General Meeting for election to the Supervisory Board, care is taken to ensure that the individuals concerned have the necessary knowledge, skills and specialist experience. The principle of diversity is also reflected in the selection process. Four women currently sit on the Supervisory Board. Moreover, one woman belongs to the Finance and Audit Committee and one is a member of the Nomination Committee. On the level of the Executive Board, the goal is that at least one woman should be appointed to the company's Executive Board by June 2022.

Information regarding the following items is provided in the remuneration report:

- Remuneration report for the Executive Board and disclosure of the remuneration received by Supervisory Board members pursuant to Items 4.2.5 and 5.4.6 of the German Corporate Governance Code,
- Securities transactions,
- Shareholdings.

Information on share-based payment pursuant to Item 7.1.3 of the German Corporate Governance Code is provided in section 8.3 of the notes "Share-based payment", page 262 et seq., and in the remuneration report with respect to the members of the Executive Board.

In addition to the present Declaration on Corporate Governance, the Corporate Governance Report and the reports of recent years are published on our website pursuant to Item 3.10 of the German Corporate Governance Code (www.hannover-re.com/200801/declaration-of-conformity).

Remuneration report

The remuneration report summarises the principles used to determine the remuneration of the Executive Board of Hannover Rück SE and explains the structure, composition and amount of the components of the remuneration received by the Executive Board in the 2018 financial year on the basis of the work performed by the Board members for Hannover Rück SE and companies belonging to the Group.

In addition, the amount of remuneration paid to the Supervisory Board on the basis of its work for Hannover Rück SE and companies belonging to the Group as well as the principles according to which this remuneration is determined are described; we also explain the principles on which the remuneration for senior executives below the level of the Executive Board is based.

The remuneration report is guided by the recommendations of the German Corporate Governance Code and contains information which forms part of the notes to the 2018 consolidated financial statement as required by IAS 24 "Related Party Disclosures". Under German commercial law, too, this information includes data specified as mandatory for the notes (§ 314 HGB) and the management report (§ 315 HGB). These details are discussed as a whole in this remuneration report and presented in summary form in the notes.

The provisions of the Act on the Adequacy of Management Board Remuneration (VorstAG) and of the Insurance Supervision Act (VAG) in conjunction with the Regulation on the Supervisory Law Requirements for Remuneration Schemes in the Insurance Sector (VersVergV) have been observed. In addition, we took into account the more specific provisions of DRS 17 "Reporting on the Remuneration of Members of Governing Bodies".

Remuneration of the Executive Board

Responsibility

In order to efficiently perform its tasks the Supervisory Board has formed various committees. The Standing Committee prepares remuneration-related matters of content relating to the Executive Board for discussion and adoption of a resolution by a full meeting of the Supervisory Board.

Objective, structure and system of Executive Board remuneration

The total remuneration of the Executive Board and its split into fixed and variable components conform to regulatory requirements – especially the provisions of the Act on the Adequacy of Management Board Remuneration (VorstAG) and of Art. 275 Commission Delegated Regulation (EU) 2015/35 and supplemented by those of the Regulation on the Supervisory Law Requirements for Remuneration Schemes in the

Insurance Sector (VersVergV). An independent expert's report from September 2018 confirms that the system of remuneration meets the requirements of Art. 275 Commission Delegated Regulation (EU) 2015/35 for a remuneration policy and remuneration practices that are in line with the undertaking's business, strategy and risk profile.

The amount and structure of the remuneration of the Executive Board are geared to the size and activities of the company, its economic and financial position, its success and future prospects as well as the customariness of the remuneration, making reference to the benchmark environment (horizontal) and the remuneration structure otherwise applicable at the company (vertical). The remuneration is also guided by the tasks of the specific member of the Executive Board, his or her individual performance and the performance of the full Executive Board.

With an eye to these objectives, the remuneration system has two components: fixed salary/non-cash compensation and variable remuneration. The variable remuneration is designed to take account of both positive and negative developments. Overall, the remuneration is measured in such a way that it reflects the company's sustainable development and is fair and competitive by market standards. In the event of 100% goal attainment the remuneration model provides for a split into roughly 40% fixed remuneration and roughly 60% variable remuneration.

Fixed remuneration (approx. 40% of total remuneration upon 100% goal attainment)

Measurement basis and payment procedures for fixed remuneration M 83

Components	Measurement basis/ parameters	Condition for payment	Paid out
Basic remuneration; Non-cash compensation, fringe benefits: Accident, liability and luggage insurance, company car for business and – if desired – personal use (tax on the non-cash benefit payable by the Board member), reimbursement of travel expenses and other expenditures incurred in the interest of the company	Function, responsibility, length of service on the Executive Board The annual fixed salary is determined upon appointment for the entire term of the appointment.	Contractual stipulations	12 equal monthly instalments

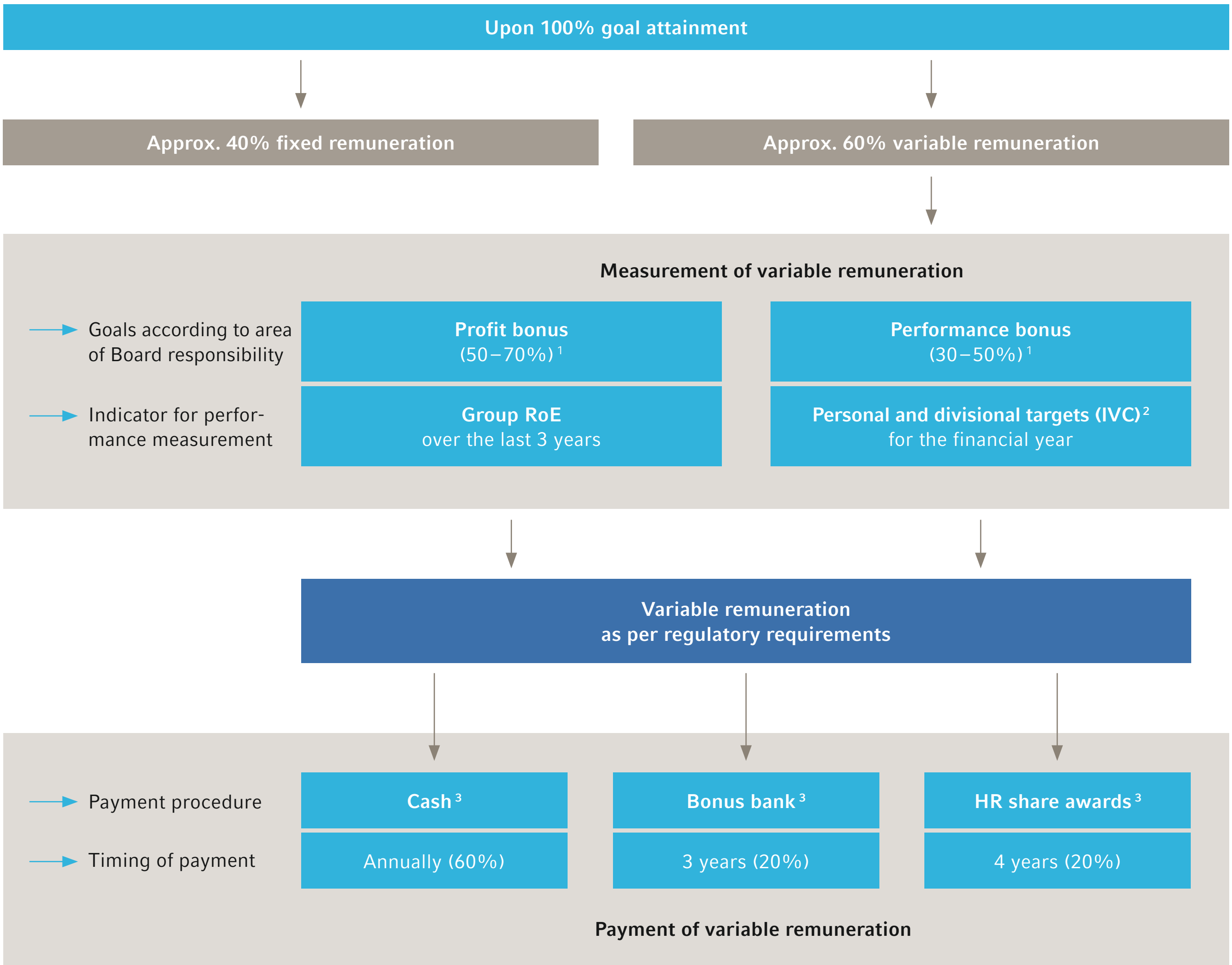
Variable remuneration (approx. 60% of total remuneration upon 100% goal attainment)

The profit- and performance-based remuneration (variable remuneration) is contingent on certain defined results and the attainment of certain set targets. The set targets vary according to the function of the Board member in question. The variable remuneration consists of a profit bonus and a performance bonus.

The variable remuneration is defined at the Supervisory Board meeting that approves the consolidated financial statement for the financial year just ended.

The following chart summarises the make-up of the variable remuneration components. For details of measurement and payment procedures please see the two tables following the chart.

Overview of the composition of variable remuneration M 84



[1] Chief Executive Officer/Chief Financial Officer 70% profit bonus, 30% performance bonus (personal targets);
Board members with divisional responsibility: 50% profit bonus, 50% performance bonus (25% personal targets/25% divisional targets)

[2] An instrument of value-based management used to measure the attainment of long-term goals on the level of the Group, business groups and operational units

[3] Split defined by legal minimum requirements

Measurement bases/conditions of payment for variable remuneration **M 85**

Component	Measurement basis/parameters	Condition of payment
Profit bonus		
Proportion of variable remuneration: Chief Executive Officer/ Chief Financial Officer: 70%; Board member with divisional responsibility: 50%	The profit bonus is dependent on the risk-free interest rate and the average Group return on equity (RoE) of the past three financial years. An individually determined and contractually defined basic amount is paid for each 0.1 percentage point by which the RoE of the past three financial years exceeds the risk-free interest rate. Goal attainment of 100% corresponds to an RoE of 8.8% plus the risk-free interest rate (2018: 0.42%). Goal attainment can amount to a maximum of 200% and a minimum of -100%. The IFRS Group net income (excluding non-controlling interests) and the arithmetic mean of the IFRS Group shareholders' equity (excluding non-controlling interests) at the beginning and end of the financial year are used to calculate the RoE. The risk-free interest rate is the average market rate for 10-year German government bonds over the past five years, with the average being calculated on the basis of the respective interest rate at year-end.	Contractual stipulations Attainment of three-year targets Decision of the Supervisory Board
Performance bonus The performance bonus for the Chief Executive Officer and the Chief Financial Officer is arrived at from individual qualitative and, as appropriate, quantitative targets defined annually by the Supervisory Board that are to be accomplished in the subsequent year. For members of the Executive Board with responsibility for a certain division, the performance bonus consists in equal parts of the divisional bonus and the individual bonus.		
Divisional bonus Proportion of variable remuneration: Board member with divisional responsibility: 25%	The basis for the divisional bonus is the return generated on the capital allocated to the division in the respective 3-year period just ended (= RoCA (Return on Capital Allocated)). An individually determined amount specified in the service contract is calculated for each 0.1 percentage point by which the average 3-year RoCA exceeds the level of 0%. Goal attainment of 100% is achieved in property and casualty reinsurance with a RoCA of 9.1% and in life and health reinsurance with a RoCA of 10.1%. These RoCA values are above the cost of capital and thus generate positive intrinsic value creation (IVC).[1] Goal attainment can amount to a maximum of 200% and a minimum of -100%. The method used to calculate the IVC as a basis for determining the divisional performance is checked by independent experts. The divisional bonus is determined by the Supervisory Board according to its best judgement. The determination also takes into account, in particular, the contribution made by the business under the responsibility of the Board member concerned to the achieved divisional performance and the relative change in the average IVC in the remuneration year. The Supervisory Board may make additions to or deductions from the arithmetically calculated values at any time in the event of over- or underfulfilment of the criteria.	Attainment of three-year targets Contractual agreement Decision of the Supervisory Board according to its best judgement

[1] An instrument of value-based management used to measure the attainment of long-term goals on the level of the Group, business groups and operational units (see also page 22 et seq.).

Component	Measurement basis/parameters	Condition of payment
Individual bonus Proportion of variable remuneration: Chief Executive Officer/ Chief Financial Officer: 30%; Board member with divisional responsibility: 25%	Personal qualitative, quantitative targets (individual contribution to the overall result, leadership skills, innovative skills, entrepreneurial skills, specific features of area of responsibility). The individual bonus for goal attainment of 100% is contractually stipulated. Over- and underfulfilment result in additions/deductions. A General Performance Bonus geared to the individual overall performance of the member of the Executive Board can be determined by the Supervisory Board as part of the individual bonus. The minimum individual bonus amounts to EUR 0 and the maximum is double the bonus payable upon complete goal attainment.	Attainment of annual targets Decision by the Supervisory Board according to its best judgement.

Payment procedures for the total variable remuneration

Of the total amount of defined variable remuneration, a partial amount of 60% is paid out in the month following the Supervisory Board meeting that approves the consolidated financial statement. The remaining amount of 40% is initially withheld as explained below with a view to encouraging long-term value creation:

Payment procedures for the total variable remuneration **M 86**

Short-term	Medium-term	Long-term
60% of the variable remuneration with the next monthly salary payment following the Supervisory Board resolution	**20% of the variable remuneration in the bonus bank;** withheld for three years; the positive amount contributed three years prior to the payment date is available for payment, provided this does not exceed the balance of the bonus bank in light of credits/debits up to and including those for the financial year just ended; an impending payment not covered by a positive balance in the bonus bank is omitted; a positive balance in the bonus bank is carried forward to the following year after deduction of any payment made; a negative balance is not carried forward to the following year; loss of claims due from the bonus bank in special cases: resignation from office without a compelling reason; contract extension on the same conditions is rejected; no interest is paid on credit balances.	Automatic granting of **virtual Hannover Re share awards (HR-SAs)** with a value equivalent to **20%** of the variable remuneration; payment of the value calculated at the payment date after a **vesting period of four years**; value of the share on awarding/payment: unweighted arithmetic mean of the Xetra closing prices five trading days before to five trading days after the meeting of the Supervisory Board that approves the consolidated financial statement; additional payment of the sum total of all dividends per share paid out during the vesting period; changes in a cumulative amount of 10% or more in the value of the HR-SAs caused by structural measures trigger an adjustment; the Board member has no entitlement to the delivery of shares.
Negative variable total bonus = payment of EUR 0 variable remuneration. **Any minus value of the variable total bonus for a financial year is transferred in full to the bonus bank (see "Medium-term" column).**		

Handling of payment of variable remuneration components in special cases

In the event of voluntary resignation or termination/dismissal by the company for a compelling reason or if an offered contract extension on the same conditions (exception: the member of the Executive Board has reached the age of 60 and has served as a member of the Executive Board for two terms of office) is declined, all rights to payment of the balances from the bonus bank and from the HR-SAs are forfeited.

If the contractual relationship ends normally prior to the end of the vesting period for the bonus bank or HR-SAs, and if a contract extension is not offered, the member of the Executive Board retains his entitlements to payment from the bonus bank – making reference to a defined forward projection of the bonus bank – and for already awarded HR-SAs.

All claims to the allocation of amounts to the bonus bank and/or awarding of HR-SAs after leaving the company are excluded. In cases where an individual leaves the company because of non-reappointment, retirement or death this shall not apply with respect to claims to variable remuneration acquired (pro rata) in the final year of the Board member's work for the company.

Variable remuneration under the old remuneration structure (until 2011)

The virtual stock option plan with stock appreciation rights existing under the old remuneration structure has been terminated because all stock appreciation rights have been exercised. Of the stock appreciation rights granted in previous years, active and former members of the Executive Board exercised amounts totalling EUR 63.6 thousand (previous year: EUR 0.6 million) in 2018.

Continued payment in case of disability

In the event of temporary incapacity for work the fixed annual salary shall continue to be paid in the same amount, at most until termination of the service contract.

If a member of the Executive Board is permanently incapacitated for work during the period of the service contract, the service contract shall terminate at the end of the sixth month after which the permanent incapacity for work is established – although no later than at the end of the service contract.

Other information

The contracts of the Board members do not include a commitment to benefits in the event of a premature termination of employment on the Executive Board owing to a change of control.

With regard to Item 4.2.3. Para. 2 "Caps on the amount of variable compensation elements in management board contracts" and Item 4.2.3 Para. 4 "Caps on severance payments in management board contracts" of the German Corporate Governance Code, we would refer the reader to our remarks in the 2018 Declaration of Conformity contained in the section "Statement of enterprise management practices" on page 123 et seq. of this Group Annual Report.

Amount of remuneration received by the Executive Board

The total remuneration received by the Executive Board of Hannover Rück SE on the basis of its work for Hannover Rück SE and the companies belonging to the Group is calculated from the sum of all the components set out in the following table pursuant to DRS 17.

The remuneration (excluding pension payments) received by former members of the Executive Board totalled EUR 54.1 million (EUR 0.2 million).

Total remuneration of the active members of the Executive Board pursuant to DRS 17 (modified in 2010)

Name	Financial year	Non-performance-based remuneration		Performance-based remuneration [1]	
		Basic salary	Non-cash compensation/ fringe benefits [2]	Short-term	
				Variable remuneration payable	
in EUR thousand				60% [3]	Netted remuneration from seats with Group bodies
Ulrich Wallin	**2018**	**630.4**	**13.5**	**700.7**	
	2017	605.9	13.9	682.6	
Sven Althoff	**2018**	**320.0**	**16.7**	**335.5**	
	2017	296.7	16.7	305.8	
Claude Chèvre	**2018**	**380.0**	**10.9**	**346.2**	
	2017	380.0	1.8	404.1	
Jürgen Gräber [7]	**2018**	**429.2**	**13.4**	**455.8**	
	2017	463.4	15.0	446.9	
Dr. Klaus Miller	**2018**	**389.3**	**1.5**	**322.8**	
	2017	374.0	3.1	333.0	
Dr. Michael Pickel	**2018**	**440.0**	**14.7**	**459.5**	**5.0**
	2017	374.0	19.8	321.7	3.3
Roland Vogel	**2018**	**460.0**	**16.2**	**521.5**	**60.8**
	2017	450.7	16.5	497.4	67.0
Total	**2018**	**3,048.9**	**86.9**	**3,142.0**	**65.8**
Total	2017	2,944.7	86.8	2,991.5	70.3

1 As at the balance sheet date no Board resolution was available regarding the performance-based remuneration for 2018. The variable remuneration is recognised on the basis of estimates and the provisions constituted accordingly.
2 The non-cash compensation has been carried in the amounts established for tax purposes.
3 In 2018 EUR 33,600 more in variable remuneration was paid out to Board members for 2017 than had been reserved.
4 The nominal amount is stated; full or partial repayment in 2022, depending on the development until such time of the balance in the bonus bank. In 2018 altogether EUR 11,200 more than had been originally reserved was allocated to the bonus bank for 2017.
5 The nominal amount is stated; virtual Hannover Re share awards are automatically granted in an amount equivalent to 20% of the variable remuneration. The equivalent amount will be paid in 2023 at the prevailing share price of Hannover Re. In 2018 nominal amounts of EUR 11,200 more than had been originally reserved were used as a basis for allocation of the 2017 share awards.
6 In order to calculate the number of share awards for 2018 reference was made to the Xetra closing price of the Hannover Re share on 28 December 2018 (EUR 117.70). The number to be actually awarded is established from the arithmetic mean of the Xetra closing prices of the Hannover Re share in a period from five trading days before to five trading days after the meeting of the Supervisory Board that approves the consolidated financial statement in March 2019. The applicable market price of the Hannover Re share had increased from EUR 104.90 (29 December 2017) to EUR 111.65 by the allocation date (16 March 2018) of the share awards for 2017; the share awards actually allocated for 2017 are shown here, not those estimated in the 2017 Annual Report.
7 The variable remuneration to be approved at the Supervisory Board meeting held to consider the consolidated financial statements in March 2019 will be paid out to the heirs.

M 87

	Performance-based remuneration[1]		Total	Number of share awards[6]
	Medium-term	Long-term		2017 = Actual 2018 = Estimate
	Bonus bank	Share awards		
in EUR thousand	20% (allocation)[4]	20% (allocation)[5]		
	233.6	**233.6**	**1,811.8**	**1,982**
	227.5	227.5	1,757.4	2,007
	111.9	**111.9**	**896.0**	**917**
	101.9	101.9	823.0	982
	115.3	**115.3**	**967.7**	**1,017**
	134.8	134.8	1,055.5	1,127
	151.9	**151.9**	**1,202.2**	**1,432**
	149.0	149.0	1,223.3	1,446
	107.6	**107.6**	**928.8**	**945**
	111.0	111.0	932.1	948
	153.2	**153.2**	**1,220.6**	**1,260**
	107.2	107.2	929.9	1,063
	173.8	**173.8**	**1,345.3**	**1,457**
	165.8	165.8	1,296.2	1,487
	1,047.3	**1,047.3**	**8,372.4**	**9,010**
	997.2	997.2	8,017.4	9,060

The following table shows the expense for share-based remuneration of the Executive Board in the financial year.

The table is to be viewed independently of the presentation of the total remuneration received by active members of the Executive Board pursuant to DRS 17.

Total expense for share-based remuneration of the Executive Board M 88

Name in EUR thousand	Year	Stock appreciation rights exercised	Change in reserve in 2018 for stock appreciation rights	Payment of share awards	Change in reserve for share awards from previous years [1]	Expense for share awards allocated in current financial year [2]	Total
Ulrich Wallin	**2018**	**–**	**–**	**427.2**	**472.5**	**172.6**	**1,072.3**
	2017	102.6	(102.6)	406.6	(88.6)	76.6	394.6
Sven Althoff [3]	**2018**	**9.4**	**(9.4)**	**150.6**	**152.3**	**23.5**	**326.4**
	2017	25.7	(24.0)	109.6	18.9	20.3	150.5
Claude Chèvre	**2018**	**–**	**–**	**241.2**	**141.5**	**23.0**	**405.7**
	2017	–	–	232.8	(35.8)	45.9	242.9
Jürgen Gräber	**2018**	**–**	**–**	**315.2**	**471.7**	**168.5**	**955.4**
	2017	89.2	(89.2)	316.6	(93.9)	32.4	255.1
Dr. Klaus Miller	**2018**	**–**	**–**	**241.2**	**166.7**	**21.4**	**429.3**
	2017	14.9	(14.9)	232.8	(119.0)	21.0	134.8
Dr. Michael Pickel	**2018**	**–**	**–**	**254.7**	**177.8**	**29.6**	**462.1**
	2017	80.3	(80.3)	232.8	(175.0)	21.9	79.7
Roland Vogel	**2018**	**–**	**–**	**256.8**	**188.7**	**40.3**	**485.8**
	2017	44.6	(44.6)	250.1	(72.7)	31.5	208.9
Total	**2018**	**9.4**	**(9.4)**	**1,886.9**	**1,771.2**	**478.9**	**4,137.0**
Total	2017	357.3	(355.6)	1,781.3	(566.1)	249.6	1,466.5

1 The change in the reserve for share awards from previous years derives from the higher market price of the Hannover Re share, the dividend approved for 2017, the spreading of the expense for share awards across the remaining period of the individual service contracts and the payout of the share awards allocated for 2013.
2 The expense for share awards is spread across the remaining period of the individual service contracts. This gives rise to a difference relative to the nominal amount shown in the table of total remuneration.
3 The expenses for stock appreciation rights of Mr. Althoff and the payment of share awards to him relate to his work as a senior executive until 2014.

The following two tables show the remuneration of the Executive Board in the 2018 financial year in accordance with the recommendations of the German Corporate Governance Code:

German Corporate Governance Code, Item 4.2.5 Para. 3 – Table 1 (target/minimum/maximum remuneration as nominal amounts)

Benefits granted	Ulrich Wallin Chief Executive Officer				Sven Althoff Board member with divisional responsibility			
in EUR thousand	2017	2018	2018 (Min)	2018 (Max)	2017	2018	2018 (Min)	2018 (Max)
Fixed remuneration	605.9	630.4	630.4	630.4	296.7	320.0	320.0	320.0
Fringe benefits	13.9	13.5	13.5	13.5	16.7	16.7	16.7	16.7
Total	**619.8**	**643.9**	**643.9**	**643.9**	**313.4**	**336.7**	**336.7**	**336.7**
One-year variable remuneration	523.0	563.3	0.0	1,126.5	267.0	288.0	0.0	576.0
Multi-year variable remuneration	400.8	421.2	(611.4)	796.7	201.0	214.0	(329.6)	406.0
Bonus bank 2017 (2021[1])/ 2018 (2022[1])	174.3	187.8	(657.1)	375.5	89.0	96.0	(351.6)	192.0
Share Awards 2017 (2022[1])/ 2018 (2023[1])[2]	174.3	187.8	0.0	375.5	89.0	96.0	0.0	192.0
Dividend on share awards for 2016[3]	52.2	0.0	0.0	0.0	23.0	0.0	0.0	0.0
Dividend on share awards for 2017[3]	0.0	45.7	45.7	45.7	0.0	22.0	22.0	22.0
Total	**1,543.6**	**1,628.4**	**32.5**	**2,567.1**	**781.4**	**838.7**	**7.1**	**1,318.7**
Service cost[4]	163.2	172.5	172.5	172.5	46.9	129.4	129.4	129.4
Total remuneration	**1,706.8**	**1,800.9**	**205.0**	**2,739.6**	**828.3**	**968.1**	**136.5**	**1,448.1**

Benefits granted	Dr. Klaus Miller Board member with divisional responsibility				Dr. Michael Pickel Board member with divisional responsibility			
in EUR thousand	2017	2018	2018 (Min)	2018 (Max)	2017	2018	2018 (Min)	2018 (Max)
Fixed remuneration	374.0	389.3	389.3	389.3	374.0	440.0	440.0	440.0
Fringe benefits	3.1	1.5	1.5	1.5	19.8	14.7	14.7	14.7
Total	**377.1**	**390.8**	**390.8**	**390.8**	**393.8**	**454.7**	**454.7**	**454.7**
One-year variable remuneration	288.0	318.0	0.0	636.0	288.0	396.0	0.0	792.0
Multi-year variable remuneration	221.3	236.7	(341.7)	448.7	222.7	290.1	(366.3)	554.1
Bonus bank 2017 (2021[1])/ 2018 (2022[1])	96.0	106.0	(366.4)	212.0	96.0	132.0	(392.4)	264.0
Share Awards 2017 (2022[1])/ 2018 (2023[1])[2]	96.0	106.0	0.0	212.0	96.0	132.0	0.0	264.0
Dividend on share awards for 2016[3]	29.3	0.0	0.0	0.0	30.7	0.0	0.0	0.0
Dividend on share awards for 2017[3]	0.0	24.7	24.7	24.7	0.0	26.1	26.1	26.1
Total	**886.4**	**945.5**	**49.1**	**1,475.5**	**904.5**	**1,140.8**	**88.4**	**1,800.8**
Service cost[4]	86.1	88.1	88.1	88.1	152.8	156.4	156.4	156.4
Total remuneration	**972.5**	**1,033.6**	**137.2**	**1,563.6**	**1,057.3**	**1,297.2**	**244.8**	**1,957.2**

1 Year of payment
2 Maximum value when awarded, amount paid out dependent upon the share price in the year of payment and the dividends paid until such time.
3 In the case of Mr. Althoff the dividend also refers to share awards from his work as a senior executive at Hannover Re.
4 For details of the service cost see the table "Pension commitments" on page 143.

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Claude Chèvre Board member with divisional responsibility			
2017	2018	2018 (Min)	2018 (Max)
380.0	380.0	380.0	380.0
1.8	10.9	10.9	10.9
381.8	**390.9**	**390.9**	**390.9**
342.0	342.0	0.0	684.0
260.1	256.4	(399.1)	484.4
114.0	114.0	(427.5)	228.0
114.0	114.0	0.0	228.0
32.1	0.0	0.0	0.0
0.0	28.4	28.4	28.4
983.9	**989.3**	**(8.2)**	**1,559.3**
140.2	140.1	140.1	140.1
1,124.1	1,129.4	131.9	1,699.4

Jürgen Gräber Board member with divisional responsibility Coordinator of worldwide property & casualty reinsurance 1 January – 9 November 2018			
2017	2018	2018 (Min)	2018 (Max)
463.4	429.2	429.2	429.2
15.0	13.4	13.4	13.4
478.4	**442.6**	**442.6**	**442.6**
390.0	386.3	0.0	772.5
298.8	291.3	(449.0)	548.8
130.0	128.8	(482.8)	257.5
130.0	128.8	0.0	257.5
38.8	0.0	0.0	0.0
0.0	33.8	33.8	33.8
1,167.2	**1,120.1**	**(6.4)**	**1,763.9**
109.6			
1,276.8	1,120.1	(6.4)	1,763.9

Roland Vogel Chief Financial Officer			
2017	2018	2018 (Min)	2018 (Max)
450.7	460.0	460.0	460.0
16.5	16.2	16.2	16.2
467.2	**476.2**	**476.2**	**476.2**
382.5	414.0	0.0	828.0
285.7	304.2	(412.2)	580.2
127.5	138.0	(440.4)	276.0
127.5	138.0	0.0	276.0
30.7	0.0	0.0	0.0
0.0	28.2	28.2	28.2
1,135.4	**1,194.4**	**64.0**	**1,884.4**
53.8	53.5	53.5	53.5
1,189.2	1,247.9	117.5	1,937.9

German Corporate Governance Code, Item 4.2.5 Para. 3 – Table 2 (cash allocations in 2017 and 2018)

Allocation	Ulrich Wallin Chief Executive Officer		Sven Althoff Board member with divisional responsibility	
in EUR thousand	2017	2018	2017	2018
Fixed remuneration	605.9	630.4	296.7	320.0
Fringe benefits	13.9	13.5	16.7	16.7
Total	**619.8**	**643.9**	**313.4**	**336.7**
One-year variable remuneration [1]	722.4	672.0	363.6	328.8
Multi-year variable remuneration	710.2	643.6	135.3	208.2
Bonus bank 2013/2014	201.0	216.4	0.0	48.2
Share Awards 2012/2013 [2]	406.6	427.2	109.6	150.6
Stock participation rights 2010 (2015–2020) [3]	102.6	0.0	16.3	0.0
Stock participation rights 2011 (2016–2021) [4]	0.0	0.0	9.4	9.4
Total	**2,052.4**	**1,959.5**	**812.3**	**873.7**
Service cost [5]	163.2	172.5	46.9	129.4
Total remuneration	**2,215.6**	**2,132.0**	**859.2**	**1,003.1**

Allocation	Dr. Klaus Miller Board member with divisional responsibility		Dr. Michael Pickel Board member with divisional responsibility	
in EUR thousand	2017	2018	2017	2018
Fixed remuneration	374.0	389.3	374.0	440.0
Fringe benefits	3.1	1.5	19.8	14.7
Total	**377.1**	**390.8**	**393.8**	**454.7**
One-year variable remuneration [1]	391.8	317.4	411.3	357.5
Multi-year variable remuneration	361.2	369.2	432.9	386.7
Bonus bank 2013/2014	113.5	128.0	119.8	132.0
Share Awards 2012/2013 [2]	232.8	241.2	232.8	254.7
Stock participation rights 2010 (2015–2020) [3]	14.9	0.0	80.3	0.0
Stock participation rights 2011 (2016–2021) [4]	0.0	0.0	0.0	0.0
Total	**1,130.1**	**1,077.4**	**1,238.0**	**1,198.9**
Service cost [5]	86.1	88.1	152.8	156.4
Total remuneration	**1,216.2**	**1,165.5**	**1,390.8**	**1,355.3**

1 This refers in each case to payment of the variable remuneration for the previous year. Remuneration for seats with Group bodies that is counted towards the variable remuneration accrues in the year of occurrence. The company's Supervisory Board only decides on the final amount paid out for the 2018 financial year after the remuneration report has been drawn up.
2 In the case of Mr. Althoff the payment of share awards relates to his work as a senior executive before his appointment as a member of the Executive Board.
3 Stock appreciation rights were awarded in 2010, exercise option at the discretion of the Executive Board until 31 December 2020 in the following tranches: 60% from 2015, 80% from 2016, 100% from 2017 onwards.
4 Stock appreciation rights were awarded to Mr. Althoff in 2011 as a senior executive, exercise option discretionary until 31 December 2021 in the following tranches: 60% from 2016, 80% from 2017, 100% from 2018 onwards
5 For details of the service cost see the table "Pension commitments" on page 143.

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Claude Chèvre Board member with divisional responsibility		Jürgen Gräber Board member with divisional responsibility Coordinator of worldwide property & casualty reinsurance 1 January – 9 November 2018	
2017	2018	2017	2018
380.0	380.0	463.4	429.2
1.8	10.9	15.0	13.4
381.8	**390.9**	**478.4**	**442.6**
474.0	377.4	519.0	484.2
346.3	374.2	554.1	482.0
113.5	133.0	148.3	166.8
232.8	241.2	316.6	315.2
0.0	0.0	89.2	0.0
0.0	0.0	0.0	0.0
1,202.1	**1,142.5**	**1,551.5**	**1,408.8**
140.2	140.1	109.6	0.0
1,342.3	1,282.6	1,661.1	1,408.8

Roland Vogel Chief Financial Officer	
2017	2018
450.7	460.0
16.5	16.2
467.2	**476.2**
421.6	491.8
415.6	386.8
120.8	130.0
250.2	256.8
44.6	0.0
0.0	0.0
1,304.4	**1,354.8**
53.8	53.5
1,358.2	1,408.3

Sideline activities of the members of the Executive Board

The members of the Executive Board require the approval of the Supervisory Board to take on sideline activities. This ensures that neither the remuneration granted nor the time required for this activity can create a conflict with their responsibilities on the Executive Board. If the sideline activities involve seats on supervisory boards or comparable control boards, these are listed and published in the Annual Report of Hannover Rück SE. The remuneration received for such seats at Group companies and other board functions is deducted when calculating the variable bonus and shown separately in the table of total remuneration.

Retirement provision

Defined benefit pension commitment (appointment before 2009)

The contracts of members of the Executive Board first appointed prior to 2009 contain commitments to an annual retirement pension calculated as a percentage of the pensionable fixed annual remuneration (defined benefit). The target pension is at most 50% of the monthly fixed salary payable when leaving the company as contractually agreed on reaching the age of 65. A non-pensionable fixed remuneration component was introduced in conjunction with the remuneration structure applicable from 2011 onwards.

Defined contribution pension commitment (appointment from 2009 onwards)

The commitments given to members of the Executive Board from 2009 onwards are based on a defined contribution scheme.

A Board member who has reached the age of 65 and left the company's employment receives a life-long retirement pension. The amount of the monthly retirement pension is calculated according to the reference date age (year of the reference date less year of birth) and the funding contribution on the reference date. The annual funding contribution for these contracts is paid by the company in the amount of a contractually specified percentage of the pensionable income (fixed annual remuneration as at the contractually specified reference date).

In both contract variants (i. e. defined benefit and defined contribution) other income received while drawing the retirement pension is taken into account pro rata or in its entirety under certain circumstances (e. g. in the event of incapacity for work or termination of the service contract before reaching the age of 65).

Provision for surviving dependants

If the Board member dies during the period of the service contract, the surviving spouse – or alternatively the eligible children – shall be entitled to continued payment of the fixed monthly salary for the month in which the Board member dies and the six months thereafter, at most until termination of the service contract. If the member of the Executive Board dies after pension payments begin, the surviving spouse and alternatively the dependent children shall receive continued payment of the retirement pension for the month of death and the following six months.

The widow's pension amounts to 60% of the retirement pay that the Board member received or would have received if he had been incapacitated for work at the time of his death.

An orphan's pension shall be granted in the amount of 15% – in the case of full orphans 25% (final-salary pension commitment) or 30% (contribution-based pension commitment) – of the retirement pay that the Board member received or would have received on the day of his death if the pensionable event had occurred owing to a permanent incapacity for work.

Adjustments

The following parameters are used for adjustments to retirement, widow's and orphan's benefits: the price index for the cost of living of all private households in Germany (contracts from 2001 onwards) or the price index for the cost of living of four-person households of civil servants and higher-income salaried employees (contracts from 1997 to 2000).

Current pensions based on the commitments given from 2009 onwards (defined contribution commitment) are increased annually by at least 1% of their most recent (gross) amount.

Pension payments to former members of the Executive Board

The pension payments to former members of the Executive Board and their surviving dependants, for whom 17 (17) pension commitments existed, totalled EUR 1.7 million (EUR 1.6 million) in the year under review. The projected benefit obligation of the pension commitments to former members of the Executive Board amounted to altogether EUR 26.0 million (EUR 24.7 million).

Pension commitments M 91

Name in EUR thousand	Financial year	Attainable annual pension (age 65)	DBO 31.12.	Personnel expense
Ulrich Wallin	**2018**	**257.5**	**6,874.2**	**172.5**
	2017	257.5	5,830.6	163.2
Sven Althoff [1,2]	**2018**	**97.5**	**1,362.5**	**129.4**
	2017	92.5	1,222.4	46.9
Claude Chèvre	**2018**	**119.0**	**1,033.2**	**140.1**
	2017	118.7	868.8	140.2
Jürgen Gräber	**2018**	**182.5**	**2,851.9**	**109.9**
	2017	182.5	3,840.2	109.6
Dr. Klaus Miller	**2018**	**57.7**	**749.0**	**88.1**
	2017	55.0	652.2	86.1
Dr. Michael Pickel	**2018**	**160.0**	**2,981.5**	**156.4**
	2017	160.0	2,712.5	152.8
Roland Vogel [1]	**2018**	**97.3**	**1,705.9**	**53.5**
	2017	96.9	1,674.9	53.8
Total	**2018**	**971.5**	**17,558.2**	**849.9**
Total	**2017**	**963.1**	**16,801.6**	**752.6**

[1] Mr. Althoff and Mr. Vogel were first granted a pension commitment prior to 2001 on the basis of their service to the company prior to their appointment to the Executive Board; the earned portion of the defined benefit obligation is therefore established as a proportion (in the ratio [currently attained service years since entry]/[attainable service years from entry to exit age]) of the final benefit. The values shown include the entitlements prior to appointment to the Executive Board, which in accordance with a resolution of the company's Supervisory Board shall remain unaffected by the pension commitment as a member of the Executive Board.

[2] The personnel expense for 2018 includes a past service cost of EUR 82.8 thousand.

Remuneration of the Supervisory Board

The remuneration of the Supervisory Board is determined by the Annual General Meeting of Hannover Rück SE and regulated by the Articles of Association.

In accordance with § 14 of the Articles of Association as amended on 30 May 2016 and the resolution of the Annual General Meeting on 7 May 2013, the members of the Supervisory Board receive fixed annual remuneration of EUR 30,000 per member in addition to reimbursement of their expenses. Furthermore, each member of the Supervisory Board receives variable remuneration measured according to the average earnings per share (EPS) of the company over the past three financial years preceding the Annual General Meeting at which the actions of the Supervisory Board for the last of these three years are ratified. The variable remuneration amounts to EUR 330 for each EUR 0.10 average earnings per share (EPS) of the company. The measurement of this performance-based remuneration component according to the average earnings per share of the last three financial years ensures that the variable remuneration is geared to sustainable corporate development. The variable remuneration is limited to an annual maximum of EUR 30,000. The Chairman of the Supervisory Board receives twice the aforementioned remuneration amounts and the Deputy Chairman of the Supervisory Board receives one-and-a-half times the said amounts.

In addition, the members of the Finance and Audit Committee formed by the Supervisory Board receive remuneration of EUR 15,000 for their committee work and the members of the Standing Committee formed by the Supervisory Board receive remuneration of EUR 7,500. In this case, too, the Chairman of the Committee receives twice and the Deputy Chairman one-and-a-half times the stated amounts. No remuneration is envisaged for the Nomination Committee.

Members who have only belonged to the Supervisory Board or one of its Committees for part of the financial year receive the remuneration pro rata temporis.

All the members of the Supervisory Board receive an attendance allowance of EUR 1,000 for their participation in each meeting of the Supervisory Board and the Committees in addition to the aforementioned remuneration. If a meeting of the Supervisory Board and one or more committee meetings fall on the same day, the attendance allowance for this day is only paid once in total.

Individual remuneration received by the members of the Supervisory Board M 92

Name in EUR thousand[1]	Function	Type of remuneration	2018	2017
Herbert K. Haas[2]	Chairman of the • Supervisory Board • Standing Committee • Finance and Audit Committee • Nomination Committee	Fixed remuneration	100.0	100.0
		Variable remuneration	100.1	100.7
		Remuneration for committee work	68.4	85.0
		Attendance allowances	15.0	14.0
			283.5	**299.7**
Torsten Leue (since 7 May 2018)	Deputy Chairman of the • Supervisory Board Member of the • Standing Committee • Finance and Audit Committee • Nomination Committee	Fixed remuneration	48.2	–
		Variable remuneration	47.0	–
		Remuneration for committee work	14.6	–
		Attendance allowances	7.0	–
			116.8	**–**
Dr. Klaus Sturany (until 7 May 2018)	Deputy Chairman of the • Supervisory Board Member of the • Standing Committee	Fixed remuneration	15.9	45.0
		Variable remuneration	17.2	45.5
		Remuneration for committee work	2.6	7.5
		Attendance allowances	4.0	6.0
			39.7	**104.0**
Wolf-Dieter Baumgartl[2] (until 7 May 2018)	Member of the • Supervisory Board • Standing Committee • Finance and Audit Committee • Nomination Committee	Fixed remuneration	10.6	33.5
		Variable remuneration	11.4	33.8
		Remuneration for committee work	7.9	22.5
		Attendance allowances	4.0	9.0
			33.9	**98.8**
Benita Bierstedt[3] (from 1 June 2018 to 6 July 2018)	Member of the Supervisory Board	Fixed remuneration	3.0	–
		Variable remuneration	2.9	–
		Remuneration for committee work	–	–
		Attendance allowances	–	–
			5.9	**–**
Frauke Heitmüller[3]	Member of the Supervisory Board	Fixed remuneration	30.0	30.0
		Variable remuneration	30.0	30.3
		Remuneration for committee work	–	–
		Attendance allowances	6.0	4.0
			66.0	**64.3**
Dr. Ursula Lipowsky (since 7 May 2018)	Member of the • Supervisory Board • Finance and Audit Committee	Fixed remuneration	19.5	–
		Variable remuneration	18.6	–
		Remuneration for committee work	9.8	–
		Attendance allowances	5.0	–
			52.9	**–**
Otto Müller[3] (until 31 May 2018 and since 12 July 2018)	Member of the Supervisory Board	Fixed remuneration	26.6	30.0
		Variable remuneration	26.8	30.3
		Remuneration for committee work	–	–
		Attendance allowances	6.0	4.0
			59.4	**64.3**
Dr. Andrea Pollak	Member of the • Supervisory Board • Nomination Committee	Fixed remuneration	30.0	30.0
		Variable remuneration	30.0	30.3
		Remuneration for committee work	–	–
		Attendance allowances	6.0	4.0
			66.0	**64.3**

Name in EUR thousand [1]	Function	Type of remuneration	2018	2017
Dr. Immo Querner [2]	Member of the Supervisory Board	Fixed remuneration	50.0	50.0
		Variable remuneration	50.0	50.3
		Remuneration for committee work	1.7	10.0
		Attendance allowances	8.0	7.0
			109.8	**117.3**
Dr. Erhard Schipporeit	Member of the • Supervisory Board • Finance and Audit Committee (until 7 May 2018) • Standing Committee (since 7 May 2018)	Fixed remuneration	30.0	30.0
		Variable remuneration	30.0	30.3
		Remuneration for committee work	10.2	15.0
		Attendance allowances	10.0	7.0
			80.2	**82.3**
Maike Sielaff [3]	Member of the Supervisory Board	Fixed remuneration	30.0	30.0
		Variable remuneration	30.0	30.3
		Remuneration for committee work	–	–
		Attendance allowances	6.0	4.0
			66.0	**64.3**
Total			980.1	959.3

1 Amounts excluding reimbursed VAT
2 Including supervisory board remuneration and remuneration for committee work as well as advisory board remuneration received from entities affiliated with the company
3 Employee representatives

The individualised presentation of the remuneration shows the expense charged to the financial year in question. Since the remuneration for a financial year becomes due at the end of the Annual General Meeting that ratifies the acts of the Supervisory Board for the financial year, the relevant reserve allocations for the variable remuneration are recognised allowing for any fractional amounts. Value-added tax payable upon the remuneration is reimbursed by the company.

In the year under review no payments or benefits were granted to members of the Supervisory Board in return for services provided individually outside the committee work described above, including for example consulting or mediation services, with the exception of the remuneration paid to employee representatives on the basis of their employment contracts.

Loans to members of the management boards and contingent liabilities

In order to avoid potential conflicts of interest, Hannover Rück SE or its subsidiaries may only grant loans to members of the Executive Board or Supervisory Board or their dependants with the approval of the Supervisory Board.

In 2018 no loan relationships existed with members of the Executive Board or Supervisory Board of Hannover Rück SE, nor did the company enter into any contingent liabilities for members of the management boards.

Securities transactions and shareholdings (directors' dealings)

Dealings in shares, options and derivatives of Hannover Rück SE effected by members of the Executive Board or Supervisory Board of Hannover Re or by other persons with managerial functions who regularly have access to insider information concerning the company and who are authorised to take major business decisions – as well as such dealings conducted by certain persons closely related to the aforementioned individuals – in excess of EUR 5,000 are to be reported pursuant to § 15a Securities Trading Act (WpHG). No reportable transactions took place in the 2018 financial year.

Members of the Supervisory Board and Executive Board of Hannover Rück SE as well as their spouses or registered partners and first-degree relatives hold less than 1.0% of the issued shares. The total holding as at 31 December 2018 amounted to 0.004% (0.004%) of the issued shares, i.e. 4,741 (4,681) shares.

Remuneration of staff and senior executives

Structure and system

The remuneration scheme for senior executives below the Executive Board (management levels 2 and 3) and for key function holders in Germany belonging as a matter of principle to the ranks of senior executives consists of a fixed annual salary and a system of variable remuneration. This is comprised of a short-term variable remuneration component, the annual cash bonus, and a long-term share-based remuneration component, the Share Award Plan. This variable remuneration has been uniformly applied worldwide since 1 January 2012 to all Group senior executives (i.e. Managing Directors, Directors and General Managers). As part of the reorientation of the remuneration system for senior executives the Share Award Plan of the Executive Board was consciously extended to include management levels 2 and 3. Given that at the same time the stock appreciation rights plan for senior executives was cancelled with effect from the 2012 allocation year, this means that a uniform share-based remuneration component has been maintained for the Executive Board and senior executives alike.

Members of staff on the levels of Chief Manager, Senior Manager and Manager are also able to participate in a variable remuneration system through the Group Performance Bonus (GPB). The Group Performance Bonus (GPB) is a remuneration model launched in 2004 that is linked to the success of the company. This tool is geared to the minimum return on equity of 750 basis points above the risk-free interest rate and the return on equity actually generated. For those participating in the GPB 14.15 monthly salary payments are guaranteed; a maximum of 16.7 salary payments is attainable.

The group of participants and the total number of eligible participants in the variable remuneration system of Hannover Re are set out in the following table.

Measurement of variable remuneration for senior executives

The measurement of the variable remuneration is based on three elements: Group net income, targets in the Property & Casualty and Life & Health business groups and individual targets. The weighting of the elements is dependent upon whether responsibility is carried in a treaty/regional department or in a service department. In the treaty/regional departments the measurement of the variable remuneration is based on weightings of 20% for Group net income, 40% for goal attainment in the respective Property & Casualty or Life & Health business group and 40% for individual goal attainment. In service departments the variable remuneration is based on Group net income and individual targets with a corresponding weighting of 40% and 60%. The degree of goal attainment is defined for both the Group net income and the business groups. Individual targets and the degree of goal attainment are agreed between the senior executive and their supervisor.

The Group net income is measured by the three-year average return on equity (RoE) of the Hannover Re Group above the risk-free interest rate. Goal attainment is calculated as follows: for each individual financial year of the last three financial years it is calculated by how many percentage points the RoE of the Hannover Re Group exceeds the risk-free interest rate. The average of these three differences determines the three-year average RoE above the risk-free interest rate. The risk-free interest rate is the average market interest rate over the past five years for 10-year German government bonds.

If the three-year average RoE above the risk-free interest rate reaches the expected minimum return on equity of 750 basis points, goal attainment stands at 85%. Goal attainment of 100% is recorded at 882 basis points. The maximum possible goal attainment is 200%. A lower limit is placed on goal attainment of -50% (penalty) for management level 2 (Managing Director) and 0% for management level 3 (Director and General Manager).

Group of participants and total number of eligible participants in variable remuneration systems
Valid: 31 December 2018

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Participants		Variable remuneration system	Number of eligible participants in the variable remuneration system
Managing Director	Management level 2	Cash bonus and Share Award Plan	**Hannover Re Group** All 157 Group senior executives worldwide receive a cash bonus upon corresponding goal attainment and participate in the Share Award Plan.
Director	Management level 3		
General Manager			
Chief Manager		Group Performance Bonus (GPB)	**Head office Hannover** 796 staff (excl. seconded employees) out of the altogether 1,426 at Hannover head office (incl. 90 senior executives) are GPB-eligible.
Senior Manager			
Manager			

The measurement of the business group targets – which in the case of the treaty/regional departments accounts for 40% of overall goal attainment – is geared to the economic value created. The Excess Return on Capital Allocated (xRoCA) of the business group encompassing the respective area of responsibility, namely Property & Casualty reinsurance or Life & Health reinsurance, is therefore taken as a one-year measurement basis. The xRoCA describes the IVC in relation to the allocated capital and shows the relative excess return generated above and beyond the weighted cost of capital. Goal attainment of 100% exists if the xRoCA in Property & Casualty reinsurance reaches 2% and the xRoCA in Life & Health reinsurance reaches 2%. Negative performance contributions are excluded; the minimum goal attainment is 0%. The maximum possible goal attainment is 150%.

Individual targets are agreed and measured for a period of one year. The degree of goal attainment is between 0% and 100%.

Amount and payment of variable remuneration for senior executives

The overall degree of goal attainment determines the amount of variable remuneration including share awards. On management level 2 (Managing Director) 60% of the variable remuneration is paid out annually in cash and 40% is granted in the form of share awards. On management level 3 (Director and General Manager) the variable remuneration is split into 65% cash payment and 35% granted as share awards.

On management level 3 (Director and General Manager) the minimum variable remuneration amounts to EUR 0 on the premise that the degree of attainment for all goals is 0%. For management level 2 (Managing Director) in treaty/regional departments the minimum limit for the variable remuneration is set at -10% if the degree of goal attainment for Group net income is -50% while at the same time goal attainment of 0% is determined for the divisional targets and individual targets. For management level 2 (Managing Director) in service departments -20% of the variable remuneration is possible as the lower limit, if the degree of goal attainment for Group net income is -50% and at the same time goal attainment of 0% is determined for the individual targets.

In view of the fact that outperformance of up to 200% is possible for Group net income and up to 150% for business group targets, a maximum total degree of goal attainment of 140% can be attained in both treaty/regional departments and service departments. Given outperformance of all targets, a maximum of 140% of the variable remuneration can therefore be attained on management levels 2 and 3.

Allocation and payment of share awards to senior executives

The total number of share awards allocated is determined according to the value per share of Hannover Re. This value is arrived at from the average of the closing prices of the shares in a period extending from 20 trading days before to 10 trading days after the meeting of the Supervisory Board at which the consolidated financial statement is approved. The number of share awards is established by dividing the specified portion of the total bonus (40% or 35%) by the value per share, rounded up to the next full share.

Following expiry of a vesting period of four years the value of one Hannover Re share calculated at the disbursement date is paid out for each share award. The value of the Hannover Re share is again determined from the average of the closing prices of the shares in a period from 20 trading days before to 10 trading days after the meeting of the Supervisory Board that approves the consolidated financial statement. In addition, a sum in the amount of the dividend is paid out for each share award, insofar as dividends were distributed to shareholders. The level of the dividend payment is the sum total of all dividends per share paid out during the period of the share awards multiplied by the number of share awards.

In the case of the allocation and payment of share awards to participants in the Share Award Plan who are located abroad, the rate of exchange used to convert the average share price is the average of the relevant exchange rate in a period from 20 trading days before to 10 trading days after the meeting of the Supervisory Board that approves the consolidated financial statement. For payment of the dividend to participants in the Share Award Plan who are located abroad, the rate of exchange used to convert the dividend per share is the average of the relevant exchange rate in a period from 20 trading days before to 10 trading days after the Annual General Meeting that approves the dividend payment for the financial year just ended.

The cash bonus for the 2017 financial year was paid out in June 2018. The share awards for the 2017 financial year were also allocated in June 2018; they will be paid out in the spring of 2022 including dividends paid for the 2017, 2018, 2019 and 2020 financial years.

Expertise in demand

Diversi-
fication

Active in all lines of business

Spreading the burden of large risks across many shoulders is the principle at the heart of reinsurance. The more diversified the portfolio, the easier it is to offset losses in individual lines or regions with positive loss experiences elsewhere.

Hannover Re is active worldwide in all classes of property & casualty and life & health reinsurance. The company writes business in an extremely diverse range of lines, including for example high-risk sports.

We are a leading professional reinsurer with numerous specialist fields of expertise. This enables us to write business that others may consider too risky: by practising systematic cycle management we are able to act on business opportunities where rates are commensurate with the risks.

Outlook

Forecast

- Successful treaty renewals in property and casualty reinsurance as at 1 January 2019
- Significant premium growth anticipated in property and casualty reinsurance as well as moderate growth in life and health reinsurance
- Return on investment target of at least 2.8% for assets under own management
- Group net income in the order of EUR 1.1 billion expected

Economic developments

Global economy

Economic growth will continue to trend higher in 2019, albeit at a reduced pace. In its year-end forecast the Kiel Institute for the World Economy expects growth to slow by 0.3 percentage points in 2019 to 3.4%. One of the reasons here is that capacity utilisation in the advanced economies will scarcely increase further. What is more, output in the emerging economies will expand at only a moderate tempo in view of a challenging fiscal climate and in many instances an unfavourable general environment. As a further factor, the deterioration in the trading environment will likely curb business activity.

The upswing seen in the advanced economies will lose momentum in the face of a slow tightening of expansionary monetary policy, diminishing stimuli on the fiscal policy side and only a moderate rise in demand from developing and emerging nations: after an increase of 2.4% in the year just ended output in the group of advanced economies is expected to rise by 2.1% in the current year.

The pace of growth in China is set to retreat again. Expansion will soften in the other emerging economies owing to more challenging fiscal framework conditions, but it is nevertheless expected to remain vigorous for the most part. Following an election year overshadowed by political uncertainty in Brazil and Mexico, growth in both of these Latin American powerhouse economies will pick up again in the current year. The negative growth contributions from Venezuela and Chile will likely be less marked in 2019. The Turkish economy is currently fading sharply in the midst of the crisis facing the country's currency, and the growth rate in 2019 is expected to be just 0.4%.

Risks are posed in particular by a further ratcheting up of trade war tensions: although the spiralling disputes over market access that prompted the United States and China to impose reciprocal tariffs have been put on hold for the time being, the uncertainties swirling around the trade policy framework remain. Further potential for conflict exists between the United States and the European Union, where issues relating to the balance of trade are being fought over indirectly through the automobile manufacturing sector. In Europe the question of debt sustainability in Italy, the delays over implementing reforms in France and the possibility of a disorderly Brexit will be reflected in poorer economic growth than anticipated.

Growth in gross domestic product (GDP) M 94

in %	2018 (forecast from previous year)	2018 (provisional calculation)	2019 (forecast)
Economic areas			
World economy	3.8	3.7	3.4
Eurozone	2.4	1.9	1.7
Selected countries			
United States	2.3	2.9	2.5
China	6.8	6.6	6.1
India	6.4	7.7	7.5
Japan	1.8	0.8	1.0
Germany	2.3	1.5	1.8

Sources: Kiel Institute for the World Economy; figures for Germany are calendar-adjusted.

United States

After an upward trend that has been sustained for close to ten years, the US economy has in all likelihood passed its peak. Investment activity was already significantly more muted in the second half of 2018; employment growth similarly slowed appreciably. This trend is set to continue in 2019. A further factor is the absence of additional stimuli from monetary and fiscal policy, as a consequence of which the pace of expansion will decline by 0.4 percentage points in 2019 to 2.5%. Growth continues to be supported by rising incomes and sustained positive consumer sentiment. Exports will soften sharply in 2019, not least due to trade wars. Despite all the trade policy actions taken, the US current account deficit will likely grow by a further 0.4 percentage points to 3.2%.

Europe

In the Eurozone, too, the pace of expansion is gradually easing. Growth will slow by 0.2 percentage points to 1.7%. Continued favourable financing conditions and an expansionary fiscal policy are nevertheless helping to keep the economy on an upward track. In addition, stronger impetus is set to come from foreign trade in the years ahead after a softer 2018. In France (+1.4%) and Italy (+0.7%) growth will slow further in the face of continued doubts surrounding reforms. Particularly in Italy, the pressure from financial markets may keep increasing in view of the high level of debt. While Portugal (+2.0%) will probably not be able to sustain the growth tempo of the previous year, growth in Greece (+2.5%) continues to trend higher.

In the United Kingdom the uncertainties surrounding what form Brexit will ultimately take remain in place for the time being and – according to calculations by the Kiel-based experts – have likely so far led to lost production in the order of 2% for the economy as whole. Irrespective of the new political and economic framework arrived at by the European Union and the United Kingdom, growth in the UK will decline again in 2019 to 1.0% owing to depressed consumer sentiment and a reluctance to invest. In this context it is to be anticipated that little will change in the trading relationship in the short term, given that the future arrangements still have to be elaborated in detail.

Even in the current phase of slightly fading upward momentum, unemployment in the Eurozone will continue to fall in 2019; the jobless rate is forecast to retreat from 8.2% in the previous year to 7.7%. Although core inflation is gradually picking up, the inflation rate of 1.5% in the current year will be slightly lower than in the previous year and remain below the target set by the ECB.

Germany

As far as Germany is concerned, the Kiel-based economists expect the positive trend to continue in 2019. Even though the federal government trimmed its expectation for 2019 GDP growth in January, the ending of temporary production curbs – especially in car manufacturing – will likely have positive implications for the pace of economic growth. Moreover, wide-ranging tax cuts and benefit extensions will increase the disposable income of households and give private consumer spending an added boost. Capacity bottlenecks in the construction sector will hamper more vigorous expansion and drive building costs even higher. Business investments will be on the level of the previous year against the backdrop of recurring uncertainties on international markets.

Exports are set to bounce back in the current year after the dip seen in 2018 and expected to rise by 3.6% (2018: 2.0%). Imports will be further bolstered by the brisk domestic economy, with the result that the value of imported goods will increase by 5.2% in 2019 (2018: 3.3%).

The job market will see continued employment growth and a further rise in wages driven by the increasingly scarce supply of labour. The jobless rate will retreat from an annual average of 5.2% in the previous year to 4.8% in the current year. The upsurge in prices seen in the previous year (+1.9%) is expected to gain momentum and climb to a good two percent in 2019.

China, India, Japan

Growth in China will continue to slow in 2019 and is forecast to contract by 0.5 percentage points to 6.1%. The tax cuts and public spending programmes recently approved by the government are aimed less at stimulating the economy – which was the case in past years – and more at containing the effects of possible punitive tariffs that may be imposed by the United States.

Supported by a successfully implemented programme of reforms, India’s economy will be able to very nearly sustain its high rate of expansion and is likely to grow by 7.5%. The country is thus on the verge of overtaking the United Kingdom and France to claim fifth spot among the world’s largest economies.

The growth rate in Japan, the world’s third-largest economy, is set to increase to a modest 1.0% in 2019. With a view to mitigating an economic cooldown resulting from a planned hike in the consumption tax, the government approved a record amount of public spending in December for the budget year starting in April 2019.

Capital markets

In 2019 financial markets will once again bring promising opportunities but also an abundance of volatility and uncertainty. Above all, geopolitical risks and protectionism have continued potential for adverse repercussions in some areas. Populist moves may increasingly leave their mark on the real economy. One of the primary arenas here remains Europe, where it is still impossible to foresee how the Brexit vote will be translated into political and economic reality. The second focus of attention is the United States, where the behaviour of political actors is difficult to predict and there is a risk of growing instability in view of their impact on global politics. It will be especially important to keep a close eye on trade disputes with China and other countries. Similarly, though, the tense ongoing dialogue between the European Union and Italy, France's partial abandonment of its reform programme and the political shift in Brazil all have the potential to move markets.

The basic starting point for the world economy should nevertheless still be viewed as positive. While the general pace of expansion appears to be flagging, the resurgent emerging economies can still deliver stable growth. Just as the drop in the price of oil has the potential to hamper growth in the oil-exporting part of the world, it can stimulate growth in petroleum-processing economies.

The announcement by the ECB that it would finally be terminating its programme of corporate sector purchases at the end of 2018 after almost four years appears to herald a normalisation phase. This is despite the fact that in light of global political tensions and moves towards economic isolationism the ECB's assessment of the economic outlook is no longer so rosy. Yet there are also no plans for an abrupt end to the anti-crisis mode, since the curtailment of bond purchases only applies to the investment of new funds; funds from maturing government and corporate bonds will continue to be reinvested. It does now appear that a first step towards raising the interest rate on deposits can be taken in 2019. Nevertheless, the ECB is expected to leave the key interest rate for the Eurozone at the historically low level of 0.00% at least until mid-year. The change in leadership at the helm of the ECB upcoming in the autumn is not likely to bring any significant shifts in the central bank's approach.

In contrast, having already hiked rates in four increments in the year under review, the US Federal Reserve will continue to move away from the past expansionary policy in response to the economic upswing in the United States and is expected to press ahead along the path towards normalisation in 2019, albeit at a reduced tempo. This will further accentuate the interest differential between the US dollar and euro areas and may also be reflected in an even stronger US currency. The implications of personnel changes at the Fed for its policy going forward are a subject of considerable anticipation. The new team will similarly be challenged to keep inflation in check without jeopardising domestic consumption as well as to counteract systemic risks through an adequate overall policy. If it is to succeed in this balancing act, it must avoid market overheating without stifling the momentum for growth. It would seem that the central bankers at the Fed have so far been able to resist the actions urged by politicians and preserve their independence.

International bond markets will therefore once again see largely below-average and continued divergent interest rate levels in 2019. In the relevant currency areas for our company we expect slightly upsloping yield curves. For the most part, sovereign bonds with higher risk premiums issued by countries of the European Monetary Union that of late have been the focus of considerable attention should continue to stabilise, particularly in light of recent indications of a more harmonious interaction between the EU and Italy. The prevailing credit cycle in the United States – despite slowing momentum and higher premiums – as well as the stabilisation of emerging markets will continue to shape the economic environment. This can still be positively influenced by stable private consumption.

Having tended to move sideways (albeit on a high level) over large parts of 2018, equity markets came under pressure that was significant in some areas towards the end of the year as they became caught up in global uncertainties and a pervasive sense of unease. It is our expectation that this will continue in 2019 to varying degrees, although the upside potential is rather limited. Sharply higher risk premiums of late on industrials and financials also suggest that a great deal of uncertainty has already been priced in, although the speculative scope for price jumps would seem to be on the modest side. However, we only expect to see appreciable price declines if national economies drift into recession. On US markets it remains to be seen how lasting the effects of tax reform and higher government spending will be, because many economic actors are likely aware that lower tax receipts combined with higher expenditures create funding gaps that ultimately have to be filled with higher tax inflows in the future. Nor will Europe or the emerging markets escape the resulting uncertainties unscathed. In the latter case, however, we still see a positive scenario going forward as they have largely been able to channel the outside pressure of the past years into economic and fiscal optimisations. Based on more flexible labour markets and with inflation in check – a few exceptions notwithstanding –, we anticipate a sideways tendency here on the domestic economy side and stabilisation in foreign trade.

Once again, then, 2019 will be a year distinguished by an unusual and challenging combination of geopolitical and monetary policy uncertainty. In view of the increasing risks, even greater attention must be paid to the risk/reward ratio when making investment decisions. Consequently, broad diversification within the investment portfolio will continue to be of considerable importance in 2019.

Insurance industry

Even though the insurance industry still finds itself facing numerous – in some cases considerable – challenges in the current financial year, the mood throughout the sector is gradually lifting. The reasons here include the prevailing upbeat business sentiment overall and the positive approach taken by the industry in addressing the demands of change. This includes the fact that many companies are now actively partnering with insurtechs, as new market entrants, in their business models and finding numerous nexus points for the development of new products.

The insurance industry continues to be preoccupied with the sustained, generally low level of interest rates and increasingly exacting regulatory requirements: the decision taken by the ECB in January of 2019 to keep the key reference rate at zero percent indicates that the Eurozone will not see any quick turning away from the ultra-low rate environment. Life insurers are particularly hard hit, having no choice but to adjust their business models. The US Federal Reserve, on the other hand, will likely press ahead along the path towards higher interest rates in 2019. Going forward, there is at least the prospect that this will also lead to a normalisation of interest rates in Europe. On the regulatory side it is evident that insurance supervisory authorities around the world are now expanding the focus of their attention to include not only solvency issues but also the supervision of market conduct. The topic of market conduct has, for example, already been included as a content item in the five-year strategic plan drawn up by the International Association of Insurance Supervisors (IAIS).

The industry also remains intensely preoccupied with changes in customer expectations. Against a backdrop of advancing digitalisation, consumers are showing greater agility in their behaviour. Customer expectations are also shifting significantly when it comes to benefits and services. Insurers are responding by enhancing the quality of their services, stepping up customer contact management and developing new products that live up to shifting requirements.

The pressure to act on cutting costs remains considerable, prompting market players to accelerate the drive towards digitalisation of their business processes. They are expanding automation of their back office processes and enhancing the flexibility of their IT structures, at the same time opening up further scope to improve customer care. The consolidation process that has already been ongoing in the reinsurance sector for a number of years will continue in 2019. Surplus capacities are thereby eliminated and efficiency is increased.

Reinsurers are continuing to shift their focus towards the quality of their products and services. This move is also prompted by the demand side, since their insurance partners are increasingly calling for bespoke solutions. Against this backdrop insurance products are created that actively support their partners' strategic objectives and growth targets. Thus, for example, the increasing need to protect against climate change, elevated political risks and the ever more important segment of cyber risks continue to present the industry with numerous entry points for the launch of new products. The digital transformation of the industry, in particular, is opening up new avenues for loss prevention and for closer cooperation with partners from the technology sector.

Property & Casualty reinsurance

Overview

After four years of declining reinsurance rates the heavy natural catastrophe losses incurred in 2017 and again in 2018 caused the rate level to move higher as 2018 got underway and subsequently stabilise overall as the year progressed. The supply of reinsurance capacity – from both the traditional reinsurance sector and the ILS (insurance-linked securities) market – nevertheless still outstrips demand. In the treaty renewals as at 1 January 2019 the prices that could be obtained for reinsurance programmes and in regions that had been spared losses came under slightly more pressure compared to the situation in 2018. On the other hand, rate increases running into double-digit percentages were recorded for programmes that had once again suffered losses.

Adjusted for exchange rate effects, we boosted our premium volume as at 1 January in traditional property and casualty reinsurance by altogether 15.4% to EUR 6,406 million (EUR 5,551 million). On this date 66% of the traditional property and casualty reinsurance portfolio (excluding facultative reinsurance, ILS business and structured reinsurance) was up for renewal.

In contrast to the situation just one year ago, alternative capital providers for ILS business took a more restrained approach in the 1 January 2019 renewals. The capacity originating from the ILS sector nevertheless remains a significant part of the reinsurance market.

Reinsurance prices were generally commensurate with the risks in the renewal season at the beginning of the year, and viewed from an overall perspective we were able to secure slightly improved conditions. As one of the world's leading reinsurers we continue to benefit from our very robust financial strength as well as a trend among primary insurers towards consolidation of their reinsurance partners. Particularly attractive opportunities to expand the portfolio opened up in Asia, North America and Germany.

Expectations for the development of individual markets and lines in property and casualty reinsurance are described in greater detail below, broken down into the areas of Board responsibility.

Property & Casualty reinsurance: Forecast development for 2019 **M 95**

	Volume [1]	Profitability [2]
Target markets		
North America [3]	↗	+
Continental Europe [3]	↗	+
Specialty lines worldwide		
Marine	→	+
Aviation	→	–
Credit, surety and political risks	↗	+
UK, Ireland, London market and direct business	↗	+/–
Facultative reinsurance	→	+
Global reinsurance		
Worldwide treaty reinsurance [3]	↗	+/–
Catastrophe XL (Cat XL)	↗	+/–
Structured reinsurance and insurance-linked securities	→	+/–

1 In EUR, development in original currencies can be different
2 ++ = significantly above the cost of capital
+ = above the cost of capital
+/– = on a par with the cost of capital
– = below the cost of capital
3 All lines with the exception of those reported separately

Target markets

North America

In North America the primary insurance market should continue to develop favourably, also bearing in mind the general economic climate. The considerable losses incurred in the last two years from windstorm events, forest fires and floods further highlighted the benefit of risk-mitigating insurance and reinsurance solutions and led to stronger demand. The North American market is of strategic importance to Hannover Re and over the years we have expanded our long-standing customer relationships and added new clients.

A stable to slightly positive price trend was evident in the treaty renewals as at 1 January 2019. Rates moved notably higher under loss-impacted programmes, while modest price erosion was observed for programmes that had remained loss-free. In US property business we were able to enlarge the portfolio written with existing clients at improved conditions overall. Prices and conditions in US liability business were for the most part on a satisfactory level, enabling us to further expand our premium volume in some lines of this segment. We expect to see a continued positive pricing tendency for the rounds of treaty renewals in June and July 2019 – when the bulk of the loss-impacted programmes come up for renewal. Through our cooperation with insurtechs we are also acting on business opportunities associated with progressive digitalisation. Within our defined risk appetite we are able to comprehensively support our clients who continue to seek out our financial strength.

Continental Europe

In **Germany**, the largest single market within our Continental Europe segment, we were able to consolidate our prominent position in the treaty renewals as at 1 January 2019 and indeed extended it on the basis of specific treaties. Against a backdrop of broadly stable rates and conditions, we expect to book premium growth in the double-digit percentage range overall. After the challenging market conditions seen in industrial fire and property insurance in Germany for quite a number of years, some moves by primary insurers to remediate the business can now be discerned in the market. With this in mind we partially expanded the portfolio in keeping with our selective underwriting policy. In motor insurance, our most important individual line of business, we expect to see a stable premium development. Demand for reinsurance protection has been stimulated by rising awareness of the dangers posed by cyber risks as well as by regulatory requirements.

In the **other markets of Continental Europe** the picture was a mixed one. Generally speaking, it may be stated that the treaty renewals as at 1 January 2019 saw a demand for more reinsurance protection at stable prices. We achieved particularly pleasing growth in Italy. In Western Europe we maintained the premium level from the previous year. In Eastern Europe price stabilisation was evident; some of the price increases under loss-affected programmes were very significant.

Specialty lines worldwide

Marine

In marine reinsurance the renewals as at 1 January 2019 passed off largely satisfactorily. Rate increases for loss-impacted programmes were in some instances appreciable. Other than that, the Asian market was still shaped by surplus capacity and Continental European programmes also came under modest pressure. The treaty renewals on the London Market for the most part remained on a constant level. Customers were nevertheless differentiated here according to their specific changes in exposures and losses. Owing to our discontinuation of marine acceptances in the London Market as well as some corporate mergers, we anticipate a reduced premium volume in marine reinsurance.

Aviation

After years of intense competition the consolidation drive in aviation reinsurance appears to have been largely completed. Improved conditions are evident in original business. Similarly, the rate erosion observed in non-proportional reinsurance was extensively halted in this year's 1 January round of renewals. Based on rising premiums in the original market, we also expect a modest increase for our proportional portfolio.

Credit, surety and political risks

Following a revival in the global economy in 2018, growth will likely slow in the coming year. As a consequence, the number of insolvencies around the world may rise slightly from the existing low level. Against this backdrop, we expect loss ratios in credit and surety business as well as in the area of political risks to remain stable or increase moderately. In the context of the progressive regional diversification of our portfolio it is our expectation that premium growth will be sustained going forward, although the tempo in credit and surety business will be held back by general economic conditions. In the area of political risks, on the other hand, demand is likely to remain high in view of the elevated risk situation around the world. All in all, we are looking for a stable market environment in the current financial year despite a slowdown in global economic growth. Against this backdrop, we expect to book modestly increased premium income and a good result.

United Kingdom, Ireland and London Market

Rates were stable across all lines in the round of 1 January treaty renewals, with modest erosion observed in motor third party liability. Market players now expect the Ogden rate to be increased in 2019, which may lead to an improved claims run-off. To some extent this effect was pre-empted by other market players and prices were adjusted downwards. For our part, however, we maintained our conservative stance on pricing. Prices were also stable for property reinsurance programmes on the London Market. Given the keen focus put on profit, which is pursued especially vigorously by Lloyd's of London, we expect to see hardening on the primary insurance market. We similarly anticipate positive implications for our portfolio from improvements in the business written by our clients, both in qualitative terms and on the pricing side. For the current year we are expecting a stable premium volume overall.

Direct business

As already announced in the year under review, Hannover Re and HDI Global have concentrated their primary insurance activities in specialty lines in a new joint venture named HDI Global Specialty SE. The majority interest (50.2%) in Inter Hannover was acquired by HDI Global for this purpose. HDI Global Specialty commenced operational activities on 1 January 2019 and writes agency business and speciality insurance in a range of lines including errors & omissions liability insurance, directors' and officers' (D & O) liability insurance, legal expenses, sports and entertainment, aviation and offshore energy. As early as 2019 annual gross premium income is expected to exceed EUR 1 billion. Hannover Re will continue to reinsure a large portion of the business written by HDI Global Specialty. A premium decline will nevertheless be recorded due to deconsolidation in the amount of the former Inter Hannover's retention.

Facultative reinsurance

The current financial year is expected to bring increased demand for facultative reinsurance at improved conditions on the whole. This will be driven by the above-average loss incidence in the previous year and hence also reflects the shift in our clients' risk appetite. Given our strong focus on the customer, we should be able to benefit disproportionately strongly from the potential market opportunities. We shall enlarge our reinsurance portfolio in those regions and lines where we have been able to push through higher prices. Particularly healthy premium growth is anticipated in the United States, Europe and Southeast Asia. Overall, we expect to see an increase in premium income for our facultative business in the current financial year and better results than in 2018.

Based on our progressive accumulation of know-how and enhanced customer support, we similarly anticipate a rising premium volume and continued good results for our specialty lines.

Global reinsurance

Worldwide treaty reinsurance

Insurance markets in the **Asia-Pacific region** should stay on their growth track in 2019. Consequently, we see good opportunities here to enlarge our portfolio.

Our organisational set-up with decentralised underwriting at our local branches – under strategic management from Hannover Home Office – is very well received by our customers and will enable us to put our Group capital efficiently on risk going forward, just as we have in the past. The extent to which natural catastrophe losses from typhoons, earthquakes and floods in Japan, for example, will influence general reinsurance capacities and prices in Asia remains to be seen.

As far as our business in **Japan** is concerned, it is our expectation that the previously mentioned losses will bring higher reinsurance prices for the renewals on 1 April, especially for natural catastrophe covers. Certain customised individual transactions that are currently in the initiation phase will likely help us to significantly grow our portfolio in Japan.

China continues to be the focus of our activities in Asia. Particularly against the backdrop of rapid digitalisation, we are seeking new business opportunities with existing and new partners. In traditional reinsurance business we consider ourselves optimally positioned but anticipate a continued oversupply of capacity, which means that a greater emphasis on innovation will play an important strategic role in the cultivation of new business.

The markets of **South and Southeast Asia** similarly offer a broad spectrum of growth opportunities. Our activities are focused on supporting our customers in the development of products, processes and systems.

The renewal season in **India** as at 1 April 2019 will see efforts to bring about a qualitative improvement in conditions as well as to further expand the business plan pursued by our branch in Mumbai. Given appropriate conditions, we would be prepared to expand our business substantially in keeping with our ambitions for the Indian market.

In **Australia and New Zealand** the market players expect to see clear improvements in conditions in the run-up to the 1 January and 1 July renewals. Demand for natural catastrophe capacity is still rising, which should have implications for pricing in Australia and New Zealand too.

In **South Africa** our organisation is well established within the local insurtech ecosystem. Over the coming years we want to extend this to the continent as a whole, since we view this as a promising strategy for the profitable growth of our portfolio. Based on a stabilisation in reinsurance prices, we expect to book premium growth for our reinsurance and specialty business in the current year.

The market for reinsurance is just as competitive in **Latin America** as it is in other insurance markets, although the picture shows sometimes sharp variations from country to country. In view of a number of large losses in the year under review as well as a shortage of capacity for proportional earthquake covers, conditions for these programmes improved significantly in the renewals as at 1 January 2019 compared to the beginning of 2018. Based on our good market position and superb financial strength, we benefited from offers of new business and improved treaty conditions in the renewals. In addition, we shall continue to pay closer attention to an adequate level of primary insurance rates in Latin America and the Caribbean and we shall make our capacity available accordingly. Thanks to our selective underwriting policy and needs-oriented reinsurance solutions, and reflecting the improvement in primary insurance conditions, it is our assumption that we shall be able to profitably expand our portfolio in Latin American markets and the Caribbean in the current 2019 financial year.

Hannover Re expects demand for insurance against **agricultural risks** to continue rising: the increasing need for agricultural commodities and foodstuffs as well as the growing prevalence of extreme weather events are generating stronger demand for corresponding reinsurance covers, particularly in emerging and developing markets. At Hannover Re we engage both in traditional reinsurance and in intensified cooperation with our customers and partners on the development of new tools for primary insurance. In this regard, we see further growth potential for index-linked products as part of direct and indirect insurance concepts in emerging and developing economies. The more widespread implementation of public-private partnerships offers us new opportunities to write profitable business in markets that have still to establish themselves.

In our **retakaful business** we anticipate a predominantly soft rate level on account of the competition-induced excess supply of capacity as well as a comparatively low oil price. Risk selection and good customer relations will therefore play a pivotal role in our underwriting of profitable business. Our focus in 2019 will be on specialty lines. We are also moving forward with our cautious entry into proportional motor business because the available rates are rising on the back of newly implemented motor tariffs in 2017. All in all, we expect the premium volume to remain stable.

In **natural catastrophe (Cat XL) business** we expect the additional inflow of capacity from the capital markets to be on the moderate side. This is due to the loss experience of 2017 and 2018 as well as a pricing response that many capacity providers found disappointing. Given that reinsurance rates remain low, it is our expectation that the retentions carried by primary insurers will continue to be on a low level.

In the treaty renewals as at 1 January 2019 we obtained appreciable rate increases under loss-impacted programmes. All in all, though, the Cat XL market remains challenging. In areas that had escaped losses it was at most possible to achieve minimal price increases in occasional instances. Furthermore, the tendency towards multi-year programmes and early treaty renewals still prevails.

In general terms, we plan to grow our business only under selected programmes given the current market conditions. This is motivated by, among other things, the fact that certain cedants now tend to request significant capacities solely from preferred business partners – including our company.

When it comes to the 1 April renewals in Japan, the previously mentioned typhoon losses could appreciably affect demand for reinsurance capacity. It is our expectation that the rise in prices will be in the order of 30%. For the 1 June and 1 July renewals we anticipate stronger rate increases than those seen as at 1 January, because by that stage a clearer picture will emerge of the results achieved by reinsurers and hence the pressure on capital market investors will likely grow in light of market and interest rate factors.

We anticipate further attractive opportunities for leading reinsurers since larger companies will continue to follow the trend towards purchasing worldwide covers. The number of reinsurers for such programmes will steadily diminish. What is more, there will be no easing in the considerable pressure when it comes to mergers and acquisitions. In view of the sizeable losses from floods and forest fires, primary insurers in the affected regions will likely seek to secure additional coverage.

Owing to the implementation of risk-based models for calculating solvency requirements not only within but also outside the European Union, demand for **structured reinsurance** products is likely to keep on rising. The key driver here continues to be the growing integration of reinsurance into insurers' risk management as a means of offsetting the increasingly exacting capital requirements placed upon these companies. In addition, the increasing pressure on the profit margins of our customers around the world is creating a greater need for tailor-made reinsurance solutions that can optimise the cost of capital.

In the area of **insurance-linked securities (ILS)** we essentially expect to see continued growth in demand. Investors are seeking a negative or minimal correlation with other financial investments and hence greater diversification. We are responding to this market situation with a strong emphasis on service, offering individually tailored solutions – from collateralised reinsurance to the transformation of catastrophe bonds – for property and life reinsurance risks. Over the coming years we expect our ILS activities to deliver a positive and consistently rising profit contribution. The capital market remains an important element in the retrocession coverage taken out by our own company. For example, we were able to renew the protection cover for Hannover Re known as the 'K cession" – which has been placed inter alia on the ILS market since 1994 – with an increased capacity of roughly USD 650 million (USD 600 million) for 2019.

Life & Health reinsurance

In the international life and health reinsurance market we expect new business opportunities to open up in 2019. It is our assumption that emerging markets, in particular, will continue to make up economic ground. Based on the associated rise in incomes and improvement in living standards, demand for insurance protection – including for example disability, accident and pure mortality covers – as well as for products geared to retirement provision can be expected to rise.

Life & Health reinsurance: Forecast development for 2019 M 96

	Volume [1]	Profitability [2]
Financial Solutions	→	+ +
Risk Solutions		
Longevity	→	+/–
Mortality	→	+/–
Morbidity	↗	+/–

[1] In EUR, development in original currencies can be different

[2] ++ = significantly above the cost of capital
+ = above the cost of capital
+/– = on a par with the cost of capital
– = below the cost of capital

Regulatory issues relating to capital adequacy and solvency ratios have dominated the more mature markets for a number of years. We expect this trend to continue in the upcoming reporting period. As an established and long-standing valued partner, our clients trust in our expertise and we consider ourselves well prepared for potential new developments.

Looking at individual regions, Australia is particularly likely to see a tightening of the regulatory requirements governing the financial services sector. Just what form developments actually take will become clearer in the course of 2019.

In the German market it appears that market consolidation will remain a defining issue. The regulatory requirements imposed by the Federal Financial Supervisory Authority (BaFin) in combination with a complex set of market circumstances – such as low interest rates, a decline in business with traditional life insurance policies and higher capital adequacy ratios – are presenting the insurance industry with considerable challenges. It remains to be seen whether the market is already equipped to tackle them. Notwithstanding the above, we believe that insurance products aimed at senior citizens offer potential opportunities, given how growth in this area is driven by an ageing German population.

As it looks towards Brexit, the United Kingdom is on the cusp of an event with far-reaching implications for the local economy and for the entire European Union. It is still too soon to make any detailed observations, given that only the vaguest key points about the country's withdrawal are known. We are, however, keeping a close eye on developments and are positioned to respond flexibly to the changes that lie ahead.

We consider Asia to be the continent that offers the greatest growth potential. The Chinese market, in particular, is recording very dynamic growth, and we therefore anticipate continued promising new business in the coming year.

In our assessment, microinsurance is another area that offers further business opportunities. Drawing on innovative networks of a wide range of sales partners, the goal is to enable groups of individuals to access insurance who cannot be reached through normal distribution channels. This is particularly important for less developed economies. Thanks to our global network, we are able support providers as they expand their product range in these countries, thereby open opening up access to insurance for more people.

Turning to our automated underwriting systems, we are similarly optimistic that we can build on the success story written so far. Numerous new deployments of hr|ReFlex are already envisaged for the coming year. What is more, the growing demand for lifestyle insurance products that combine health-related aspects (e.g. fitness and nutritional habits) with insurance protection will remain a trend in 2019 and have major implications for the life insurance industry around the world.

In general terms, we increasingly see ourselves as more than just a pure risk carrier. In our role as an expert partner, we draw on our worldwide know-how spanning a wide range of topics to give our customers comprehensive support. We attach just as much importance to the advantages of already being closely integrated into the business process in advance so as to jointly identify the exact reinsurance requirement as we do to staying involved throughout the process and keeping track of the business experience. The business relationships with our customers are routinely of a long-term nature because life and health reinsurance typically involves long-duration treaty types. This makes it all the more important to generate sustainable value for all parties concerned in their mutual interest.

We anticipate that the forecast developments in the markets will affect our key earnings figures as follows: gross premium income is expected to show organic growth averaging between 3% and 5% (assuming constant exchange rates; over a three-year period). The operating result (EBIT) should grow by more than 5% on average over a three-year period. The value of new business should exceed the minimum target of EUR 220 million.

Investments

Geopolitical and populist developments harbour growing uncertainties. As a consequence of the unusual capital market constellations experienced in recent years, the behaviour of capital market players can no longer be wholly explained by fundamentals. With this in mind, we shall remain risk-aware in investing substantial parts of our investment portfolio. Nevertheless, the brighter economic outlook in certain markets and countries will also be reflected in appropriate risk-taking. Our emphasis on broad diversification will remain in place. By maintaining the most neutral possible modified duration we shall ensure that the interest rate risk is tightly managed.

The enlargement of the asset portfolio should have a positive effect on investment income. Despite the persistently low euro interest rate level, we expect to maintain a stable average return on our investments thanks to higher US interest rates and wider credit spreads. In view of the low returns on more secure investments, we shall continue to invest in products offering attractive credit spreads such as corporate bonds, although in this regard we shall increasingly move back towards higher-quality segments. The widening of spreads towards the end of the year under review is putting a more healthy risk/reward ratio within reach again. In the areas of alternative investments, real estate and emerging markets we also intend to selectively expand our holdings.

If the valuation levels of listed equities experience further corrections or stabilise, we are ready to enter the market on a moderate scale.

In our assessment, the Brexit issue remains, if anything, an indirect source of uncertainty affecting capital markets, but not a direct factor influencing our asset management activities. It is our assumption that markets have already priced in the uncertainty surrounding the withdrawal process.

Outlook for the full 2019 financial year

For the 2019 financial year we anticipate a good overall result for Hannover Re. Bearing in mind the developments in property and casualty as well as life and health reinsurance, we are looking to book single-digit percentage growth in gross premium – based on constant exchange rates.

In property and casualty reinsurance we expect significant growth at largely stable conditions based on the outcome of the treaty renewals as at 1 January 2019. We shall retain unchanged our selective underwriting policy, under which in large part we write only business that satisfies our margin requirements. Looking ahead to the subsequent rounds of renewals during the year, the situation is generally expected to be similar to the one at the start of the year. An exception here is likely to be the segments that have been particularly hard hit by natural disasters, such as covers for hurricanes in the United States, typhoons in Japan and forest fires in California; we anticipate stronger rate increases in these cases, because as the year progresses a clearer picture will emerge of the results achieved by reinsurers and hence the pressure on capital market investors will likely grow in light of market and interest rate factors.

Thanks to our good ratings, long-standing stable customer relationships and low expense ratio, a solid outcome should once again be attainable. We therefore anticipate a good underwriting result, provided the burden of large losses remains within our expectations. For 2019 we have raised our net large loss budget for the first time in three years; it now stands at EUR 875 million as against EUR 825 million in the previous years. This adjustment reflects the growth in the underlying business.

The EBIT margin for property and casualty reinsurance should amount to at least 10%. We are aiming for a combined ratio here of less than 97%.

In life and health reinsurance the current financial year is expected to deliver moderate premium growth. On the earnings side, the strains in US mortality business should decrease quite substantially. This should give rise to an unusually strong surge in profitability, with EBIT expected to be in the order of EUR 400 million. The targeted level for the value of new business remains unchanged at a minimum of EUR 220 million per year.

With regard to the IVC targets that we use to map economic value creation, it remains our expectation that a minimum xRoCA of 2% will be generated for property and casualty reinsurance and for life and health reinsurance.

In view of the expected positive cash flow that we generate from the technical account and the investments themselves, and assuming stable exchange rates and interest rate levels, our asset portfolios should continue to grow. We are looking to deliver a return on investment of at least 2.8% for 2019.

For the current financial year we anticipate Group net income of EUR 1.1 billion. This is subject to the proviso that large loss expenditure does not significantly exceed the budgeted level of EUR 875 million – which has been adjusted to reflect the growth in the underlying business – and assumes that there are no unforeseen distortions on capital markets.

Hannover Re continues to anticipate a payout ratio for the ordinary dividend in the range of 35% to 45% of its IFRS Group net income. The ordinary dividend will be supplemented by payment of a special dividend in light of capital management considerations if the comfortable level of capitalisation remains unchanged.

Events after the reporting date

No matters of special significance occured after the closing date for the consolidated financial statements.

Consolidated financial statements

Consolidated balance sheet as at 31 December 2018

Assets

in EUR thousand	Notes	31.12.2018	31.12.2017
Fixed-income securities – held to maturity	6.1	249,943	336,182
Fixed-income securities – loans and receivables	6.1	2,398,950	2,455,164
Fixed-income securities – available for sale	6.1	33,239,685	31,281,908
Fixed-income securities – at fair value through profit or loss	6.1	559,750	212,042
Equity securities – available for sale	6.1	28,729	37,520
Other financial assets – at fair value through profit or loss	6.1	190,759	88,832
Investment property	6.1	1,684,932	1,583,728
Real estate funds	6.1	433,899	384,974
Investments in associated companies	6.1	110,545	121,075
Other invested assets	6.1	1,805,281	1,761,678
Short-term investments	6.1	421,950	958,669
Cash and cash equivalents	6.1	1,072,915	835,706
Total investments and cash under own management		**42,197,338**	**40,057,478**
Funds withheld	6.2	10,691,768	10,735,012
Contract deposits	6.3	172,873	167,854
Total investments		**53,061,979**	**50,960,344**
Reinsurance recoverables on unpaid claims	6.7	2,084,630	1,651,335
Reinsurance recoverables on benefit reserve	6.7	909,056	959,533
Prepaid reinsurance premium	6.7	93,678	96,402
Reinsurance recoverables on other technical reserves	6.7	7,170	7,301
Deferred acquisition costs	6.4	2,155,820	2,228,246
Accounts receivable	6.4	3,975,778	3,821,124
Goodwill	6.5	85,588	91,692
Deferred tax assets	7.5	454,608	466,564
Other assets	6.6	629,420	904,253
Accrued interest and rent		11,726	10,052
Assets held for sale	4.4	1,039,184	–
Total assets		**64,508,637**	**61,196,846**

Liabilities

in EUR thousand	Notes	31.12.2018	31.12.2017
Loss and loss adjustment expense reserve	6.7	28,758,575	28,378,545
Benefit reserve	6.7	9,184,356	8,977,946
Unearned premium reserve	6.7	3,166,964	3,541,194
Other technical provisions	6.7	575,996	394,460
Funds withheld	6.8	969,261	974,786
Contract deposits	6.9	3,611,654	3,949,207
Reinsurance payable		1,156,231	980,241
Provisions for pensions	6.10	182,291	177,786
Taxes	7.5	244,093	319,845
Deferred tax liabilities	7.5	1,700,082	1,819,867
Other liabilities	6.11	612,093	654,338
Long-term debt and notes payable	6.12	2,558,884	1,742,073
Liabilities related to assets held for sale	4.4	2,246,129	–
Total liabilities		**54,966,609**	**51,910,288**
Shareholders' equity			
Common shares	6.13	120,597	120,597
Nominal value: 120,597 Conditional capital: 60,299	6.13		
Additional paid-in capital		724,562	724,562
Common shares and additional paid-in capital		**845,159**	**845,159**
Cumulative other comprehensive income			
Unrealised gains and losses on investments		346,509	818,350
Cumulative foreign currency translation adjustment		201,369	(62,548)
Changes from hedging instruments		(3,160)	(6,292)
Other changes in cumulative other comprehensive income		(53,364)	(50,598)
Total other comprehensive income		**491,354**	**698,912**
Retained earnings		7,440,278	6,984,407
Equity attributable to shareholders of Hannover Rück SE		**8,776,791**	**8,528,478**
Non-controlling interests	6.14	765,237	758,080
Total shareholders' equity		**9,542,028**	**9,286,558**
Total liabilities		**64,508,637**	**61,196,846**

Consolidated statement of income 2018

in EUR thousand	Notes	1.1.–31.12.2018	1.1.–31.12.2017
Gross written premium	7.1	19,176,358	17,790,506
Ceded written premium		1,778,826	1,696,082
Change in gross unearned premium		(128,268)	(437,768)
Change in ceded unearned premium		19,869	(24,986)
Net premium earned		**17,289,133**	**15,631,670**
Ordinary investment income	7.2	1,321,712	1,289,033
Profit/loss from investments in associated companies	7.2	4,977	16,006
Realised gains and losses on investments	7.2	127,659	377,093
Change in fair value of financial instruments	7.2	31,160	38,569
Total depreciation, impairments and appreciation of investments	7.2	49,124	70,949
Other investment expenses	7.2	114,342	110,778
Net income from investments under own management		**1,322,042**	**1,538,974**
Income/expense on funds withheld and contract deposits	7.2	207,987	234,915
Net investment income		**1,530,029**	**1,773,889**
Other technical income	7.3	599	822
Total revenues		**18,819,761**	**17,406,381**
Claims and claims expenses	7.3	12,569,150	12,193,079
Change in benefit reserves	7.3	50,791	(571)
Commission and brokerage, change in deferred acquisition costs	7.3	4,271,736	3,499,270
Other acquisition costs		21,018	14,141
Other technical expenses	7.3	4,804	3,781
Administrative expenses	7.3	423,343	411,297
Total technical expenses		**17,340,842**	**16,120,997**
Other income	7.4	1,084,511	990,174
Other expenses	7.4	966,781	911,203
Other income/expenses	7.4	117,730	78,971
Operating profit/loss (EBIT)		**1,596,649**	**1,364,355**
Financing costs	6.12	78,261	71,736
Net income before taxes		**1,518,388**	**1,292,619**
Taxes	7.5	372,861	248,042
Net income		**1,145,527**	**1,044,577**
thereof			
Non-controlling interest in profit and loss	6.14	86,034	86,022
Group net income		**1,059,493**	**958,555**
Earnings per share (in EUR)	**8.5**		
Basic earnings per share		8.79	7.95
Diluted earnings per share		8.79	7.95

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Consolidated statement of comprehensive income 2018

in EUR thousand	1.1.–31.12.2018	1.1.–31.12.2017
Net income	**1,145,527**	**1,044,577**
Not reclassifiable to the consolidated statement of income		
Actuarial gains and losses		
Gains (losses) recognised directly in equity	(4,479)	4,969
Tax income (expense)	1,396	(1,594)
	(3,083)	**3,375**
Income and expense recognised directly in equity that cannot be reclassified		
Gains (losses) recognised directly in equity	(4,479)	4,969
Tax income (expense)	1,396	(1,594)
	(3,083)	**3,375**
Reclassifiable to the consolidated statement of income		
Unrealised gains and losses on investments		
Gains (losses) recognised directly in equity	(610,978)	246,129
Transferred to the consolidated statement of income	(67,306)	(362,273)
Tax income (expense)	184,801	13,060
	(493,483)	**(103,084)**
Currency translation		
Gains (losses) recognised directly in equity	266,814	(802,819)
Tax income (expense)	592	49,843
	267,406	**(752,976)**
Changes from the measurement of associated companies		
Gains (losses) recognised directly in equity	(4,024)	(936)
	(4,024)	**(936)**
Changes from hedging instruments		
Gains (losses) recognised directly in equity	3,228	(79)
Tax income (expense)	(91)	476
	3,137	**397**
Reclassifiable income and expense recognised directly in equity		
Gains (losses) recognised directly in equity	(344,960)	(557,705)
Transferred to the consolidated statement of income	(67,306)	(362,273)
Tax income (expense)	185,302	63,379
	(226,964)	**(856,599)**
Total income and expense recognised directly in equity		
Gains (losses) recognised directly in equity	(349,439)	(552,736)
Transferred to the consolidated statement of income	(67,306)	(362,273)
Tax income (expense)	186,698	61,785
	(230,047)	**(853,224)**
Total recognised income and expense	**915,480**	**191,353**
thereof		
Attributable to non-controlling interests	62,374	57,683
Attributable to shareholders of Hannover Rück SE	853,106	133,670

Consolidated statement of changes in shareholders' equity 2018

in EUR thousand	Common shares	Additional paid-in capital	Other reserves (cumulative other comprehensive income)	
			Unrealised gains/losses	Currency translation
Balance as at 1.1.2017	**120,597**	**724,562**	**904,196**	**680,082**
Changes in ownership interest with no change of control status	–	–	–	–
Changes in the consolidated group	–	–	–	–
Capital increases/additions	–	–	–	–
Capital repayments	–	–	–	–
Acquisition/disposal of treasury shares	–	–	–	–
Total income and expense recognised directly in equity	–	–	(85,846)	(742,630)
Net income	–	–	–	–
Dividends paid	–	–	–	–
Balance as at 31.12.2017	**120,597**	**724,562**	**818,350**	**(62,548)**
Balance as at 1.1.2018	**120,597**	**724,562**	**818,350**	**(62,548)**
Changes in ownership interest with no change of control status	–	–	(1,171)	–
Changes in the consolidated group	–	–	–	–
Capital increases/additions	–	–	–	–
Capital repayments	–	–	–	–
Acquisition/disposal of treasury shares	–	–	–	–
Total income and expense recognised in equity	–	–	(470,670)	263,917
Net income	–	–	–	–
Dividends paid	–	–	–	–
Balance as at 31.12.2018	**120,597**	**724,562**	**346,509**	**201,369**

Continuation: Other reserves (cumulative other comprehensive income) Hedging instruments	Other	Retained earnings	Equity attributable to shareholders of Hannover Rück SE	Non-controlling interests	Total shareholders' equity
(6,703)	**(53,778)**	**6,628,274**	**8,997,230**	**743,317**	**9,740,547**
–	–	618	618	160	778
–	–	–	–	461	461
–	–	–	–	559	559
–	–	–	–	(19)	(19)
–	–	(54)	(54)	–	(54)
411	3,180	–	(824,885)	(28,339)	(853,224)
–	–	958,555	958,555	86,022	1,044,577
–	–	(602,986)	(602,986)	(44,081)	(647,067)
(6,292)	**(50,598)**	**6,984,407**	**8,528,478**	**758,080**	**9,286,558**
(6,292)	**(50,598)**	**6,984,407**	**8,528,478**	**758,080**	**9,286,558**
–	–	(643)	(1,814)	(306)	(2,120)
–	–	–	–	(160)	(160)
–	–	–	–	44	44
–	–	–	–	(53)	(53)
–	–	7	7	–	7
3,132	(2,766)	–	(206,387)	(23,660)	(230,047)
–	–	1,059,493	1,059,493	86,034	1,145,527
–	–	(602,986)	(602,986)	(54,742)	(657,728)
(3,160)	**(53,364)**	**7,440,278**	**8,776,791**	**765,237**	**9,542,028**

Consolidated cash flow statement 2018

in EUR thousand		1.1.–31.12.2018	1.1.–31.12.2017
I.	**Cash flow from operating activities**		
	Net income	1,145,527	1,044,577
	Appreciation/depreciation	95,063	113,569
	Net realised gains and losses on investments	(127,659)	(377,093)
	Change in fair value of financial instruments (through profit or loss)	(31,160)	(38,569)
	Realised gains and losses on deconsolidation	(2,459)	(191)
	Amortisation of investments	8,399	57,735
	Changes in funds withheld	146,330	54,510
	Net changes in contract deposits	(444,520)	(25,992)
	Changes in prepaid reinsurance premium (net)	108,401	462,495
	Changes in tax assets/provisions for taxes	(586)	(105,658)
	Changes in benefit reserve (net)	225,625	(545,687)
	Changes in claims reserves (net)	1,129,417	1,871,147
	Changes in deferred acquisition costs	(48,109)	(129,259)
	Changes in other technical provisions	187,329	57,219
	Changes in clearing balances	(442,522)	(581,817)
	Changes in other assets and liabilities (net)	275,497	(163,133)
	Cash flow from operating activities	**2,224,573**	**1,693,853**

in EUR thousand	1.1.–31.12.2018	1.1.–31.12.2017
II. Cash flow from investing activities		
Fixed-income securities – held to maturity		
Maturities	83,954	135,297
Fixed-income securities – loans and receivables		
Maturities, sales	360,109	229,949
Purchases	(291,581)	(181,016)
Fixed-income securities – available for sale		
Maturities, sales	18,746,680	10,061,559
Purchases	(20,958,519)	(11,384,950)
Fixed-income securities – at fair value through profit or loss		
Maturities, sales	1,643,108	6,569
Purchases	(1,987,845)	–
Equity securities – available for sale		
Sales	14,323	975,776
Purchases	(5,824)	(35,373)
Other financial assets – at fair value through profit or loss		
Sales	117,324	42,674
Purchases	(138,839)	(90,223)
Other invested assets		
Sales	403,606	247,258
Purchases	(386,219)	(327,224)
Affiliated companies and participating interests		
Sales	11,591	3,873
Purchases	(31,193)	(118,912)
Real estate and real estate funds		
Sales	93,726	167,121
Purchases	(246,824)	(481,126)
Short-term investments		
Changes	530,981	(180,377)
Other changes (net)	(33,760)	(13,125)
Cash flow from investing activities	**(2,075,202)**	**(942,250)**

in EUR thousand		1.1.–31.12.2018	1.1.–31.12.2017
III.	**Cash flow from financing activities**		
	Contribution from capital measures	44	559
	Payment on capital measures	(53)	(4,508)
	Structural change without loss of control	(601)	778
	Dividends paid	(657,728)	(647,067)
	Proceeds from long-term debts	809,485	57,734
	Repayment of long-term debts	(1,641)	(97,486)
	Other changes (net)	7	(54)
	Cash flow from financing activities	**149,513**	**(690,044)**
IV.	**Exchange rate differences on cash**	**16,919**	**(74,520)**
	Cash and cash equivalents at the beginning of the period	**835,706**	**848,667**
	Change in cash and cash equivalents (I. + II. + III. + IV.)	**315,803**	**(12,961)**
	Cash and cash equivalents at the end of the period	**1,151,509**	**835,706**
	Thereof cash and cash equivalents from IFRS 5	78,594	–
	Cash and cash equivalents at the end of the period excluding the disposal group	**1,072,915**	**835,706**
	Supplementary information on the cash flow statement [1]		
	Income taxes paid (on balance)	(361,093)	(387,247)
	Dividend receipts [2]	212,751	268,916
	Interest received	1,568,239	1,454,903
	Interest paid	(300,418)	(272,831)

[1] The income taxes paid, dividend receipts as well as interest received and paid are included entirely in the cash flow from operating activities.
[2] Including dividend-like profit participations from investment funds.

Notes to the consolidated financial statements 2018

1. Company information

Hannover Rück SE and its subsidiaries (collectively referred to as the "Hannover Re Group" or "Hannover Re") transact all lines of property & casualty and life & health reinsurance. With gross premium of approximately EUR 19.2 billion, Hannover Re is the fourth-largest reinsurance group in the world. The company's network consists of more than 170 subsidiaries, affiliates, branches and representative offices worldwide with a total workforce of roughly 3,300. The Group's German business is conducted by the subsidiary E+S Rückversicherung AG. Hannover Rück SE is a European Company, Societas Europaea (SE), which has its registered office at Karl-Wiechert-Allee 50, 30625 Hannover, Germany, and is entered in the commercial register of Hannover County Court under the number HR Hannover B 6778. 50.2% (rounded) of the shares of Hannover Rück SE are held by Talanx AG, Hannover, which in turn is majority-owned – with an interest of 79% – by HDI Haftpflichtverband der Deutschen Industrie V.a.G. (HDI), Hannover.

2. Accounting principles

Hannover Rück SE and its subsidiaries are required to prepare a consolidated financial statement and group management report in accordance with § 290 German Commercial Code (HGB).

Pursuant to EU Regulation (EC) No. 1606/2002, the present consolidated financial statement and group management report of Hannover Re have been drawn up in accordance with the International Financial Reporting Standards (IFRS) that are to be applied within the European Union. In addition, we have made allowance for the regulations that are also applicable pursuant to § 315e Para. 1 German Commercial Code (HGB) and the supplementary provisions of the Articles of Association of Hannover Rück SE as amended on 30 May 2016.

The consolidated financial statement reflects all IFRS in force as at 31 December 2018 as well as all interpretations issued by the International Financial Reporting Interpretations Committee (IFRIC), application of which was mandatory for the year under review. IFRS 4.38 et seq. "Insurance Contracts" requires disclosures on the nature and extent of risks stemming from reinsurance contracts, while IFRS 7.31-42 "Financial Instruments: Disclosures" requires similar information on risks from financial instruments. Furthermore, § 315 Para. 2 Number 1 German Commercial Code (HGB) also contains requirements for insurance undertakings with regard to information on the management of underwriting and financial risks that is to be provided in the management report. The disclosures resulting from these requirements are included in the risk report. With regard to the disclosures required by IFRS 4 and IFRS 7, we would refer in particular to pages 105 to 109 "Underwriting risks in property and casualty reinsurance/Underwriting risks in life and health reinsurance" and to pages 110 to 114 "Market risks" respectively. We have dispensed with an additional presentation of the same content in the notes. In order to obtain a comprehensive overview of the risks to which Hannover Re is exposed it is therefore necessary to consider both the risk report and the relevant information in the notes. We refer the reader accordingly to the corresponding remarks in the risk report and the notes.

In view of the fact that reinsurance contracts, in conformity with IFRS 4 "Insurance Contracts", are recognised according to the pertinent provisions of United States Generally Accepted Accounting Principles (US GAAP) as applicable on the date of initial application of IFRS 4 on 1 January 2005, we cite individual insurance-specific standards of US GAAP using the designation "Statement of Financial Accounting Standard (SFAS)" that was valid at that time.

The declaration of conformity required pursuant to § 161 Stock Corporation Act (AktG) regarding compliance with the German Corporate Governance Code has been submitted and, as described in the Declaration of the Executive Board regarding the Corporate Governance of the Company, made permanently available on the Hannover Re website.

The annual financial statements included in the consolidated financial statement were for the most part drawn up as at 31 December. Pursuant to IFRS 10 "Consolidated Financial Statements" there is no requirement to compile interim accounts for Group companies with diverging reporting dates because their closing dates are no earlier than three months prior to the closing date for the consolidated financial statement. Insofar as no interim accounts were drawn up, allowance has been made for the effects of significant transactions between the diverging reporting dates and the closing date for the consolidated financial statement.

The annual financial statements of all companies were drawn up in accordance with standard Group accounting and measurement rules pursuant to IFRS.

The consolidated financial statement was drawn up in euros (EUR), the amounts shown have been rounded to EUR thousands and – provided this does not detract from transparency – to EUR millions. Figures indicated in brackets refer to the previous year.

The present consolidated financial statement was released for publication by a resolution of the Executive Board on 4 March 2019.

New accounting standards or accounting standards applied for the first time

The IASB published amendments to IFRS 4 "Applying IFRS 9 Financial Instruments with IFRS 4 Insurance Contracts" which give certain insurance entities the option to defer mandatory application of IFRS 9 "Financial Instruments" to 2021. At its meeting on 14 November 2018 the IASB also tentatively decided to defer the date of initial application of IFRS 17 "Insurance Contracts" by one year to annual reporting periods beginning on or after 1 January 2022. In this connection it was further decided to correspondingly extend the period for exercise of the optional temporary exemption from applying IFRS 9 that is available to companies whose activities are predominantly connected with insurance. Hannover Re is exercising the deferral option, inter alia due to the interdependency between the recognition of financial instruments and insurance contracts. The new disclosures required as part of the deferral approach, which are intended to facilitate some comparability with entities already applying IFRS 9, are provided for the first time in section 6.1 of the notes to the consolidated financial statement "Investments under own management".

Hannover Re is applying IFRS 15 "Revenue from Contracts with Customers" for the first time with effect from 1 January 2018. The standard specifies when and in what amount revenue is to be recognised and which disclosures are required for this purpose. Financial instruments and other contractual rights and obligations which are to be recognised under separate standards as well as (re)insurance contracts within the scope of IFRS 4 "Insurance Contracts" are expressly exempted from the standard's scope of application. The predominant activity of the Hannover Re Group falls within the scope of application of IFRS 4. As expected, therefore, the services falling within the scope of application of IFRS 15 did not have any significant implications overall for the Group's net assets, financial position or results of operations. The modified retrospective approach was chosen for initial application. In addition, the practical transition relief provided in the standard with respect to completed contracts and contract modifications was utilised. Disclosure of the amount restated for each item of the financial statement affected by application of IFRS 15 in the year of initial application, which arises due to the adjustment of prior-year comparatives recognised according to the requirements of IAS 18 and associated interpretations applicable prior to the change, is similarly omitted in accordance with the materiality concept. Disclosures regarding revenue as defined by IFRS 15 are provided in section 7.4 of the notes to the consolidated financial statement "Other income/expenses".

In addition, the amendments to existing standards listed below were applicable for the first time in the year under review and had no significant implications overall for the net assets, financial position or result of operations of Hannover Re.

- Classification and Measurement of Share-based Payment Transactions (Amendments to IFRS 2),
- Transfers of Investment Property: Amendments to IAS 40 "Investment Property"
- Amendments as part of the "Annual Improvements to IFRS Standards 2014 – 2016 Cycle" with respect to IAS 28 "Investments in Associates and Joint Ventures" and IFRS 1 "First-time Adoption of International Financial Reporting Standards"
- IFRIC 22 "Foreign Currency Transactions and Advance Consideration".

Standards or changes in standards that have not yet entered into force or are not yet applicable

In May 2017 the IASB published the final version of IFRS 17 "Insurance Contracts", which has still to be endorsed by the EU. IFRS 17 replaces IFRS 4 and thereby establishes for the first time consistent principles for the recognition, measurement, presentation and disclosure of insurance contracts, reinsurance contracts and investment contracts with discretionary participation features. The measurement model of IFRS 17 requires entities to measure groups of insurance contracts based on estimates of discounted future cash flows with an explicit risk adjustment for non-financial risks ("fulfilment cash flows") as well as a contractual service margin, representing the expected (i.e. unearned) profit for the provision of insurance coverage in the future.

Instead of reporting premium income when it is received, insurance revenue is reported when it is earned by recognising in each period the changes in the liability for providing coverage for which the insurance entity receives compensation as well as the part of the premiums that covers acquisition costs. Receipts and payments relating to savings components are not recognised as revenue or as profit or loss in the statement of income. Insurance finance income and expenses result from discounting effects and financial risks. For each portfolio of insurance contracts they may either be recognised in profit or loss in the statement of income or in other comprehensive income.

Changes in assumptions that do not relate to interest rates or financial risks are not recognised directly in the statement of income but are booked against the contractual service margin and hence spread across the remaining coverage period. Changes in estimates are only recognised immediately in profit or loss in the case of those groups of insurance contracts that are expected to be loss-making.

Subject to endorsement in EU law and based on a tentative decision of the IASB, application of IFRS 17 is mandatory for annual reporting periods beginning on or after 1 January 2022.

Given that the standard affects Hannover Re's core business activity, significant implications are expected for the consolidated financial statement. In view of the special significance of the new accounting rules, a multi-year implementation project was launched back in 2017 to explore the implications of the standard for the consolidated financial statement – including the interdependency with IFRS 9 – and the necessary implementation steps were defined and initiated. The accounting principles are currently being elaborated in order to subsequently begin implementing the extensive adjustments to the processes and systems. At this moment, therefore, it is not yet possible to quantify the implications for the consolidated financial statement.

In January 2016 the IASB issued IFRS 16 "Leases" setting out new principles for the accounting of leases. The most significant new requirements relate principally to accounting by lessees. In future, the lessee shall as a general principle recognise a lease liability for all leases. At the same time it shall recognise a right to use the underlying asset. Accounting by lessors remains comparable with current practice, according to which the lessor classifies each lease as an operating lease or a finance lease. The standard is to be applied to annual periods beginning on or after 1 January 2019. Hannover Re intends to apply the standard using a modified retrospective approach and will recognise the cumulative effect of application of the standard in retained earnings as at 1 January 2019. At the end of 2017 a detailed analysis was carried out of the implications for Hannover Re's consolidated financial statement, which was adjusted at the end of 2018 to reflect current exchange rates. The analysis determined that the consolidated balance sheet will probably be extended by around EUR 108 million at the time of initial application through the recognition of rights of use and lease liabilities. The expense from leases will in future be recognised in the form of impairments taken on rights of use and interest on lease liabilities.

In July 2014 the IASB published the final version of IFRS 9 "Financial Instruments", which supersedes all previous versions of this standard and replaces the existing IAS 39 "Financial Instruments: Recognition and Measurement". The standard contains requirements governing classification and measurement, impairment based on the new expected credit loss impairment approach and general hedge accounting. The new classification requirements result in more financial instruments being measured at fair value through profit or loss. Initial mandatory application of the standard, which was endorsed by the EU in November 2016, is set for annual periods beginning on or after 1 January 2018. In September 2016, however, the IASB published "Applying IFRS 9 Financial Instruments with IFRS 4 Insurance Contracts (Amendments to IFRS 4)". Under the deferral approach provided for in the amendments, entities whose predominant activity is issuing insurance and reinsurance contracts within the scope of IFRS 4 are granted an optional temporary exemption from recognising their financial instruments in accordance with IFRS 9 until probable entry into force of IFRS 17 on 1 January 2022. Hannover Re reviewed the application requirements based on the consolidated financial statement as at 31 December 2015 with a positive outcome (the proportion of insurance activities conducted by the Group stood at 98.0%, a change in activity has not occurred in the meantime) and decided to make use of the deferral approach. Hannover Re primarily anticipates implications for the classification of financial instruments. The IFRS 9 implementation project is running parallel to and in close coordination with the IFRS 17 implementation project. Disclosures regarding the fair values of financial instruments currently in the portfolio split according to the cash flow criterion as well as disclosures about the credit risks of securities that solely generate payments of principal and interest are provided in section 6.1 of the notes to the consolidated financial statement "Investments under own management".

In addition to the accounting principles described above, the IASB has issued the following standards, interpretations and amendments to existing standards with possible implications for the consolidated financial statement of Hannover Re, application of which was not yet mandatory for the year under review and which are not being applied early by Hannover Re. Initial application of these new standards is not expected to have any significant implications for Hannover Re's net assets, financial position or result of operations:

Further IFRS Amendments and Interpretations N 06

Published	Title	Initial application to annual periods beginning on or after the following date:
October 2018	Amendments to IAS 1 and IAS 8: Definition of Material	1 January 2020 (still to be endorsed by the EU)
October 2018	Amendment to IFRS 3 Business Combinations	1 January 2020 (still to be endorsed by the EU)
March 2018	Amendments to References to the Conceptual Framework in IFRS Standards	1 January 2020 (still to be endorsed by the EU)
February 2018	Amendments to IAS 19: Plan Amendment, Curtailment or Settlement	1 January 2019 (still to be endorsed by the EU)
December 2017	Annual Improvements to IFRS Standards 2015–2017 Cycle	1 January 2019 (still to be endorsed by the EU)
October 2017	Amendments to IFRS 9: Prepayment Features with Negative Compensation	1 January 2019 (endorsed by the EU)
October 2017	Amendments to IAS 28: Long-term Interests in Associates and Joint Ventures	1 January 2019 (endorsed by the EU)
June 2017	IFRIC Interpretation 23 Uncertainty over Income Tax Treatments	1 January 2019 (endorsed by the EU)

3. Accounting policies

3.1 Summary of major accounting policies

Reinsurance contracts: IFRS 4 "Insurance Contracts" represents the outcome of Phase I of the IASB project "Insurance Contracts" and constitutes a transitional arrangement. IFRS 17, which was issued by the IASB in May 2017, establishes binding principles for the measurement of insurance contracts effective for annual reporting periods beginning on or after 1 January 2021. At a meeting of the IASB in November 2018 it was tentatively decided to defer mandatory application of IFRS 17 by one year to 1 January 2022.

IFRS 4 sets out basic principles for the accounting of insurance contracts. Underwriting business is to be subdivided into insurance and investment contracts. Contracts with a significant insurance risk are considered to be insurance contracts, while contracts without significant insurance risk are to be classified as investment contracts. The standard is also applicable to reinsurance contracts. IFRS 4 contains fundamental rules governing specific circumstances, such as the separation of embedded derivatives and unbundling of deposit components, but it does not set out any more extensive provisions relating to the measurement of insurance and reinsurance contracts. In conformity with the basic rules of IFRS 4 and the IFRS Framework, reinsurance-specific transactions therefore continue to be recognised in accordance with the pertinent provisions of US GAAP (United States Generally Accepted Accounting Principles) as applicable on the date of initial application of IFRS 4 on 1 January 2005.

Financial assets: as a basic principle we recognise the purchase and sale of directly held financial assets including derivative financial instruments as at the settlement date. The recognition of fixed-income securities includes apportionable accrued interest.

Financial assets held to maturity are comprised of non-derivative assets that entail fixed or determinable payments on a defined due date and are acquired with the intent and ability to be held until maturity. They are measured at amortised cost. The corresponding premiums or discounts are recognised in profit or loss across the duration of the instruments using the effective interest rate method. An impairment loss is taken in the event of permanent impairment. Please refer to our comments on impairments in this section.

Loans and receivables are non-derivative financial instruments that include fixed or determinable payments on a defined due date, are not listed on an active market and are not sold at short notice. They are carried at amortised cost.

Premiums or discounts are deducted or added within the statement of income using the effective interest rate method until the amount repayable becomes due. An impairment loss is taken only to the extent that repayment of a loan is unlikely or no longer expected in the full amount. Please refer to our comments on impairments in this section.

Valuation models N 07

Financial instrument	Parameter	Pricing model
Fixed-income securities		
Unlisted plain vanilla bonds, interest rate swaps	Yield curve	Present value method
Unlisted structured bonds	Yield curve, volatility surfaces	Hull-White, Black-Karasinski, LIBOR market model etc.
Unlisted ABS/MBS, CDO/CLO	Risk premiums, default rates, prepayment speed and recovery rates	Present value method
Other invested assets		
Unlisted equities and equity investments	Acquisition cost, cash flows, EBIT multiples, as applicable book value	Capitalised earnings method, discounted cash flow method, multiple-based approaches
Private equity funds, private equity real estate funds	Audited net asset values (NAV)	Net asset value method
Unlisted bond, equity and real estate funds	Audited net asset values (NAV)	Net asset value method
Other financial assets – at fair value through profit or loss		
Currency forwards	Yield curves, spot and forward rates	Interest parity model
OTC stock options, OTC stock index options	Listing of the underlying share, implicit volatilities, money-market interest rate, dividend yield	Black-Scholes
Insurance derivatives	Fair values, actuarial parameters, yield curve	Present value method

Financial assets at fair value through profit or loss consist of securities held for trading and those classified as measured at fair value through profit or loss since acquisition. This refers principally to unsecured debt instruments issued by corporate issuers and derivative financial instruments. Within the scope of the fair value option provided under IAS 39 "Financial Instruments: Recognition and Measurement", according to which financial assets may be carried at fair value on first-time recognition subject to certain conditions, all structured securities that would have needed to have been broken down had they been recognised as available for sale or under loans and receivables are also recognised here. Hannover Re makes use of the fair value option solely for selected subportfolios of its financial assets. Securities held for trading and securities classified as measured at fair value through profit or loss since acquisition are carried at their fair value on the balance sheet date. If stock market prices are not available for use as fair values, the carrying amounts are determined using generally acknowledged measurement methods. All changes in fair values from this measurement are recognised in investment income. The classification of financial assets at fair value through profit or loss is compatible with Hannover Re's risk management strategy and investment strategy, which are oriented extensively towards economic fair value variables.

Financial assets classified as available for sale are carried at fair value; accrued interest is recognised in this context. We allocate to this category those financial instruments that do not satisfy the criteria for classification as held to maturity, loans and receivables, at fair value through profit or loss, or trading. Unrealised gains and losses arising out of changes in the fair value of securities held as available for sale are recognised directly in shareholder's equity after deduction of deferred taxes.

Establishment of the fair value of financial instruments carried as assets or liabilities: we establish the fair value of financial instruments carried as assets or liabilities using the methods and models described below. The fair value of a financial instrument corresponds to the amount that Hannover Re would receive or pay if it were to sell or settle the said financial instrument on the balance sheet date. Insofar as market prices are listed on markets for financial assets, their bid price is used; financial liabilities are valued at ask price. In other cases the fair values are established on the basis of the market conditions prevailing on the balance sheet date for financial assets with similar credit rating, duration and return characteristics or using recognised models of mathematical finance. Hannover Re uses a number of different valuation models for this purpose. The details are set out in the table above. Financial assets for which no publicly available prices or observable market data can be used as inputs (financial instruments belonging to fair value hierarchy level 3) are for the most part measured on the basis of proven valuations drawn up by knowledgeable, independent experts, e. g. audited net asset value, the plausibility of which has previously been subjected to systematic review. For further information please see our explanatory remarks on the fair value hierarchy in section 6.1 “Investments under own management”.

Impairments: As at each balance sheet date we review our financial assets with an eye to the need to take impairments. Permanent impairments on all invested assets are recognised directly in the statement of income. In this context we take as a basis the same indicators as those subsequently discussed for fixed-income securities and securities with the character of equity. Qualitative case-by-case analysis is also carried out. IAS 39 “Financial Instruments: Recognition and Measurement” contains a list of objective, substantial indications for impairments of financial assets. In the case of fixed-income securities and loans reference is made, in particular, to the rating of the instrument, the rating of the issuer/borrower as well as the individual market assessment in order to establish whether they are impaired. With respect to held-to-maturity instruments as well as loans and receivables recognised at amortised cost, the level of impairment is arrived at from the difference between the book value of the asset and the present value of the expected future cash flows. The book value is reduced directly by this amount which is then recognised as an expense. With the exception of value adjustments taken on accounts receivable, we recognize impairments directly on the assets side – without using an adjustment account – separately from the relevant items. If the reasons for the write-down no longer apply, a write-up is made in income up to at most the original amortised cost for fixed-income securities.

With respect to impairments on securities with the character of equity, IAS 39 “Financial Instruments: Recognition and Measurement” states, in addition to the aforementioned principles, that a significant or prolonged decrease in fair value below acquisition cost constitutes objective evidence of impairment. Hannover Re considers equity securities to be impaired under IAS 39 if their fair value falls significantly, i. e. by at least 20%, or for a prolonged period, i. e. at least nine months, below acquisition cost. In accordance with IAS 39 the reversal of impairment losses on equities to the statement of income once impairment has been taken is prohibited, as is adjustment of the cost basis. Impairment is tested in each reporting period using the criteria defined by Hannover Re. If an equity security is considered to be impaired on the basis of these criteria, IAS 39 requires that a value adjustment be recognised in the amount of the fair value less historical cost and less prior value adjustments, meaning that depreciation is taken on the fair value as at the closing date – if available, on the publicly quoted stock exchange price. We also apply this method to participations in funds that invest in private equity. In order to reflect the specific character of these funds (in this case initially negative yield and liquidity flows from the so-called “J curve” effect during the investment period of the funds), we take an impairment to net asset value as an approximation of the fair value for the first time after a two-year waiting period if there is a significant or prolonged decrease in value. If, however, significant changes in value occur within the funds during this period that are not attributable to the J curve effect in addition to the increased investment expenses, the resulting impairment is recognised directly as a write-down.

Netting of financial instruments: financial assets and liabilities are only netted and recognised in the appropriate net amount if a corresponding legal claim (reciprocity, similarity and maturity) exists or is expressly agreed by contract, in other words if the intention exists to offset such items on a net basis or to effect this offsetting simultaneously.

Other invested assets are for the most part recognised at nominal value. Insofar as such financial assets are not listed on public markets (e g. participating interests in private equity firms), they are carried at the latest available net asset value as an approximation of the fair value. Loans included in this item are recognised at amortised cost.

Investments in associated companies are valued at equity on the basis of the proportionate shareholders’ equity attributable to the Group. Further information is provided in section 4.1 “Consolidation principles”.

Investment property is valued at cost less depreciation and impairment. Straight-line depreciation is taken over the expected useful life – at most 50 years. Under the impairment test the market value of investment property (recoverable amount) is determined using accepted valuation methods, compared with the book value and, where necessary, impairments are recognised. Maintenance costs and repairs are expensed. Value-enhancing expenditures are capitalised if they extend the useful life.

Cash and cash equivalents are carried at face value. Cash collateral that we have received for the hedging of positive fair values of derivatives is shown under other liabilities.

Funds withheld are receivables due to reinsurers from their clients in the amount of the cash deposits contractually withheld by such clients; they are recognised at acquisition cost (nominal amount). Appropriate allowance is made for credit risks.

Contract deposits: under this item we report receivables and liabilities under insurance contracts that satisfy the test of a significant risk transfer to the reinsurer as required by IFRS 4 "Insurance Contracts" but fail to meet the risk transfer required by US GAAP. IFRS 4 in conjunction with SFAS 113 requires insurance contracts that transfer a significant technical risk from the ceding company to the reinsurer to be differentiated from those under which the risk transfer is of merely subordinate importance. Since the risk transfer under the affected transactions is of subordinate importance, these contracts are recognised using the "deposit accounting" method and hence eliminated from the technical account. The compensation for risk assumption booked to income under these contracts is netted under other income/expenses. The payment flows resulting from these contracts are shown in the cash flow statement under operating activities.

Accounts receivable: the accounts receivable under reinsurance business and the other receivables are carried at nominal value; value adjustments are made where necessary on the basis of a case-by-case analysis. We use adjustment accounts for value adjustments taken on reinsurance accounts receivable, while all other write-downs are booked directly against the underlying position.

Deferred acquisition costs principally consist of commissions and other variable costs directly connected with the acquisition or renewal of existing reinsurance contracts. These acquisition costs are capitalised and amortised over the expected period of the underlying reinsurance contracts. Deferred acquisition costs are regularly tested for impairment.

Reinsurance recoverables on technical reserves: shares of our retrocessionaires in the technical reserves are calculated according to the contractual conditions on the basis of the gross technical reserves. An appropriate impairment is taken to allow for objective substantial indications of credit risks that are based on an event after initial recognition and suggest impairment, insofar as this can be reliably measured.

Intangible assets: in accordance with IFRS 3 "Business Combinations" goodwill is not amortised; instead, impairments may be taken after an annual impairment test or as indicated. For the purposes of the impairment test, goodwill is to be allocated pursuant to IAS 36 "Impairment of Assets" to so-called "cash generating units" (CGUs). Each CGU to which goodwill is allocated should represent the lowest level on which goodwill is monitored for internal management purposes and may not be larger than a segment. Following allocation of the goodwill it is necessary to determine for each CGU the recoverable amount, defined as the higher of the value in use and the fair value less costs to sell. For impaired goodwill the recoverable amount is to be stated. The recoverable amount is to be compared with the book value of the CGU including goodwill. When the latter exceeds the recoverable amount, an impairment expense is to be recognised. For detailed information on the impairment method used and the goodwill recognised as at the balance sheet date, please see section 6.5 "Goodwill".

The other intangible assets include the expected profits from acquired life reinsurance portfolios. These are carried at the present value of future profits (PVFP) at time of acquisition, which is calculated as the present value of profits expected from the acquired blocks of business disregarding new business and tax effects. Amortisation is taken according to the periods of the underlying acquired contracts. The PVFP is regularly tested for impairment using a liability adequacy test and impairment losses are taken if necessary. In this regard please see section 3.2 "Major discretionary decisions and estimates". Separately identifiable intangible assets in connection with business combinations, such as customer base or contractual/legal rights, are also recognised under this item.

Purchased and proprietary software is recognised at acquisition cost less depreciation. Intangible assets are regularly tested for impairment and an impairment loss is recognised where necessary.

Deferred tax assets: IAS 12 "Income Taxes" requires that assets-side deferred taxes be established if assets have to be recognised in a lower amount or liabilities in a higher amount in the consolidated balance sheet than in the tax balance sheet and if these temporary differences will lead to reduced tax burdens in the future. In principle, temporary differences result from the valuation differences between the tax balance sheets drawn up in accordance with national standards and the IFRS balance sheets of the companies included in the consolidated financial statement drawn up in accordance with uniform group standards as well as from consolidation processes. Deferred tax assets and liabilities are not established if they arise out of assets or liabilities, the book value of which upon first-time recognition diverges from their initial tax base.

Deferred tax assets are also recognised on tax loss carry-forwards and tax credits. Insofar as the deferred taxes refer to items carried directly in equity, the resulting deferred taxes are also recognised directly in equity. Value adjustments are taken on deferred tax assets as soon as realisation of the receivable no longer appears likely. Deferred taxes are measured according to the tax regulations specific to the country concerned that are applicable or have been adopted as at the closing date.

Deferred tax assets may only be netted with deferred tax liabilities if an enforceable right exists to net actual tax refund claims with actual taxes owing. A precondition here is that the deferred tax assets and deferred tax liabilities refer to income taxes that are levied by the same revenue authority either for (i) the same taxable entity or for (ii) different taxable entities. In this regard, there must be an intention – in every future period in which the discharge or realisation of substantial amounts of deferred tax liabilities/deferred tax assets is to be expected – either to bring about the settlement of the actual taxes owing and refund claims on a net basis or to discharge the liabilities at the same time as the claims are realised.

Own-use real estate: The portfolio of own-use real estate is measured at cost less straight-line depreciation over a useful life of no more than 50 years. The fair values are determined for comparative purposes using the discounted cash flow method.

Other assets are accounted for at amortised cost.

Technical reserves: the technical reserves are shown for gross account in the balance sheet, i. e. before deduction of the share attributable to our reinsurers; cf. here the remarks concerning the corresponding assets. The reinsurers' portion is calculated and accounted for on the basis of the individual reinsurance contracts.

Loss and loss adjustment expense reserves are constituted for payment obligations from reinsurance losses that have occurred but have not yet been settled. They are subdivided into reserves for reinsurance losses reported by the balance sheet date and reserves for reinsurance losses that have already been incurred but not yet reported (IBNR) by the balance sheet date. The loss and loss adjustment expense reserves are based on estimates that may diverge from the actual amounts payable. In reinsurance business a considerable period of time may elapse between the occurrence of an insured loss, notification by the insurer and pro-rata payment of the loss by the reinsurer. For this reason the realistically estimated future settlement amount based on long-standing established practice is carried. Recognised actuarial methods are used for estimation purposes. In this regard we make allowance for past experience, currently known facts and circumstances, the expertise of the market units as well as other assumptions relating to the future development, in particular economic, social and technical influencing factors. Subsequently, based on Group-wide analyses, we give separate consideration in this context to the inherent volatility of the reserves constituted for the reinsurance business, e. g. due to large losses. The interest rate-induced portion of the change in the reserve is shown in the statement of income on a consistent Group basis.

Benefit reserves are comprised of the underwriting reserves for guaranteed claims of ceding companies in life and health reinsurance. Benefit reserves are determined using actuarial methods on the basis of the present value of future payments to cedants less the present value of premium still payable by cedants. The calculation includes assumptions relating to mortality, disability, lapse rates and the future interest rate development. The actuarial bases used in this context allow an adequate safety margin for the risks of change, error and random fluctuation. They correspond to those used in the premium calculation and are adjusted if the original safety margins no longer appear to be sufficient.

Provisions for pensions are established in accordance with IAS 19 "Employee Benefits" using the projected unit credit method. They are calculated according to actuarial principles and are based upon the commitments made by the Hannover Re Group for retirement, disability and widows' benefits. The amount of the commitments is determined according to length of service and salary level. The pension plans are defined benefit plans. The basis of the valuation is the estimated future increase in the rate of compensation of the pension beneficiaries. The benefit entitlements are discounted by applying the capital market rate for highest-rated securities. All changes in valuation, especially actuarial gains and losses, are captured immediately in cumulative other comprehensive income. Service cost and interest cost are recognised in the statement of income. Returns on plan assets are determined using the same interest rate as that used in the calculation of the present value of the defined benefit obligation.

Contributions to defined contribution plans are expensed when the beneficiary of the commitment has performed the work that entitles them to such contributions.

Deferred tax liabilities: in accordance with IAS 12 "Income Taxes" deferred tax liabilities must be recognised if assets are to be recognised in a higher amount or liabilities in a lower amount in the consolidated balance sheet than in the tax balance sheet and if these temporary differences will lead to additional tax loads in the future; please see our explanatory remarks on deferred tax assets.

Under the balance sheet item **Other liabilities** we recognise not only the sundry non-technical provisions but also minority interests in partnerships. Direct minority interests in partnerships, i. e. liabilities to holders of minority shares in partnerships arising out of long-term capital commitments, which are puttable at fair value by the holder of the interest, are recognised as debt pursuant to IAS 32 and measured at the fair value of the redemption amount as at the balance sheet date.

Sundry non-technical provisions are established according to a realistic estimate of the amount required and shown under the balance sheet item "Other liabilities". Allocation to such provisions is conditional upon the Group currently having a legal or actual obligation that results from a past event and in respect of which utilisation is probable and the amount can be reliably estimated.

Restructuring provisions are recognised if a detailed formal plan for restructuring measures exists and steps to implement it have already begun or if key details of the restructuring have been published. The provisions cover only expenditures arising directly as a consequence of restructuring that are not connected with the company's regular activities.

Partial retirement obligations are carried at present value according to actuarial principles. During the phase when the employee is still working a provision is set aside to cover the liability amounting to the working hours not yet compensated. Top-up payments are accumulated in instalments until the end of the work phase. In periods when the employee is remunerated according to the partial retirement arrangements without performing any work, the provision is released.

Share-based payments: The share-based payment models existing within the Hannover Re Group are remuneration plans with cash settlement. In accordance with the requirements of IFRS 2 "Share-based Payments", the services rendered by the eligible beneficiaries and the resulting liability are to be recognised at the fair value of the liability and expensed over the vesting period. Until settlement of the liability the fair value of the liability is remeasured at each closing date and at the settlement date. All changes in fair value are recognised in profit or loss for the period.

The balance sheet item **Long-term debt and notes payable** consists principally of issued bonds, some of which involve subordinated liabilities that can only be satisfied after the claims of other creditors in the event of liquidation or bankruptcy. Both long-term debt and notes payable are measured at amortised cost using the effective interest rate method. The transaction costs as well as premiums/discounts arising in connection with the issuance of bonds are amortised and recognised together with the nominal interest as financing costs.

Financial liabilities at fair value through profit or loss: Hannover Re does not make use of the fair value option provided by IAS 39 "Financial Instruments: Recognition and Measurement" to classify financial liabilities in this category upon first-time recognition.

Shareholders' equity: the items "common shares" and "additional paid-in capital" are comprised of the amounts paid in by the shareholders of Hannover Rück SE on its shares. In addition to the statutory reserves of Hannover Rück SE and the allocations from net income, the retained earnings consist of reinvested profits generated by the Hannover Re Group companies in previous periods. What is more, in the event of a retrospective change of accounting policies, the adjustment for previous periods is recognised in the opening balance sheet value of the retained earnings and comparable items of the earliest reported period. Unrealised gains and losses from the fair value measurement of financial instruments held as available for sale are carried in cumulative other comprehensive income under unrealised gains and losses on investments. Translation differences resulting from the currency translation of separate financial statements of foreign subsidiaries are recognised under cumulative foreign currency translation adjustments.

Non-controlling interests are shares in the equity of affiliated companies not held by companies belonging to the Group. IAS 1 "Presentation of Financial Statements" requires that non-controlling interests be recognised separately within Group shareholders' equity. The non-controlling interest in profit or loss is shown separately following the net income. Further information is provided in section 6.14 "Non-controlling interests".

Disclosures about financial instruments: IFRS 7 "Financial Instruments: Disclosures" requires more extensive disclosures according to classes of financial instruments. In this context, the term "class" refers to the classification of financial instruments according to their risk characteristics. A minimum distinction is required here between measurement at amortised cost or at fair value. A more extensive or divergent distinction should, however, be geared to the purpose of the corresponding disclosures in the notes. In contrast, the term "category" is used within the meaning of the measurement categories defined in IAS 39 "Financial Instruments: Recognition and Measurement" (held to maturity, loans and receivables, available for sale and financial assets at fair value through profit or loss with the subcategories of trading and designated financial instruments). Essentially, the following classes of financial instruments are established:

- Fixed-income securities
- Equities, equity funds and other variable-yield securities
- Other financial assets – at fair value through profit or loss
- Real estate funds
- Other invested assets
- Short-term investments
- Certain financial assets in the balance sheet item “Other assets”
- Certain financial assets in the balance sheet item “Other liabilities”
- Long-term debt
- Notes payable

This grouping into classes is not, however, solely determinative for the type and structure of each disclosure in the notes. Rather, guided by the underlying business model of reinsurance, the disclosures are made on the basis of the facts and circumstances existing in the financial year and in light of the principle of materiality.

Currency translation: financial statements of Group subsidiaries were drawn up in the currencies corresponding to the economic environment in which each subsidiary primarily operates. These currencies are referred to as functional currencies. The euro is the reporting currency in which the consolidated financial statement is prepared.

Transactions in foreign currencies reported in Group companies' individual financial statements are converted into the functional currency at the transaction rate. In accordance with IAS 21 “The Effects of Changes in Foreign Exchange Rates” the recognition of exchange differences on translation is guided by the nature of the underlying balance sheet item. Exchange differences from the translation of monetary assets and liabilities are recognised directly in the statement of income. Currency translation differences from the translation of non-monetary assets measured at fair value via the statement of income are recognised as profit or loss from fair value measurement changes. Exchange differences from non-monetary items – such as equity securities – classified as available for sale are initially recognised outside income in a separate item of shareholders' equity and only booked to income when such non-monetary items are settled.

The individual companies' statements of income prepared in the local currencies are converted into euro at the average rates of exchange and transferred to the consolidated financial statement. The conversion of foreign currency items in the balance sheets of the individual companies and the transfer of these items to the consolidated financial statement are effected at the mean rates of exchange on the balance sheet date. In accordance with IAS 21 “The Effects of Changes in Foreign Exchange Rates” differences from the currency translation of financial statements of foreign Group companies must be recognised in the consolidated financial statement as a separate item in shareholders' equity.

Currency translation differences resulting from long-term loans or lendings without specified maturity between Group companies are similarly recognised outside the statement of income in a separate item of shareholders' equity.

Key exchange rates **N 08**

1 EUR corresponds to:	31.12.2018	31.12.2017	2018	2017
	Mean rate of exchange on the balance sheet date		Average rate of exchange	
AUD	1.6208	1.5347	1.5799	1.4772
BHD	0.4316	0.4523	0.4457	0.4263
CAD	1.5591	1.5047	1.5313	1.4677
CNY	7.8768	7.8051	7.8174	7.6306
GBP	0.9028	0.8875	0.8870	0.8744
HKD	8.9680	9.3728	9.2579	8.8091
INR	80.2219	76.6076	80.4111	73.6295
KRW	1,277.8700	1,280.3000	1,295.1269	1,276.2746
MYR	4.7590	4.8552	4.7681	4.8507
SEK	10.2769	9.8387	10.2621	9.6370
USD	1.1451	1.1994	1.1814	1.1305
ZAR	16.4522	14.8140	15.5416	15.0052

Earned premium and unearned premium: assumed reinsurance premiums, commissions and claim settlements as well as assumed portions of the technical reserves are recognised according to the terms and conditions of the reinsurance treaties, giving due consideration to the underlying contracts for which reinsurance was taken out.

Ceded reinsurance premiums are deducted from the gross written premium for the purpose of reconciliation to net premium earned. Assets and liabilities in connection with reinsurance ceded are recognised on a gross basis. The reinsured portions of the reserves are estimated on a basis consistent with the reserves attributable to the reinsured risk. Income and expenses in connection with reinsurance treaties are recognised on a basis consistent with the underlying risk of the reinsured business.

Premiums for reinsurance treaties are booked to income as earned across the period of the contracts in proportion to the insurance protection already provided or when they become due. Unearned premiums are calculated individually for each treaty in order to establish the portion of the premium volume that is not booked to income. This applies principally to property and casualty reinsurance and parts of accident and health reinsurance. Premiums already collected that are attributable to future risk periods are deferred pro rata temporis and recognised in conformity with the pertinent standards of US GAAP. In this context, assumptions are to be made if the data required for a calculation pro rata temporis is not available. The unearned premium corresponds to the insurance protection afforded in future periods.

Taxes: the taxes are comprised of the actual tax load on corporate profits of the Group companies, to which the applicable local tax rates are applied, as well as changes in deferred tax assets and liabilities. Income and expenses arising out of interest or penalties payable to the revenue authorities are shown under other income/expenses. The calculation of the deferred tax assets and liabilities is based on tax loss carry-forwards, unused tax credits and temporary differences between the book values of assets and liabilities in the consolidated balance sheet of the Hannover Re Group and their carrying amounts in the tax balance sheet. Further information on deferred taxes is provided in our remarks on deferred tax assets and liabilities.

Non-current assets held for sale and discontinued operations: in accordance with IFRS 5 “Non-current Assets Held for Sale and Discontinued Operations”, non-current assets and disposal groups are classified as held for sale if the relevant book value is realised largely through sale rather than through continued use. Components of an entity that can be clearly distinguished from the rest of the entity for operational and accounting purposes and were classified as sold or for sale are recognised as discontinued operations. Measurement is at the lower of book value and fair value less costs to sell. Depreciation or amortisation is not taken on non-current assets as long as they are classified as held for sale. Impairment losses on fair value less costs to sell are recognised in profit or loss; a gain for any subsequent increase in fair value less costs to sell leads to the realisation of profit up to the amount of the cumulative impairment. If the impairment loss to be taken on a disposal group exceeds the book value of the corresponding non-current assets, the need to establish a provision within the meaning of IAS 37 “Provisions, Contingent Liabilities and Contingent Assets” is reviewed.

3.2 Major discretionary decisions and estimates

In the consolidated financial statement it is to some extent necessary to make estimates and assumptions which affect the assets and liabilities shown in the balance sheet, the information on contingent claims and liabilities as at the balance sheet date and the disclosure of income and expenses during the reporting period. Key facts and circumstances subject to such assumptions and estimates include, for example, the recoverability of contingent reinsurance liabilities, the recoverability of investments in associated companies, the valuation of derivative financial instruments as well as assets and liabilities relating to employee benefits. The actual amounts may diverge from the estimated amounts.

Supplementary or complete estimates of the corresponding profit and loss items, assets and liabilities including relevant retrocessions are made where ceding company accounts with substantial premium income are missing. Missing ceding company accounts with a low premium volume are included in the following year.

In order to measure the ultimate liability in property and casualty reinsurance the expected ultimate loss ratios are calculated for all lines. Actuarial methods such as the "chain ladder" method provide the starting point for these calculations. The realistically estimated future settlement amount is recognised in the balance sheet. The development until completion of the run-off is projected on the basis of statistical triangles from the original notifications of ceding companies. The more recent underwriting years in actuarial projections are of course subject to greater uncertainty, although this can be considerably reduced with the aid of a variety of additional information on improvements in the rates and conditions of the business written and on loss trends. The amounts arrived at as the difference between the ultimate losses and the reported losses are set aside as the IBNR reserve for losses that have been incurred but are not yet known or have still to be reported. In applying statistical methods, separate consideration is given to large losses.

By analysing a broad range of observable information it is possible to classify losses as major individual loss events. Measurement of the obligations existing in this connection is carried out using a separate process, which is based largely on contract-specific estimates.

For further particulars, including information required by IFRS 4, the reader is referred to our remarks on the underwriting risks in property and casualty reinsurance on page 105 et seq. of the management report – including, for example, with regard to the modelling of natural catastrophe scenarios and the assumptions relating to asbestos and pollution risks. We would further refer to our explanatory remarks on the technical reserves in section 3.1 "Summary of major accounting policies" and section 6.7 "Technical provisions".

In life and health reinsurance, too, the calculation of reserves and assets is crucially dependent on actuarial projections of the covered business. So-called model points are defined according to the type of business covered. The main distinguishing criteria are the age, sex and (non-)smoker status of the insured, tariff, policy period, period of premium payment and amount of insurance. The portfolio development is simulated for each model point, in which regard the key input parameters are either predefined by the tariff (e.g. allowance for costs, amount of premium, actuarial interest rate) or need to be estimated (e.g. mortality or disability rates, lapse rates). These assumptions are heavily dependent on country-specific parameters and on the sales channel, quality of the cedant's underwriting and claims handling, type of reinsurance and other framework conditions of the reinsurance treaty. The superimposition of numerous model points gives rise to a projection, which incorporates inter alia assumptions concerning the portfolio composition and the commencement of covered policies within the year. Such assumptions are estimated at the inception of a reinsurance treaty and subsequently adjusted to the actual projection.

The projections, which cover various model scenarios ("conservative assumptions" versus "best estimate"), constitute the starting point for numerous areas of application encompassing quotation, the determination of carrying amounts and embedded values as well as contract-specific analyses, e.g. regarding the appropriateness of the recognised reinsurance liabilities ("liability adequacy test"). In this context we would refer the reader to our comments on technical assets and provisions in section 3.1 "Summary of major accounting policies" and on the liability adequacy tests in section 6.7 "Technical provisions".

In determining the carrying amounts for certain financial assets it is sometimes necessary to make assumptions in order to calculate fair values. In this regard we would refer the reader to our remarks in section 3.1 "Summary of major accounting policies" concerning financial assets at fair value through profit or loss and securities held as available for sale as well as in section 6.1 "Investments under own management" concerning investment property. Assumptions concerning the appropriate applicability criteria are necessary when determining the need for impairments on non-monetary financial assets held as available for sale. In this regard we would again refer the reader to our explanatory remarks in section 3.1 "Summary of major accounting policies".

4. Consolidation

4.1 Consolidation principles

Capital consolidation

The capital consolidation is carried out according to the requirements of IFRS 10 "Consolidated Financial Statements" on the basis of a consistent consolidation model for all entities that identifies control as the single basis for verifying the consolidation requirement, irrespective of whether control is substantiated in company law, contractually or economically. Group companies are consolidated from the point in time when Hannover Re gains control over them. Control exists if Hannover Re directly or indirectly has decision-making power over a Group company on the basis of voting rights or other rights, if it has exposure or rights to positive and negative variable returns from its involvement with the Group company and if it can use its power to influence these returns. All of these criteria must be met. Other circumstances may also give rise to control, for example the existence of a principal-agent relationship. In this case a party outside the Group with decision-making powers (agent) acts for Hannover Re, but does not control the company since it merely exercises decision-making powers that have been delegated by Hannover Re (principal). These principles are also applied to structured entities, on which further information is provided in section 4.2 "Consolidated companies and complete list of shareholdings". Group companies are consolidated until the Hannover Re Group loses control over them. The accounting policies of Group companies are adjusted, where necessary, in order to ensure consistent application of the Hannover Re Group's accounting policies.

The capital consolidation is based on the acquisition method. Goodwill derives from the acquisition of subsidiaries and corresponds to the sum of the consideration rendered, the amount of all non-controlling interests in the acquired company and the fair value of the equity interests previously held in the acquired company less the fair value of the acquired net assets. Under IFRS 3 goodwill is not amortised, but instead impairment is taken where necessary on the basis of annual impairment tests. Immaterial and negative goodwill are recognised in the statement of income in the year of their occurrence. Costs associated with acquisition are expensed.

Companies over which Hannover Re is able to exercise a significant influence are consolidated as associated companies using the equity method of accounting. We therefore measure investments in associated companies with the proportion of the shareholders' equity attributable to the Group. According to the proportionate interest method required by IAS 28 "Investments in Associates", the goodwill attributable to associated companies is recognised together with the investments in associated companies. The share of an associated company's year-end profit or loss relating to the Group is included in the income from investments and shown separately in the consolidated statement of income. Shareholders' equity and profit or loss are taken from the associated company's latest available financial statement. A significant influence is presumed to exist if a company belonging to the Hannover Re Group directly or indirectly holds at least 20% – but no more than 50% – of the voting rights. We also derive evidence of significant influence over an associated company from representation on a governing body of such company, participation in its policy-making processes – e. g. with respect to dividends or other distributions –, the existence of material inter-company transactions, the possibility of interchanging managerial personnel or the provision of key technical information for the company. Further particulars on companies consolidated using the equity method of accounting are provided in section 6.1 "Investments under own management" under "Associated companies".

Only subsidiaries which are of minor importance – both individually and in their entirety – for the net assets, financial position and results of operations of the Hannover Re Group are exempted from consolidation. Hannover Re assesses whether a subsidiary is of minor importance on the basis of the company's total assets and net income relative to the corresponding values for the Group as a whole on average over the last three years. For this reason 12 (14) companies at home and abroad were not consolidated in the year under review. A further 5 (4) individual companies as well as 1 (2) subgroup account(s) with altogether 14 (17) individual companies were not included at equity in the consolidated financial statement for the same reason. The business object of these altogether 31 (35) companies is for the most part the rendering of services for reinsurance companies within the Group.

Consolidation of business transactions within the Group

Receivables and liabilities between the companies included in the consolidated financial statement were offset against each other. Profits and expenses from business transactions within the Group were also eliminated. Transactions between a disposal group and the continuing operations of the Group were similarly eliminated in accordance with IFRS 10.

4.2 Consolidated companies and complete list of shareholdings

In addition to Hannover Rück SE as the parent company of the Group, the scope of consolidation of the Hannover Re Group encompasses the companies listed in the table below.

Information on subsidiaries

Scope of consolidation N 09

Number of companies	2018	2017
Consolidated companies (Group companies)		
Germany	16	16
Abroad	100	98
Total	**116**	**114**
Companies included at equity		
Germany	2	2
Abroad	6	5
Total	**8**	**7**

Information on the non-controlling interests in shareholders' equity and profit or loss as well as on the major non-controlling interests is provided in section 6.14 "Non-controlling interests". On the balance sheet date there were no significant restrictions on access to or the use of Group assets due to protective rights in favour of non-controlling interests.

The sale or transfer of shares of E+S Rückversicherung AG takes place by way of an endorsement and is permissible only with the approval of the company's Supervisory Board. The Supervisory Board enjoys the right to grant or deny approval unconditionally, without being obliged to state reasons in the event of denial.

Under a purchase agreement concluded on 1 August 2018 with HDI Global SE, Hannover Rück SE sold 50.2% of the shares in International Insurance Company of Hannover SE. Hannover Rück SE gave an undertaking in the purchase agreement – as is customary with such transactions – not to dispose of and, in particular, not to encumber the shares prior to payment of the purchase price and transfer of the shares. This commitment remained in force beyond the balance sheet date. Following payment of the agreed purchase price the shares were transferred to the purchaser on 8 January 2019.

National provisions of company law or requirements of supervisory law may in certain countries limit the ability of the Hannover Re Group to transfer assets between companies belonging to the Group. These limitations result principally from local minimum capital and solvency requirements as well as to a lesser extent from foreign exchange restrictions.

List of shareholdings

The following list of shareholdings is provided in the present Group annual financial report in accordance with § 313 Para. 2 German Commercial Code (HGB). The stipulations of IFRS 12.10 and IFRS 12.21 have also been observed.

The figures for the capital and reserves as well as the result for the last financial year are taken from the local financial statements drawn up by the companies.

With regard to the major acquisitions and disposals in the year under review please see our remarks in the following paragraphs of this section.

List of shareholdings **N 10**

Name and registered office of the company in currency units of 1,000	Participation in %	Currency	Capital and reserves	Result for the last financial year
Domestic companies				
Affiliated consolidated companies				
Hannover Rück Beteiligung Verwaltungs-GmbH [1, 2], Hannover/Germany	100.00	EUR	2,341,925	–
Hannover Life Re AG [1, 2], Hannover/Germany	100.00	EUR	1,563,377	–
HILSP Komplementär GmbH [3], Hannover/Germany	100.00	EUR	35	1
International Insurance Company of Hannover SE [1, 2], Hannover/Germany	100.00	EUR	168,845	–
Hannover Insurance-Linked Securities GmbH & Co. KG [3], Hannover/Germany	100.00	EUR	20,393	25
FUNIS GmbH & Co. KG [1], Hannover/Germany	100.00	EUR	106,750	11,503
HR Verwaltungs-GmbH [1, 4, 5], Hannover/Germany	100.00	EUR	3	(5)
Hannover America Private Equity Partners II GmbH & Co. KG [1], Hannover/Germany	95.42	EUR	424,437	61,024
HAPEP II Holding GmbH [1], Hannover/Germany	95.42	EUR	3,994	90
Hannover Re Global Alternatives GmbH & Co. KG [1], Hannover/Germany	94.72	EUR	318,374	6,845
Hannover Re Euro PE Holdings GmbH & Co. KG [1], Hannover/Germany	91.20	EUR	301,283	55,983
Hannover Re Euro RE Holdings GmbH [1], Hannover/Germany	87.68	EUR	908,380	19,339
HR GLL Central Europe GmbH & Co. KG [1], Munich/Germany	87.67	EUR	350,734	4,850
HR GLL Central Europe Holding GmbH [1], Munich/Germany	87.67	EUR	60,667	1,086
HAPEP II Komplementär GmbH [1], Hannover/Germany	82.40	EUR	43	1
E+S Rückversicherung AG [1], Hannover/Germany	64.79	EUR	940,847	170,000
Affiliated non-consolidated companies				
Oval Office Grundstücks GmbH [4, 6], Hannover/Germany	50.00	EUR	1,628	999
Associated companies				
WeHaCo Unternehmensbeteiligungs-GmbH [7], Hannover/Germany	32.96	EUR	89,719	10,278
HANNOVER Finanz GmbH [7], Hannover/Germany	27.78	EUR	84,553	21,044
Other participations				
Perseus Technologies GmbH [7], Berlin/Germany	18.72	EUR	669	(1,354)
FinLeap GmbH [7], Berlin/Germany	9.49	EUR	40,297	(5,934)
Internationale Schule Hannover Region GmbH [8], Hannover/Germany	9.17	EUR	4,402	193
ELEMENT Insurance AG [7], Berlin/Germany	6.72	EUR	7,527	(3,370)
Nürnberger Beteiligungs-Aktiengesellschaft [7], Nuremberg/Germany	1.75	EUR	667,338	63,059

Name and registered office of the company in currency units of 1,000	Participation in %	Currency	Capital and reserves	Result for the last financial year
Foreign companies				
Affiliated consolidated companies				
Hannover Finance (Luxembourg) S. A. [1], Luxembourg / Luxembourg	100.00	EUR	35,030	678
Hannover Finance (UK) Limited [1], London / United Kingdom	100.00	GBP	2,694	(13)
Hannover Life Reassurance Bermuda Ltd. [1], Hamilton / Bermuda	100.00	USD	452,380	55,988
Hannover Life Reassurance Company of America [1], Orlando / USA	100.00	USD	551,466	36,288
Hannover Life Reassurance Company of America (Bermuda) Ltd. [1], Hamilton / Bermuda	100.00	USD	1,122,202	64,825
Hannover Re (Ireland) Designated Activity Company [1], Dublin / Ireland	100.00	USD	857,255	68,234
Hannover Life Re of Australasia Ltd [1], Sydney / Australia	100.00	AUD	469,676	(11,637)
Hannover Re (Bermuda) Ltd. [1], Hamilton / Bermuda	100.00	USD	1,234,010	163,495
Hannover ReTakaful B. S.C. (c) [1], Manama / Bahrain	100.00	BHD	63,150	1,287
Hannover Services (UK) Limited [1], London / United Kingdom	100.00	GBP	968	75
Inter Hannover (No. 1) Limited [1], London / United Kingdom	100.00	GBP	–	–
Integra Insurance Solutions Limited [7], Bradford / United Kingdom	100.00	GBP	4,859	(978)
Argenta Holdings Limited [1, 9], London / United Kingdom	100.00	GBP	46,436	3,720
Argenta Private Capital Limited [1, 9], London / United Kingdom	100.00	GBP	4,852	1,802
APCL Corporate Director No.1 Limited [1, 9], London / United Kingdom	100.00	GBP	–	–
APCL Corporate Director No.2 Limited [1, 9], London / United Kingdom	100.00	GBP	–	–
Argenta Insurance Research Limited [1, 9, 10], London / United Kingdom	100.00	GBP	–	–
Fountain Continuity Limited [1, 9], Edinburgh / United Kingdom	100.00	GBP	–	–
Names Taxation Service Limited [1, 9], London / United Kingdom	100.00	GBP	10	–
Argenta Secretariat Limited [1, 9], London / United Kingdom	100.00	GBP	–	–
Argenta Continuity Limited [1, 9], London / United Kingdom	100.00	GBP	–	–
Argenta General Partner Limited [1, 9], Edinburgh / United Kingdom	100.00	GBP	–	–
Argenta LLP Services Limited [1, 9], London / United Kingdom	100.00	GBP	–	–
Argenta SLP Continuity Limited [1, 9], Edinburgh / United Kingdom	100.00	GBP	–	–
Argenta Syndicate Management Limited [1, 9], London / United Kingdom	100.00	GBP	7,474	1,580
Argenta Tax & Corporate Services Limited [1, 9], London / United Kingdom	100.00	GBP	712	462

Name and registered office of the company in currency units of 1,000	Participation in %	Currency	Capital and reserves	Result for the last financial year
Argenta Underwriting No.1 Limited [1,9], London/United Kingdom	100.00	GBP	22	–
Argenta Underwriting No.2 Limited [1,9], London/United Kingdom	100.00	GBP	1,299	(3,693)
Argenta Underwriting No.3 Limited [1,9], London/United Kingdom	100.00	GBP	466	(1,845)
Argenta Underwriting No.4 Limited [1,9], London/United Kingdom	100.00	GBP	(152)	–
Argenta Underwriting No.7 Limited [1,9], London/United Kingdom	100.00	GBP	–	–
Argenta Underwriting No.8 Limited [1,9], London/United Kingdom	100.00	GBP	(32)	(8)
Argenta Underwriting No.9 Limited [1,9], London/United Kingdom	100.00	GBP	791	(580)
Argenta Underwriting No.10 Limited [1,9], London/United Kingdom	100.00	GBP	(53)	(16)
Argenta Underwriting No.11 Limited [1,9], London/United Kingdom	100.00	GBP	(30)	3
Argenta No.13 Limited [1,9], London/United Kingdom	100.00	GBP	–	–
Argenta No.14 Limited [1,9], London/United Kingdom	100.00	GBP	–	–
Argenta No.15 Limited [1,9], London/United Kingdom	100.00	GBP	–	–
Residual Services Limited [1,9,11], London/United Kingdom	100.00	GBP	–	–
Residual Services Corporate Director Limited [1,9], London/United Kingdom	100.00	GBP	–	–
Argenta Underwriting Asia Pte. Ltd. [1,9], Singapore/Singapore	100.00	SGD	1,687	308
Argenta Underwriting Labuan Ltd [1,9], Labuan/Malaysia	100.00	USD	71	–
Glencar Underwriting Managers, Inc. [7], Chicago/USA	100.00	USD	5,148	325
Glencar Insurance Company [1], Orlando/USA	100.00	USD	76,206	(16,897)
Kubera Insurance (SAC) Ltd [9], Hamilton/Bermuda	100.00	USD	889	(111)
Leine Investment General Partner S.à r. l. [1,9], Luxembourg/Luxembourg	100.00	EUR	869	363
Leine Investment SICAV-SIF [1,9], Luxembourg/Luxembourg	100.00	USD	96,470	1,030
LI RE [1,9], Hamilton/Bermuda	100.00	USD	–	–
Fracom FCP [12], Paris/France	100.00	EUR	1,316,056	12,321
Hannover Finance, Inc. [9], Wilmington/USA	100.00	USD	1,404,793	436
Sand Lake Re, Inc. [1], Burlington/USA	100.00	USD	96,097	(1,224,375)
Hannover Reinsurance Group Africa (Pty) Ltd. [1], Johannesburg/South Africa	100.00	ZAR	201,825	95,297
Hannover Life Reassurance Africa Limited [1], Johannesburg/South Africa	100.00	ZAR	565,752	37,502

Name and registered office of the company in currency units of 1,000	Participation in %	Currency	Capital and reserves	Result for the last financial year
Hannover Reinsurance Africa Limited [1], Johannesburg/South Africa	100.00	ZAR	820,846	87,934
Compass Insurance Company Limited [1], Johannesburg/South Africa	100.00	ZAR	250,242	55,312
Hannover Re Real Estate Holdings, Inc. [9], Orlando/USA	95.25	USD	828,831	25,011
HR US Infra Equity LP [1, 9], Wilmington/USA	95.25	USD	32,528	(328)
320AUS LLC [1, 9], Wilmington/USA	95.15	USD	92,447	3,354
GLL HRE CORE Properties, L. P. [1, 9], Wilmington/USA	95.15	USD	656,081	(275)
101BOS LLC [1, 9], Wilmington/USA	95.15	USD	50,439	1,545
402 Santa Monica Blvd, LLC [1, 9], Wilmington/USA	95.15	USD	(847)	931
111ORD LLC [1, 9], Wilmington/USA	95.15	USD	69,582	2,370
140EWR LLC [1, 9], Wilmington/USA	95.15	USD	61,889	(1,390)
7550IAD LLC [1, 9], Wilmington/USA	95.15	USD	68,438	428
Nashville West, LLC [1, 9], Wilmington/USA	95.15	USD	27,324	964
1225 West Washington, LLC [1, 9], Wilmington/USA	95.15	USD	33,123	6,878
975 Carroll Square, LLC [1, 9], Wilmington/USA	95.15	USD	47,090	(308)
Broadway 101, LLC [1, 9], Wilmington/USA	95.15	USD	13,174	(2)
River Terrace Parking, LLC [1, 9], Wilmington/USA	95.15	USD	18,553	254
3290ATL LLC [1, 9], Wilmington/USA	95.15	USD	70,595	3,821
1600FLL LLC [1, 9], Wilmington/USA	95.15	USD	30,795	439
M8 Property Trust [1], Sydney/Australia	94.72	AUD	67,100	(500)
Markham Real Estate Partners (KSW) Pty Limited [1], Sydney/Australia	94.72	AUD	–	–
PAG Real Estate Asia Select Fund Limited [1], George Town/Cayman Islands	94.72	USD	173,810	972
HR US Infra Debt LP [1, 9], George Town/Cayman Islands	94.71	USD	118,517	3,721
Orion No.1 Professional Investors Private Real Estate Investment LLC [1], Seoul/South Korea	94.39	KRW	28,889,876	1,671,894
Peace G. K. [1], Tokyo/Japan	93.77	JPY	5,081,293	175,556
Kaith Re Ltd. [1], Hamilton/Bermuda	88.00	USD	373	(181)
3541 PRG s. r.o. [1], Prague/Czech Republic	87.67	CZK	901,512	17,955

Name and registered office of the company in currency units of 1,000	Participation in %	Currency	Capital and reserves	Result for the last financial year
Mustela s. r.o. [1], Prague/Czech Republic	87.67	CZK	1,094,807	18,515
HR GLL Roosevelt Kft [1], Budapest/Hungary	87.67	HUF	20,102,378	1,120,922
HR GLL Liberty Corner SPÓLKA Z OGRANICZONA ODPOWIEDZIALNÓSCIA [1], Warsaw/Poland	87.67	PLN	47,995	(1,391)
HR GLL Griffin House SPÓLKA Z OGRANICZONA ODPOWIEDZIALNÓSCIA [1], Warsaw/Poland	87.67	PLN	36,064	(1,413)
92601 BTS s. r.o. [1], Bratislava/Slovakia	87.67	EUR	2,490	301
Akvamarín Beta s. r.o. [1], Prague/Czech Republic	87.67	CZK	68,433	16,397
HR GLL Europe Holding S.à r. l. [1], Luxembourg/Luxembourg	87.67	EUR	190,580	720
HR GLL CDG Plaza S. r.l. [1], Bucharest/Romania	87.67	RON	143,433	7,762
Pipera Business Park S. r.l. [1], Bucharest/Romania	87.67	RON	99,320	13,069
Commercial & Industrial Acceptances (Pty) Ltd. [1], Johannesburg/South Africa	79.20	ZAR	15,996	30,662
Lireas Holdings (Pty) Ltd. [1], Johannesburg/South Africa	70.00	ZAR	283,916	65,690
MUA Insurance Acceptances (Pty) Ltd. [1], Cape Town/South Africa	70.00	ZAR	7,062	3,280
Garagesure Consultants and Acceptances (Pty) Ltd. [1], Johannesburg/South Africa	70.00	ZAR	1,721	3,087
SUM Holdings (Pty) Ltd. [1], Johannesburg/South Africa	70.00	ZAR	44,599	7,624
Hospitality Industrial and Commercial Underwriting Managers (Pty) Ltd. [1], Johannesburg/South Africa	63.00	ZAR	2,509	9,245
Svedea AB [1], Stockholm/Sweden	53.00	SEK	20,073	15,006
Firedart Engineering Underwriting Managers (Pty) Ltd., Johannesburg/South Africa	49.00	ZAR	1,225	(620)
Thatch Risk Acceptances (Pty) Ltd. [1], Johannesburg/South Africa	49.00	ZAR	2,559	4,437
Landmark Underwriting Agency (Pty) Ltd. [1], Bloemfontein/South Africa	45.85	ZAR	5,025	5,341
Construction Guarantee (Pty) Ltd. [4, 13], Johannesburg/South Africa	42.00	ZAR	–	–
Film & Entertainment Underwriters SA (Pty) Ltd. [1], Johannesburg/South Africa	35.70	ZAR	537	549
Affiliated non-consolidated companies				
International Mining Industry Underwriters Limited [7, 10], London/United Kingdom	100.00	GBP	238	12
HR Hannover Re, Correduría de Reaseguros, S.A., Madrid/Spain	100.00	EUR	585	88
Hannover Re Services Japan [1], Tokyo/Japan	100.00	JPY	139,207	12,290
Hannover Re Consulting Services India Private Limited [14], Mumbai/India	100.00	INR	110,806	(1,965)

Name and registered office of the company in currency units of 1,000	Participation in %	Currency	Capital and reserves	Result for the last financial year
Hannover Services (México) S. A. de C. V. [7], Mexico City / Mexico	100.00	MXN	7,877	828
Hannover Re Services USA, Inc., Itasca / USA	100.00	USD	3,889	111
Hannover Mining Engineering Services LLC, Itasca / USA	100.00	USD	340	40
Hannover Rück SE Escritório de Representação no Brasil Ltda. [7], Rio de Janeiro / Brasil	100.00	BRL	3,016	457
Hannover Re Risk Management Services India Private Limited [14], New Delhi / India	100.00	INR	49,875	(9,723)
Hannover Re Services Italy S. r.l., Milan / Italy	99.65	EUR	471	93
U FOR LIFE SDN. BHD. [1], Petaling Jaya / Malaysia	60.00	MYR	(24,057)	(2,153)
Svedea Skadeservice AB [7], Stockholm / Sweden	53.00	SEK	50	–
Associated companies				
ITAS Vita S.p.A. [7], Trento / Italy	27.10	EUR	104,540	3,660
Clarendon Transport Underwriting Managers (Pty) Ltd. [1], Johannesburg / South Africa	22.87	ZAR	15,311	13,306
Clarenfin (Pty) Ltd. [1], Johannesburg / South Africa	22.87	ZAR	97	(25)
Pineapple Tech (Pty) Ltd [1], Johannesburg / South Africa	17.50	ZAR	1,927	(3,254)
Vela Taxi Finance (Pty) Ltd [1], Johannesburg / South Africa	12.58	ZAR	(5,316)	(1,394)
Marmic Taxi Parts (Pty) Ltd [15], Durban / South Africa	6.86	ZAR	2,484	2,484
Other participations				
Reaseguradora del Ecuador S. A. [1], Guayaquil / Equador	30.00	USD	17,381	2,274
Sureify Labs, Inc. [1, 8], Wilmington / USA	20.69	USD	(489)	(2,134)
Meribel Topco Limited [1], St. Helier / Jersey	20.11	EUR	(4,775)	(162)
Monument Insurance Group Limited [16, 17], Hamilton / Bermuda	20.00	GBP	58,472	11,640
Trinity Underwriting Managers Ltd. [18], Toronto / Canada	20.00	CAD	(1,711)	29
Inlife Holding (Liechtenstein) AG [7], Triesen / Liechtenstein	15.00	CHF	3,803	1,996
Life Invest Holding AG [7], Zürich / Schweiz	15.00	CHF	43,631	15,583
Somerset Reinsurance Ltd. [19], Hamilton / Bermuda	12.31	USD	411,713	9,247
Qinematic AB [7], Lidingö / Schweden	10.71	SEK	1,818	(1,262)
Acte Vie S. A. [7], Schiltigheim / France	9.38	EUR	9,453	194
B3i Services AG [20], Zurich / Switzerland	7.94	CHF	–	–

Name and registered office of the company in currency units of 1,000	Participation in %	Currency	Capital and reserves	Result for the last financial year
Centaur Animal Health, Inc. [21], Olathe/USA	6.90	USD	1,968	150
Kopano Ventures (Pty) Ltd [1], Johannesburg/South Africa	4.61	ZAR	772	(3,881)
The Sociotech Institute Proprietary Limited [1], Cape Town/South Africa	3.84	ZAR	4,866	(2,332)
Liberty Life Insurance Public Company Ltd [7], Nicosia/Cyprus	3.30	EUR	8,222	331

1 Provisional (unaudited) figures
2 Year-end result after profit transfer
3 Financial year as at 30 September 2018
4 Company is in liquidation
5 Company was wound up with effect from the end of 31 December 2018
6 Figures as at 30 November 2018
7 Figures as at 31 December 2017
8 Financial year as at 31 July 2018
9 IFRS figures
10 Company is inactive
11 The company holds 35 subsidiaries with capital and reserves of altogether EUR 0.5 million.
12 Financial year as at 31 October 2018
13 Figures as at 31 December 2013
14 Financial year as at 28 February 2018
15 Financial year as at 28 February 2017
16 Figures for the period from 9 March 2016 (establishment) to 31 December 2017
17 Consolidated figures
18 Figures as at 31 December 2016
19 Financial year as at 31 August 2017
20 Company was newly established in 2018; an annual financial statement is not yet available.
21 Financial year as at 30 June 2018

Material branches of the Group

We define the branch of a Group company as an unincorporated business unit that is physically and organisationally separate from the Group company, is bound by the latter's instructions in their internal relationship and has its own independent market presence.

The Hannover Re Group companies listed in the following table maintain branches that we consider to be material to an understanding of the Group's position.

Material branches of the Group **N 11**

Group company/Branch	Gross written premium[1]		Net income[1]	
Figures in EUR thousand	2018	2017	2018	2017
Hannover Rück SE				
Hannover Rueck SE Australian Branch, Sydney/Australia	489,319	220,125	16,168	(1,737)
Hannover Rück SE Canadian Branch, Toronto/Canada	247,225	225,366	19,432	23,472
Hannover Rück SE, Hong Kong Branch, Wanchai/Hong Kong	291,101	288,928	11,803	15,456
Hannover Rueck SE Malaysian Branch, Kuala Lumpur/Malaysia	397,170	376,970	44,681	10,363
Hannover Rück SE, Tyskland Filial, Stockholm/Sweden	253,390	242,045	35,184	29,188
Hannover Rück SE Succursale Francaise, Paris/France	783,872	777,357	42,425	26,197
Hannover Rueck SE Bahrain Branch, Manama/Bahrain	101,820	125,675	(12,523)	(414)
Hannover Rück SE Shanghai Branch, Shanghai/China	1,193,529	775,684	25,515	8,325
Hannover Rück SE Korea Branch, Seoul/South Korea	47,822	47,134	2,889	3,315
Hannover Re UK Life Branch, London/United Kingdom	307,867	298,933	(5,150)	(31,338)
Hannover Rück SE – India Branch, Mumbai/India	104,217	58,437	(5,203)	(2,547)
International Insurance Company of Hannover SE[3]				
International Insurance Company of Hannover SE, Australian Branch, Sydney/Australia	81,407	62,296	1,945	2,151
International Insurance Company of Hannover SE, Canadian Branch, Toronto/Canada	62,858	54,364	577	417
International Insurance Company of Hannover SE[2], Italian Branch, Milan/Italy	–	–	–	–
International Insurance Company of Hannover SE, Scandinavian Branch, Stockholm/Sweden	230,861	198,462	2,652	108
International Insurance Company of Hannover SE, UK Branch, London/United Kingdom	373,283	368,196	(10,454)	(200)

1 IFRS figures before consolidation.
2 Branch is in liquidation.
3 Effective 1 January 2019 renamed HDI Global Specialty SE

In addition, other companies belonging to the Hannover Re Group maintain further branches in New Zealand, Canada, Malaysia and Australia that both individually and collectively are to be classified as immaterial to the Group.

Consolidation of structured entities

Business relations with structured entities are to be examined in accordance with IFRS 10 with an eye to their implications for consolidation. In the context of their operational activities some companies belonging to the Hannover Re Group enter into business relations with structured entities that are to be analysed and accounted for according to these new provisions.

Structured entities are entities designed in such a way that voting or similar rights are not the dominant factor in deciding who controls the entity, such as when any voting rights relate to administrative tasks only and the relevant activities are directed by means of contractual arrangements. A structured entity frequently has some or all of the following features or attributes:

- Restricted activities;
- A narrow and well-defined business objective;
- Insufficient equity to allow it to finance its activities without subordinated financial support;
- Financing in the form of multiple contractually linked instruments issued to investors that create concentrations of credit or other risks (tranches).

In accordance with the consistent consolidation model, a structured entity – just like a subsidiary – must be consolidated if Hannover Re gains control over the said entity. With regard to the criteria for control please see also section 4.1 "Consolidation principles". Within the Hannover Re Group the requirement to consolidate structured entities is examined as part of an analysis that encompasses both transactions in which a structured entity is initiated by us with or without the involvement of third parties and those in which we enter into contractual relations with an already existing structured entity with or without the involvement of third parties. Consolidation decisions are reviewed as necessary and at least once a year. The list of all consolidated structured entities forms part of the list of shareholdings.

Consolidated structured entities

The following structured entities were consolidated as at the balance sheet date:

- Kaith Re Ltd., Hamilton, Bermuda
- Kubera Insurance (SAC) Ltd, Hamilton, Bermuda
- LI RE, Hamilton, Bermuda

Kaith Re Ltd. is a so-called segregated accounts company (SAC), the sole object of which is the securitisation of reinsurance risks in the form of investment products. Under this transformation a complete underwriting risk transfer always takes place to the investor in question. In a SAC further segregated accounts exist under a general account; it is in these segregated accounts, which for liability purposes are entirely separate from one another and from the general account, that the aforementioned securitisations take place for the investors.

Kubera Insurance (SAC) Ltd is similarly a segregated accounts company, the object of which is to establish segregated accounts that are made available to non-Group companies for structured finance transactions.

Pursuant to IFRS 10 we consider the general account and the segregated accounts to be separate units to which the principles of so-called "silo accounting" are applied. In accordance with this concept, Hannover Re is required to consolidate the general account of Kaith Re Ltd. and Kubera Insurance (SAC) Ltd and is contractually responsible for the fees due to external service providers that are to be covered from the general account's own funds. Each individual segregated account is to be examined separately with an eye to a consolidation requirement and consolidated according to the particular contractual arrangements in each case.

LI RE is a segregated account of Kaith Re Ltd., the purpose of which – as with all segregated accounts under Kaith Re Ltd. – is the securitisation of underwriting risks. In contrast to the other segregated accounts, the sole investor and hence the risk carrier of LI RE is the Hannover Re Group through its subsidiary Leine Investment SICAV-SIF, Luxembourg.

As at the balance sheet date Hannover Re had not rendered any financial or other support for a consolidated structured entity. Hannover Re does not intend to render financial or other support for one or more of such entities without being contractually required to do so.

Unconsolidated structured entities

The business relations of Hannover Re Group companies with structured entities set out below do not give rise to consolidation because the criteria for control pursuant to IFRS 10 contained in our consolidation principles are not met.

Investing activities and investments in catastrophe bonds (ILS)

Within the scope of its investment activities Hannover Re participates inter alia in numerous structured entities. These are predominantly special purpose entities in the form of funds, which for their part transact certain types of equity and debt capital investments. These investments encompass private equity funds, fixed income funds, collateralised debt obligations, real estate funds, index funds and other public funds. The volume of these transactions is derived from the book values of the respective investments and amounted to EUR 2,916.5 million (EUR 3,016.9 million) as at the balance sheet date. The maximum risk of loss corresponds to the book values.

Hannover Re participates through its subsidiary Leine Investment SICAV-SIF, Luxembourg, in a number of structured entities that issue catastrophe bonds for the securitisation of catastrophe risks by investing in such bonds. Leine Investment General Partner S.à.r.l. is the managing partner of the asset management company Leine Investment SICAV-SIF, the business object of which is to build, hold and manage a portfolio of insurance-linked securities (catastrophe bonds) – including for third-party investors outside the Group. In addition, a portfolio of such securities is also managed by Hannover Insurance-Linked Securities GmbH & Co. KG, Hannover. The volume of these transactions is derived from the book values of the respective investments and amounted to EUR 86.3 million (EUR 56.0 million) as at the balance sheet date. The maximum risk of loss corresponds to the book values.

Retrocession and securitisation of reinsurance risks

The securitisation of reinsurance risks takes place largely through the use of structured entities.

By way of its "K" transactions Hannover Re has raised underwriting capacity for catastrophe risks on the capital market. The "K Cession", which was placed with investors in North and South America, Europe and Asia, involves a quota share cession on worldwide natural catastrophe business as well as aviation and marine risks. Of the total volume of the "K Cession", a large part equivalent to EUR 389.0 million (EUR 349.3 million) was securitised via structured entities as at the balance sheet date. The transaction has an indefinite term and can be cancelled annually by the investors. Segregated accounts of Kaith Re Ltd. are used for transformer purposes for part of this transaction. Hannover Re also uses further segregated accounts of Kaith Re Ltd. and other structured entities outside the Group for various retrocessions of both its traditional and ILS covers, which in each case are passed on to institutional investors in securitised form. The volume of these transactions is measured by the ceded exposure limit of the underlying retrocession agreements and amounted to altogether EUR 2,992.4 million (EUR 2,635.3 million) as at the balance sheet date. The structured entities are in all cases fully funded by contractually defined investments in the form of cash and equivalent liquid assets. Given that the entire exposure limit of the structured entities is therefore wholly collateralised in each case, there is no risk of loss for Hannover Re.

Collateralised fronting (ILS)

As part of its extended insurance-linked securities (ILS) activities, Hannover Re has concluded so-called collateralised fronting arrangements under which risks assumed from ceding companies are passed on to institutional investors outside the Group using structured entities. The purpose of such transactions is to directly transfer clients' business. The volume of the transactions is derived from the ceded exposure limit of the underlying retrocession agreements and amounted to EUR 6,131.3 million (EUR 5,235.2 million) as at the balance sheet date. Part of the ceded exposure limit is funded and collateralised by contractually defined investments in the form of cash and equivalent liquid assets; a further part remains uncollateralised or is collateralised by less liquid assets. The maximum risk of loss from these transactions is derived from the uncollateralised exposure limit and the credit risk of the collateral and amounted to EUR 3,063.1 million (EUR 2,775.4 million) as at the balance sheet date. This does not, however, correspond to the economic risk of loss, which is established using recognised actuarial methods. The expected loss on a modelled basis in a worst-case scenario of 10,000 years amounts to at most EUR 50.0 million (EUR 50.0 million).

The book values of the assets and liabilities from the specified transactions with unconsolidated structured entities were as follows as at the balance sheet date:

Book values from business relations with unconsolidated structured entities N 12

	31.12.2018		
in EUR thousand	General investing activities	Investment in catastrophe bonds (ILS)	Retrocession: securitisations and ILS transactions
Assets			
Fixed-income securities – held to maturity	816	–	–
Fixed-income securities – loans and receivables	3,671	–	–
Fixed-income securities – available for sale	1,566,318	–	–
Fixed-income securities – at fair value through profit or loss	–	86,281	–
Equity securities – available for sale	10,638	–	–
Real estate and real estate funds	416,966	–	–
Other invested assets	918,069	–	–
Reinsurance recoverables on unpaid claims	–	–	1,125,005
Prepaid reinsurance premium	–	–	54,268
Accounts receivable	–	–	23,254
Total assets	**2,916,478**	**86,281**	**1,202,527**
Liabilities			
Reinsurance payable	–	–	320,033
Total liabilities	**–**	**–**	**320,033**

Book values from business relations with unconsolidated structured entities **N 13**

in EUR thousand	31.12.2017 General investing activities	Investment in catastrophe bonds (ILS)	Retrocession: securitisations and ILS transactions
Assets			
Fixed-income securities – held to maturity	828	–	–
Fixed-income securities – loans and receivables	6,015	–	–
Fixed-income securities – available for sale	1,734,835	–	–
Fixed-income securities – at fair value through profit or loss	–	55,952	–
Equity securities – available for sale	11,326	–	–
Real estate and real estate funds	384,693	–	–
Other invested assets	773,316	–	–
Short-term investments	105,868	–	–
Reinsurance recoverables on unpaid claims	–	–	633,344
Prepaid reinsurance premium	–	–	45,307
Accounts receivable	–	–	39,798
Total assets	**3,016,881**	**55,952**	**718,449**
Liabilities			
Reinsurance payable	–	–	231,232
Total liabilities	**–**	**–**	**231,232**

The income and expenses from business relations with unconsolidated structured entities are shown in investment income insofar as they result from general investment activities or investments in catastrophe bonds and are recognised in the technical account insofar as they are attributable to retrocessions and securitisations.

As at the balance sheet date Hannover Re had not rendered any financial or other support for an unconsolidated structured entity. Hannover Re does not intend to render financial or other support for one or more of such entities without being contractually required to do so.

In December 2018 Kubera Insurance (SAC) Ltd established its first segregated account, the owner of which is not Hannover Re. Effective 31 December 2018 the segregated account concluded a contract with a non-Group life insurance company for the assumption of a reinsurance portfolio, which is partially retroceded. In the context of this retrocession Hannover Re also concluded a reinsurance treaty with the segregated account to protect against the peak exposure through its wholly owned subsidiary Hannover Life Reassurance Company of America (Bermuda) Ltd.

With regard to commitments and obligations that we do not consider to be support, particularly outstanding capital commitments from special investments, please see our remarks in section 8.7 “Contingent liabilities and commitments”.

4.3 Major acquisitions and new formations

Within the 95.2%-owned US subgroup Hannover Re Real Estate Holdings, Inc., the special purpose property company 1600FLL LLC, Wilmington, USA, was established via the subsidiary GLL HRE Core Properties, LP, for the purpose of real estate acquisition. An amount of roughly EUR 30.4 million was invested in this connection.

Effective 11 January 2018 Hannover Re acquired all the shares in The Omaha Indemnity Company, Madison, via its wholly owned subsidiary Hannover Finance, Inc., Wilmington. The company now trades as Glencar Insurance Company, Orlando. The purchase price of the shares amounted to EUR 21.2 million. The business was included in the consolidated financial statement in the first quarter. In the context of purchase price allocation, goodwill of EUR 3.5 million resulted from the calculation of the fair values of the acquired assets and liabilities made for initial consolidation.

In the fourth quarter of 2018 Hannover Re established the special purpose property company M8 Property Trust as well as Markham Real Estate Partners (KSW) Pty Limited, both Sydney, Australia, via its 94.7%-owned subsidiary PAG Real Estate Asia Select Fund Limited, George Town, Cayman Islands, for the purpose of real estate acquisition. A total amount of roughly EUR 85.2 million was invested in this connection.

Effective 5 October 2018 Hannover Re established the segregated accounts company Kubera Insurance (SAC) Ltd, Hamilton, Bermuda. All shares of the general account are held by Hannover Finance, Inc., Wilmington.

4.4 Major disposals and retirements

On 11 May 2018 the Executive Board of Hannover Re announced the plan to sell the majority of the shares in International Insurance Company of Hannover SE, Hannover (Inter Hannover), a wholly owned subsidiary of Hannover Rück SE, to HDI Global SE, Hannover.

With economic effect from 1 January 2019 HDI Global SE acquired 50.2% of the shares in Inter Hannover for a purchase price of EUR 107.2 million. Inter Hannover was subsequently rebranded as HDI Global Specialty SE. HDI Global SE is transferring its specialty portfolio to the new company. The remaining shares in HDI Global Specialty SE will continue to be held by Hannover Re. Upon closing of the transaction the company will be deconsolidated in the first quarter of 2019 and included at equity in the consolidated financial statement.

Pursuant to IFRS 5 "Non-current Assets Held for Sale and Discontinued Operations" Inter Hannover was classified as at the balance sheet date as a disposal group, which is to be measured at the lower of the carrying amount and fair value less costs to sell. This measurement did not give rise to any impairment expense.

The cumulative other comprehensive income of EUR -4.6 million arising out of the currency translation of the assets and liabilities belonging to the disposal group will only be realised in the context of deconsolidation. In addition, actuarial gains and losses in an amount of EUR -0.5 million were netted directly in equity as at the balance sheet date.

In compliance with IFRS 5 "Non-current Assets Held for Sale and Discontinued Operations" we recognise the assets and liabilities of the disposal group in corresponding balance sheet items. Transactions between the disposal group and the other consolidated companies continue to be entirely eliminated in conformity with IFRS 10 "Consolidated Financial Statements".

The assets and liabilities are presented on a consolidated basis in the following table and broken down into their major components. The fixed-income securities of EUR 238.1 million are exclusively level 2 financial instruments. The real estate funds recognised in an amount of EUR 12.4 million, on the other hand, are level 3 financial instruments.

Assets and liabilities of the disposal group N 14

in EUR thousand	31.12.2018
Assets	
Fixed-income securities – loans and receivables	21,750
Fixed-income securities – available for sale	216,349
Real estate and real estate funds	12,370
Short-term investments and other invested assets	7,041
Cash and cash equivalents	78,594
Reinsurance recoverables on unpaid claims	87,253
Prepaid reinsurance premium	26,567
Deferred acquisition costs	126,833
Accounts receivable	443,459
Other assets	18,968
Assets held for sale	**1,039,184**
Liabilities	
Loss and loss adjustment expense reserve	1,642,408
Unearned premium reserve	564,230
Other liabilities	39,491
Liabilities related to assets held for sale	**2,246,129**

5. Segment reporting

Based on the "management approach" of IFRS 8, which requires segment information to be presented as it is reported internally to management and normally used by the chief operating decision maker to decide upon the allocation of resources to a segment and evaluate its performance, Hannover Re has identified the reportable segments of property & casualty reinsurance and life & health reinsurance. With regard to the object of business operations within the two segments please see our explanatory remarks on Hannover Re's business model on page 19 of the management report. The report on economic position on page 26 et seq. contains remarks on the economic environment in which the Group operates.

The segment information shown follows the system used for internal reporting purposes, on the basis of which the full Executive Board regularly evaluates the performance of segments and decides on the allocation of resources to them.

The "Consolidation" column includes not only the elimination of cross-segment transactions but also, more significantly, companies whose business operations cannot be unambiguously allocated to property and casualty reinsurance or life and health reinsurance. These are principally the service and financing companies belonging to the Group.

During the financial year no material changes occurred in the organisational structure that could have influenced the composition of the segments. Since the performance indicators used to steer the segments correspond to the system according to which the consolidated financial statement is prepared, a separate reconciliation of the segment results with the Group result is not provided.

There are no cross-segment gross premiums between the two segments of property & casualty reinsurance and life & health reinsurance. To this extent, the gross premiums shown are exclusively amounts from business with external third parties.

The life and health reinsurance segment now includes the company Kubera Insurance (SAC) Ltd, Hamilton, Bermuda, which was established in October 2018. All other companies consolidated for the first time or deconsolidated in 2018 are allocated to the property and casualty reinsurance segment. The same is true of International Insurance Company of Hannover SE, Hannover, which is classified as a disposal group.

Consolidated segment report

Segmentation of assets

in EUR thousand	Property and casualty reinsurance 31.12.2018	Property and casualty reinsurance 31.12.2017
Assets		
Fixed-income securities – held to maturity	198,596	259,284
Fixed-income securities – loans and receivables	2,349,266	2,417,894
Fixed-income securities – available for sale	24,689,122	23,662,710
Equity securities – available for sale	28,729	37,520
Financial assets at fair value through profit or loss	94,333	56,652
Other invested assets	3,735,054	3,612,795
Short-term investments	262,068	342,744
Cash and cash equivalents	734,942	610,585
Total investments and cash under own management	**32,092,110**	**31,000,184**
Funds withheld	1,931,254	1,636,993
Contract deposits	2,180	(121)
Total investments	**34,025,544**	**32,637,056**
Reinsurance recoverables on unpaid claims	1,903,289	1,443,869
Reinsurance recoverables on benefit reserve	–	–
Prepaid reinsurance premium	93,614	96,383
Reinsurance recoverables on other reserves	543	1,269
Deferred acquisition costs	774,751	841,911
Accounts receivable	2,689,084	2,458,038
Other assets in the segment	1,781,317	1,351,426
Assets held for sale	1,041,043	–
Total assets	**42,309,185**	**38,829,952**

Segmentation of liabilities

in EUR thousand		
Liabilities		
Loss and loss adjustment expense reserve	24,542,826	24,130,443
Benefit reserve	–	–
Unearned premium reserve	2,915,904	3,332,083
Provisions for contingent commissions	300,093	162,620
Funds withheld	389,754	400,290
Contract deposits	71,607	72,056
Reinsurance payable	772,313	512,372
Long-term debt and notes payable	323,235	250,122
Other liabilities in the segment	1,718,949	1,948,148
Liabilities related to assets held for sale	2,246,129	–
Total liabilities	**33,280,810**	**30,808,134**

N 15

Life and health reinsurance		Consolidation		Total	
31.12.2018	31.12.2017	31.12.2018	31.12.2017	31.12.2018	31.12.2017
51,347	71,898	–	5,000	249,943	336,182
34,635	37,270	15,049	–	2,398,950	2,455,164
8,531,051	7,617,113	19,512	2,085	33,239,685	31,281,908
–	–	–	–	28,729	37,520
656,176	244,222	–	–	750,509	300,874
263,917	189,441	35,686	49,219	4,034,657	3,851,455
159,867	615,925	15	–	421,950	958,669
333,031	213,065	4,942	12,056	1,072,915	835,706
10,030,024	**8,988,934**	**75,204**	**68,360**	**42,197,338**	**40,057,478**
8,760,514	9,098,019	–	–	10,691,768	10,735,012
170,693	167,975	–	–	172,873	167,854
18,961,231	**18,254,928**	**75,204**	**68,360**	**53,061,979**	**50,960,344**
181,341	207,660	–	(194)	2,084,630	1,651,335
909,056	959,533	–	–	909,056	959,533
64	19	–	–	93,678	96,402
6,627	6,032	–	–	7,170	7,301
1,381,069	1,386,335	–	–	2,155,820	2,228,246
1,287,072	1,363,610	(378)	(524)	3,975,778	3,821,124
565,346	792,297	(1,165,321)	(671,162)	1,181,342	1,472,561
–	–	(1,859)	–	1,039,184	–
23,291,806	22,970,414	(1,092,354)	(603,520)	64,508,637	61,196,846

4,215,749	4,248,296	–	(194)	28,758,575	28,378,545
9,184,356	8,977,946	–	–	9,184,356	8,977,946
251,060	209,111	–	–	3,166,964	3,541,194
275,903	231,840	–	–	575,996	394,460
579,507	574,496	–	–	969,261	974,786
3,540,047	3,877,151	–	–	3,611,654	3,949,207
383,918	467,869	–	–	1,156,231	980,241
–	–	2,235,649	1,491,951	2,558,884	1,742,073
2,192,760	1,705,864	(1,173,150)	(682,176)	2,738,559	2,971,836
–	–	–	–	2,246,129	–
20,623,300	20,292,573	1,062,499	809,581	54,966,609	51,910,288

Consolidated segment report

Segment statement of income	**Property and casualty reinsurance**	
in EUR thousand	**1.1.–31.12.2018**	1.1.–31.12.2017
Gross written premium	11,976,000	10,710,944
Net premium earned	10,804,172	9,158,732
Net investment income	1,035,108	1,209,298
thereof		
Change in fair value of financial instruments	528	2,069
Total depreciation, impairments and appreciation of investments	49,093	70,905
Income/expense on funds withheld and contract deposits	35,810	17,789
Claims and claims expenses	7,227,544	6,526,236
Change in benefit reserve	–	–
Commission and brokerage, change in deferred acquisition costs and other technical income/expenses	3,033,430	2,434,368
Administrative expenses	206,171	200,440
Other income/expenses	(49,560)	(86,789)
Operating profit/loss (EBIT)	**1,322,575**	**1,120,197**
Financing costs	–	–
Net income before taxes	**1,322,575**	**1,120,197**
Taxes	309,049	203,117
Net income	**1,013,526**	**917,080**
thereof		
Non-controlling interest in profit or loss	84,418	79,740
Group net income	**929,108**	**837,340**

N 15

Life and health reinsurance		Consolidation		Total	
1.1.–31.12.2018	1.1.–31.12.2017	1.1.–31.12.2018	1.1.–31.12.2017	1.1.–31.12.2018	1.1.–31.12.2017
7,200,358	7,079,562	–	–	19,176,358	17,790,506
6,484,807	6,472,779	154	159	17,289,133	15,631,670
491,801	560,597	3,120	3,994	1,530,029	1,773,889
30,632	36,500	–	–	31,160	38,569
31	44	–	–	49,124	70,949
172,177	217,126	–	–	207,987	234,915
5,341,606	5,666,843	–	–	12,569,150	12,193,079
50,791	(571)	–	–	50,791	(571)
1,263,529	1,081,775	–	227	4,296,959	3,516,370
216,854	210,708	318	149	423,343	411,297
172,062	170,589	(4,772)	(4,829)	117,730	78,971
275,890	**245,210**	**(1,816)**	**(1,052)**	**1,596,649**	**1,364,355**
–	–	78,261	71,736	78,261	71,736
275,890	**245,210**	**(80,077)**	**(72,788)**	**1,518,388**	**1,292,619**
88,348	66,294	(24,536)	(21,369)	372,861	248,042
187,542	**178,916**	**(55,541)**	**(51,419)**	**1,145,527**	**1,044,577**
1,616	6,282	–	–	86,034	86,022
185,926	**172,634**	**(55,541)**	**(51,419)**	**1,059,493**	**958,555**

6. Notes on the individual items of the balance sheet

6.1 Investments under own management

Hannover Re classifies investments according to the following categories: held-to-maturity, loans and receivables, financial assets at fair value through profit or loss and available-for-sale. The allocation and measurement of investments is determined by the investment intent and complies with the requirements of IAS 39 "Financial Instruments: Recognition and Measurement".

The investments under own management also encompass investments in associated companies, real estate and real estate funds (also includes: investment property), other invested assets, short-term investments and cash. The recognition and measurement of these items is based on the respective applicable IFRS for this type of assets.

The following table shows the regional origin of the investments under own management.

Investments N 16

in EUR thousand	2018	2017
Regional origin		
Germany	7,781,666	6,999,285
United Kingdom	3,274,473	3,286,400
France	1,299,239	1,419,423
Other	5,479,327	6,108,855
Europe	**17,834,705**	**17,813,963**
USA	14,348,172	13,380,576
Other	1,790,371	1,876,686
North America	**16,138,543**	**15,257,262**
Asia	3,201,846	2,353,786
Australia	2,723,189	2,496,589
Australasia	**5,925,035**	**4,850,375**
Africa	341,005	442,684
Other	1,958,050	1,693,194
Total	**42,197,338**	**40,057,478**

Maturities of the fixed-income and variable-yield securities N 17

in EUR thousand	2018		2017	
	Amortised cost[1]	Fair value	Amortised cost[1]	Fair value
Held to maturity				
due in one year	27,597	28,255	85,411	86,359
due after one through two years	35,210	37,680	28,055	29,586
due after two through three years	138,040	150,358	35,145	39,097
due after three through four years	–	–	138,465	156,064
due after four through five years	48,280	53,358	–	–
due after five through ten years	–	–	48,278	54,789
due after more than ten years	816	266	828	263
Total	249,943	269,917	336,182	366,158
Loans and receivables				
due in one year	178,975	182,670	129,159	130,841
due after one through two years	200,522	209,143	179,739	188,653
due after two through three years	303,603	314,716	218,893	233,670
due after three through four years	213,694	232,687	302,243	320,436
due after four through five years	228,382	252,883	214,455	235,151
due after five through ten years	842,190	959,706	942,722	1,126,196
due after more than ten years	431,584	453,879	467,953	505,538
Total	2,398,950	2,605,684	2,455,164	2,740,485
Available for sale				
due in one year[2]	6,159,368	6,157,352	5,345,018	5,346,842
due after one through two years	3,217,098	3,230,856	2,711,972	2,721,829
due after two through three years	3,264,200	3,253,202	3,310,919	3,364,264
due after three through four years	2,828,576	2,831,536	3,659,321	3,675,048
due after four through five years	3,047,032	3,043,361	2,748,835	2,814,657
due after five through ten years	10,040,715	10,051,258	9,992,925	10,218,549
due after more than ten years	6,086,028	6,166,985	4,601,225	4,935,094
Total	34,643,017	34,734,550	32,370,215	33,076,283
Financial assets at fair value through profit or loss				
due in one year	427,918	427,918	177,634	177,634
due after one through two years	86,411	86,411	8,620	8,620
due after two through three years	13,075	13,075	–	–
due after three through four years	10,358	10,358	–	–
due after four through five years	17,740	17,740	7,075	7,075
due after five through ten years	4,248	4,248	–	–
due after more than ten years	–	–	18,713	18,713
Total	559,750	559,750	212,042	212,042

[1] Including accrued interest
[2] Including short-term investments, cash and cash equivalents

The stated maturities may in individual cases diverge from the contractual maturities because borrowers may have the right to call or prepay obligations with or without penalty.

Variable-rate bonds (so-called "floaters") are shown under the maturities due in one year and constitute an interest-related, within-the-year reinvestment risk.

Amortised cost, unrealised gains and losses and accrued interest on the portfolio of investments classified as held to maturity as well as their fair value N 18

in EUR thousand	2018				
	Amortised cost including accrued interest	thereof accrued interest	Unrealised gains	Unrealised losses	Fair value
Investments held to maturity					
Fixed-income securities					
Debt securities issued by semi-governmental entities	23,833	130	1,865	–	25,698
Corporate securities	70,804	1,449	5,605	–	76,409
Covered bonds/ asset-backed securities	155,306	3,002	13,054	550	167,810
Total	**249,943**	**4,581**	**20,524**	**550**	**269,917**

Amortised cost, unrealised gains and losses and accrued interest on the portfolio of investments classified as held to maturity as well as their fair value N 19

in EUR thousand	2017				
	Amortised cost including accrued interest	thereof accrued interest	Unrealised gains	Unrealised losses	Fair value
Investments held to maturity					
Fixed-income securities					
Government debt securities of EU member states	28,624	217	471	–	29,095
Debt securities issued by semi-governmental entities	29,493	437	2,433	–	31,926
Corporate securities	91,286	1,522	8,037	–	99,323
Covered bonds/ asset-backed securities	186,779	3,872	19,600	565	205,814
Total	**336,182**	**6,048**	**30,541**	**565**	**366,158**

The carrying amount of the portfolio held to maturity is arrived at from the amortised cost plus accrued interest.

Amortised cost, unrealised gains and losses and accrued interest on loans and receivables as well as their fair value N 20

in EUR thousand	2018				
	Amortised cost including accrued interest	thereof accrued interest	Unrealised gains	Unrealised losses	Fair value
Loans and receivables					
Debt securities issued by semi-governmental entities	1,451,697	22,045	132,424	2,487	1,581,634
Corporate securities	482,638	2,776	16,857	2,744	496,751
Covered bonds / asset-backed securities	464,615	7,511	62,684	–	527,299
Total	**2,398,950**	**32,332**	**211,965**	**5,231**	**2,605,684**

Amortised cost, unrealised gains and losses and accrued interest on loans and receivables as well as their fair value N 21

in EUR thousand	2017				
	Amortised cost including accrued interest	thereof accrued interest	Unrealised gains	Unrealised losses	Fair value
Loans and receivables					
Debt securities issued by semi-governmental entities	1,544,933	22,830	187,976	5,221	1,727,688
Corporate securities	396,794	2,326	25,988	1,454	421,328
Covered bonds / asset-backed securities	513,437	9,331	78,032	–	591,469
Total	**2,455,164**	**34,487**	**291,996**	**6,675**	**2,740,485**

The carrying amount of the loans and receivables is arrived at from the amortised cost plus accrued interest.

Amortised cost, unrealised gains and losses and accrued interest on the portfolio of investments classified as available for sale as well as their fair value N 22

	2018				
in EUR thousand	Amortised cost including accrued interest	thereof accrued interest	Unrealised gains	Unrealised losses	Fair value
Available for sale					
Fixed-income securities					
Government debt securities of EU member states	4,812,680	24,143	104,587	8,016	4,909,251
US Treasury notes	7,620,338	24,653	8,952	111,169	7,518,121
Other foreign government debt securities	2,146,289	17,987	17,738	26,084	2,137,943
Debt securities issued by semi-governmental entities	5,039,941	41,088	144,688	25,358	5,159,271
Corporate securities	11,064,028	121,084	153,661	200,049	11,017,640
Covered bonds/ asset-backed securities	2,390,624	22,052	56,340	35,917	2,411,047
Investment funds	74,388	–	12,635	611	86,412
	33,148,288	**251,007**	**498,601**	**407,204**	**33,239,685**
Equity securities					
Shares	12,194	–	5,897	–	18,091
Investment funds	5,647	–	4,991	–	10,638
	17,841	**–**	**10,888**	**–**	**28,729**
Short-term investments	421,814	4,813	145	9	421,950
Total	**33,587,943**	**255,820**	**509,634**	**407,213**	**33,690,364**

Amortised cost, unrealised gains and losses and accrued interest on the portfolio of investments classified as available for sale as well as their fair value **N 23**

	2017				
in EUR thousand	Amortised cost including accrued interest	thereof accrued interest	Unrealised gains	Unrealised losses	Fair value
Available for sale					
Fixed-income securities					
Government debt securities of EU member states	3,101,426	19,901	132,208	10,214	3,223,420
US Treasury notes	6,945,508	28,144	19,192	97,721	6,866,979
Other foreign government debt securities	1,893,711	16,513	26,766	16,290	1,904,187
Debt securities issued by semi-governmental entities	5,137,974	37,859	183,998	45,058	5,276,914
Corporate securities	10,945,807	119,725	401,952	29,217	11,318,542
Covered bonds/ asset-backed securities	2,427,624	23,942	116,370	6,497	2,537,497
Investment funds	123,608	–	31,690	929	154,369
	30,575,658	**246,084**	**912,176**	**205,926**	**31,281,908**
Equity securities					
Shares	12,794	–	6,388	17	19,165
Investment funds	12,865	–	5,692	202	18,355
	25,659	**–**	**12,080**	**219**	**37,520**
Short-term investments	958,851	5,582	58	240	958,669
Total	**31,560,168**	**251,666**	**924,314**	**206,385**	**32,278,097**

The carrying amounts of the fixed-income securities and equity securities classified as available for sale as well as the short-term investments allocated to this category correspond to their fair values, in the case of interest-bearing assets including accrued interest.

Fair value of financial assets at fair value through profit or loss before and after accrued interest as well as accrued interest on such financial assets **N 24**

in EUR thousand	2018	2017	2018	2017	2018	2017
	Fair value before accrued interest		Accrued interest		Fair value	
Financial assets at fair value through profit or loss						
Fixed-income securities						
US Treasury notes	55,855	–	289	–	56,144	–
Other foreign government debt securities	271,933	–	–	–	271,933	–
Corporate securities	231,355	211,856	318	186	231,673	212,042
	559,143	**211,856**	**607**	**186**	**559,750**	**212,042**
Other financial assets						
Derivatives	190,759	88,832	–	–	190,759	88,832
	190,759	**88,832**	**–**	**–**	**190,759**	**88,832**
Total	**749,902**	**300,688**	**607**	**186**	**750,509**	**300,874**

The carrying amounts of the financial assets at fair value through profit or loss correspond to their fair values including accrued interest.

Hannover Re recognised in this category as at the balance sheet date designated fixed-income securities amounting to EUR 559.8 million (EUR 212.0 million) as well as derivative financial instruments in an amount of EUR 190.8 million (EUR 88.8 million) that are originally allocable to this item.

Analysis of the fair value changes in the portfolio of fixed-income securities at fair value through profit or loss indicated that, just as in the previous year, no fair value changes were attributable to a changed credit risk.

We additionally use an internal rating method to back up this analysis. Our internal rating system is based on the corresponding credit ratings of securities assigned by the agencies Standard & Poor's and Moody's and in each case reflects the lowest of the available ratings.

For further information please see the explanatory remarks in section 8.1 "Derivative financial instruments and financial guarantees".

Carrying amounts before impairment **N 25**

in EUR thousand	2018		2017	
	Carrying amount before impairment	Impairment	Carrying amount before impairment	Impairment
Fixed-income securities – held to maturity	249,943	–	336,182	–
Fixed-income securities – loans and receivables	2,398,950	–	2,455,164	–
Fixed-income securities – available for sale	33,240,195	510	31,282,217	309
Short-term investments	421,954	4	958,669	–
Equity securities – available for sale	28,729	–	41,201	3,681
Participating interests and other invested assets, real estate funds	2,257,080	17,900	2,167,994	21,342
Total	**38,596,851**	**18,414**	**37,241,427**	**25,332**

For further explanatory remarks on the impairment criteria please see section 3.1 "Summary of major accounting policies".

Rating structure of fixed-income securities N 26

in EUR thousand	2018								
	AAA	AA	A	BBB	BB	B	C	Other	Total
Fixed-income securities – held-to-maturity	164,531	37,132	48,280	–	–	–	–	–	249,943
Fixed-income securities – loans and receivables	1,767,020	145,622	85,243	211,295	19,316	–	–	170,454	2,398,950
Fixed-income securities – available-for-sale	15,546,636	5,496,061	4,970,072	5,874,243	637,336	237,103	1,433	476,801	33,239,685
Fixed-income securities – at fair value through profit or loss	56,144	271,933	–	–	27,611	–	–	204,062	559,750
Total fixed-income securities	**17,534,331**	**5,950,748**	**5,103,595**	**6,085,538**	**684,263**	**237,103**	**1,433**	**851,317**	**36,448,328**

Rating structure of fixed-income securities N 27

in EUR thousand	2017								
	AAA	AA	A	BBB	BB	B	C	Other	Total
Fixed-income securities – held-to-maturity	196,454	77,734	51,993	10,001	–	–	–	–	336,182
Fixed-income securities – loans and receivables	1,745,927	272,116	136,439	221,632	19,030	–	–	60,020	2,455,164
Fixed-income securities – available-for-sale	13,754,622	4,892,769	5,138,558	5,890,327	1,105,067	170,001	1,847	328,717	31,281,908
Fixed-income securities – at fair value through profit or loss	–	–	–	–	31,543	–	–	180,499	212,042
Total fixed-income securities	**15,697,003**	**5,242,619**	**5,326,990**	**6,121,960**	**1,155,640**	**170,001**	**1,847**	**569,236**	**34,285,296**

The maximum credit risk of the items shown here corresponds to their carrying amounts.

Breakdown of investments by currencies N 28

in EUR thousand	2018								
	AUD	CAD	CNY	EUR	GBP	USD	ZAR	Other	Total
Fixed-income securities – held to maturity	–	–	–	226,485	13,972	9,486	–	–	249,943
Fixed-income securities – loans and receivables	93,297	–	33,505	1,926,512	39,083	306,553	–	–	2,398,950
Fixed-income securities – available-for-sale	2,222,892	1,098,885	685,210	8,428,778	2,908,509	16,191,456	253,826	1,450,129	33,239,685
Fixed-income securities – at fair value through profit or loss	–	–	–	19,527	–	268,290	–	271,933	559,750
Equity securities – available-for-sale	–	–	–	18,091	–	10,638	–	–	28,729
Other financial assets – at fair value through profit or loss	–	–	–	2,296	87,515	100,713	–	235	190,759
Other invested assets	82,898	–	–	1,855,383	14,080	1,950,073	5,516	126,707	4,034,657
Short-term investments, cash	102,872	32,799	50,829	189,124	194,212	501,116	141,828	282,085	1,494,865
Total	**2,501,959**	**1,131,684**	**769,544**	**12,666,196**	**3,257,371**	**19,338,325**	**401,170**	**2,131,089**	**42,197,338**

Breakdown of investments by currencies N 29

in EUR thousand	AUD	CAD	CNY	EUR	GBP	USD	ZAR	Other	Total
					2017				
Fixed-income securities – held to maturity	–	3,715	–	278,120	42,918	11,429	–	–	336,182
Fixed-income securities – loans and receivables	22,805	–	33,813	1,983,946	39,755	374,777	–	68	2,455,164
Fixed-income securities – available-for-sale	2,198,566	1,153,025	453,079	7,672,596	3,003,948	15,314,560	212,714	1,273,420	31,281,908
Fixed-income securities – at fair value through profit or loss	–	–	–	–	–	212,042	–	–	212,042
Equity securities – available-for-sale	–	–	–	19,838	102	17,580	–	–	37,520
Other financial assets – at fair value through profit or loss	–	–	–	835	58,964	29,033	–	–	88,832
Other invested assets	–	–	–	1,947,949	6,177	1,767,771	7,087	122,471	3,851,455
Short-term investments, cash	130,430	32,278	65,322	155,369	149,182	518,588	184,820	558,386	1,794,375
Total	**2,351,801**	**1,189,018**	**552,214**	**12,058,653**	**3,301,046**	**18,245,780**	**404,621**	**1,954,345**	**40,057,478**

The maximum credit risk of the items shown here corresponds to their carrying amounts.

Associated companies

The associated companies included at equity in the consolidated financial statement that both on an individual basis and in their entirety are not material for the Hannover Re Group pursuant to IFRS 12 are comprised of

- WeHaCo Unternehmensbeteiligungs-GmbH, Hannover, Germany,
- HANNOVER Finanz GmbH, Hannover, Germany,
- ITAS Vita S.p.A., Trento, Italy,

as well as the following companies included at equity within the subgroup Hannover Reinsurance Group Africa (Pty) Ltd., Johannesburg, South Africa:

- Clarendon Transport Underwriting Managers (Pty) Ltd., Johannesburg, South Africa,
- Clarenfin (Pty) Ltd., Johannesburg, South Africa,
- Vela Taxi Finance (Pty) Ltd., Johannesburg, South Africa,
- Marmic Taxi Parts (Pty) Ltd., Durban, South Africa,
- Pineapple Tech (Pty) Ltd., Johannesburg, South Africa.

Information on the percentage share held by the Hannover Re Group in the capital of the associated companies as well as on the amount of capital and reserves and the result for the last financial year of these companies is provided in the list of shareholdings in section 4.2 “Consolidated companies and complete list of shareholdings”.

The following table shows combined financial information on the Hannover Re Group's individually non-material investments in associated companies.

Financial information on investments in associated companies N 30

in EUR thousand	2018	2017
Group share of net income from continuing operations	4,977	16,006
Group share of income and expense recognised directly in equity	(4,024)	(936)
Group share of total recognised income and expense	**953**	**15,070**

The carrying amount of the investments in associated companies changed as follows in the year under review:

Investments in associated companies N 31

in EUR thousand	2018	2017
Net book value at 31 December of the previous year	**121,075**	**114,633**
Currency translation at 1 January	(129)	(22)
Net book value after currency translation	**120,946**	**114,611**
Additions	334	389
Disposals	1,829	–
Profit or loss on investments in associated companies	4,977	16,006
Dividend payments	9,861	9,000
Change recognised outside income	(4,024)	(936)
Currency translation at 31 December	2	5
Net book value at 31 December of the year under review	**110,545**	**121,075**

No discontinued operations existed in the year under review among the companies measured at equity. Insofar as there are commitments from contingent liabilities of associated companies, the Hannover Re Group shares in such commitments in proportion to its respective shareholding.

Public price listings are not available for companies valued at equity. The net book value of associated companies includes goodwill in the amount of EUR 18.8 million (EUR 18.8 million). For further details please see section 4 "Consolidation".

Real estate

Real estate is divided into real estate for own use and investment property. Own-use real estate is recognised under other assets.

The investment property in the portfolio which is used to generate income is shown under the investments. Income and expenses from rental agreements are included in the investment income.

Real estate is valued at cost of acquisition less depreciation with useful lives of at most 50 years.

Development of investment property N 32

in EUR thousand	2018	2017
Gross book value at 31 December of the previous year	1,712,667	1,502,800
Currency translation at 1 January	36,660	(89,740)
Gross book value after currency translation	**1,749,327**	**1,413,060**
Additions	117,253	388,308
Disposals	23,166	82,453
Currency translation at 31 December	994	(6,248)
Gross book value at 31 December of the year under review	**1,844,408**	**1,712,667**
Cumulative depreciation at 31 December of the previous year	128,939	100,557
Currency translation at 1 January	3,131	(6,172)
Cumulative depreciation after currency translation	**132,070**	**94,385**
Disposals	3,708	9,895
Depreciation	34,001	31,013
Impairments	324	15,642
Appreciation	3,616	912
Currency translation at 31 December	405	(1,294)
Cumulative depreciation at 31 December of the year under review	**159,476**	**128,939**
Net book value at 31 December of the previous year	**1,583,728**	**1,402,243**
Net book value at 1 January of the year under review	**1,617,257**	**1,318,675**
Net book value at 31 December of the year under review	**1,684,932**	**1,583,728**

The fair value of investment property amounted to EUR 1,945.4 million (EUR 1,743.6 million) as at the balance sheet date.

The additions to this item are attributable to investment activities at the relevant real estate companies belonging to the Hannover Re Group, specifically in Australia and the United States.

In terms of diversification across various real estate sectors the focus is on office properties (68%), followed by retail properties (19%). The allocation is complemented by investments in further sectors, including for example logistics and parking facilities. In geographical terms, exposures are spread across the United States (36%), Europe (excluding Germany; 33%) as well as Germany (20%) and Asia (11%).

The real estate in the investment portfolio is normally subject to internal and external valuation by an appraiser as at the balance sheet date. The two analyses do not differ from one another in the methodology used, which means that the findings are comparable at all times and on a continuous basis. Generally speaking, the fair value of the real estate is determined using the discounted cash flow (DCF) method, with rental income capitalised in consideration of the associated management costs. The valuation result is also influenced by increases and reductions based on specific property circumstances (upkeep, vacancies, rent divergences from the market level, etc.). The evaluation of international real estate also draws primarily on the discounted cash flow method. The main feature of this method is the present value estimation of projected annual free cash flows.

Real estate which is held for sale as defined by IFRS 5 is recognised separately in the consolidated balance sheet. Intentions to sell are substantiated by individual real estate market conditions and specific property circumstances, taking into consideration current and future opportunity/risk profiles. In the year under review no property had to be reclassified to assets held for sale.

In addition, we held indirect real estate investments measured at fair values in an amount of EUR 433.9 million (EUR 385.0 million) in the year under review, the amortised costs of which amounted to EUR 379.8 million (EUR 327.2 million). The differences between the carrying amounts and amortised costs were recognised as unrealised gains of EUR 57.5 million (EUR 59.5 million) and unrealised losses of EUR 3.4 million (EUR 1.7 million) under cumulative other comprehensive income.

Other invested assets

The other invested assets consisted largely of participating interests in partnerships measured at fair value in an amount of EUR 1,491.0 million (EUR 1,507.6 million), the amortised cost of which amounted to EUR 1,145.8 million (EUR 1,124.5 million). The differences between the carrying amounts and the amortised costs were recognised as unrealised gains of EUR 362.1 million (EUR 398.0 million) and unrealised losses of EUR 16.9 million (EUR 14.8 million) under cumulative other comprehensive income.

In addition, acquired life insurance policies measured at fair value through profit or loss were recognised under the other invested assets in an amount of EUR 38.6 million (EUR 38.2 million). Loans granted in an amount of EUR 141.1 million (EUR 107.9 million) were similarly recognised under other invested assets.

Short-term investments

This item comprises investments with a maturity of up to one year at the time of investment. This includes overnight and time deposits as well as shares in investment funds that invest in such securities.

Fair value hierarchy

For the purposes of the disclosure requirements pursuant to IFRS 13 "Fair Value Measurement", financial assets and liabilities are to be assigned to a three-level fair value hierarchy.

The fair value hierarchy, which reflects characteristics of the price data and inputs used for measurement purposes, is structured as follows:

- Level 1: Assets or liabilities measured at (unadjusted) prices quoted directly in active and liquid markets
- Level 2: Assets or liabilities which are measured using observable market data and are not allocable to level 1. Measurement is based, in particular, on prices for comparable assets and liabilities that are traded on active markets, prices on markets that are not considered active as well as inputs derived from such prices or market data.
- Level 3: Assets or liabilities that cannot be measured or can only be partially measured using observable market inputs. The measurement of such instruments draws principally on valuation models and methods.

If input factors from different levels are used to measure a financial instrument, the level of the lowest input factor material to measurement is determinative.

The operational units responsible for coordinating and documenting measurement are organisationally separate from the operational units that enter into investment risks. All relevant valuation processes and valuation methods are documented. Decisions on fundamental valuation issues are taken by a valuation committee that meets monthly.

In the financial year just ended, as in the previous year, no investments were allocable to another level of the fair value hierarchy.

The following table shows the breakdown of financial assets and liabilities recognised at fair value into the three-level fair value hierarchy.

Fair value hierarchy of financial assets and liabilities recognised at fair value N 33

in EUR thousand	2018			
	Level 1	Level 2	Level 3	Total
Fixed-income securities	28,040	33,771,395	–	33,799,435
Equity securities	28,729	–	–	28,729
Other financial assets	–	58,420	132,339	190,759
Real estate funds	–	–	433,899	433,899
Other invested assets	–	–	1,647,992	1,647,992
Short-term investments	421,950	–	–	421,950
Other assets	–	988	–	988
Total financial assets	**478,719**	**33,830,803**	**2,214,230**	**36,523,752**
Other liabilities	–	57,940	24,548	82,488
Total financial liabilities	**–**	**57,940**	**24,548**	**82,488**

Fair value hierarchy of financial assets and liabilities recognised at fair value N 34

in EUR thousand	2017			
	Level 1	Level 2	Level 3	Total
Fixed-income securities	34,043	31,459,907	–	31,493,950
Equity securities	35,521	1,897	102	37,520
Other financial assets	–	39,793	49,039	88,832
Real estate funds	–	–	384,973	384,973
Other invested assets	–	–	1,639,065	1,639,065
Short-term investments	958,669	–	–	958,669
Total financial assets	**1,028,233**	**31,501,597**	**2,073,179**	**34,603,009**
Other liabilities	–	78,838	185,498	264,336
Total financial liabilities	**–**	**78,838**	**185,498**	**264,336**

The following table provides a reconciliation of the fair values of financial assets and liabilities included in level 3 at the beginning of the financial year with the fair values as at 31 December of the financial year.

Movements in level 3 financial assets and liabilities N 35

in EUR thousand	2018				
	Equities, equity funds and other variable-yield securities	Other financial assets	Real estate funds	Other invested assets	Other liabilities
Net book value at 31 December of the previous year	**102**	**49,039**	**384,973**	**1,639,065**	**185,498**
Currency translation at 1 January	(2)	2,326	31,152	46,691	8,796
Net book value after currency translation	**100**	**51,365**	**416,125**	**1,685,756**	**194,294**
Income and expenses					
recognised in the statement of income	–	29,037	(2,601)	41,735	(5,775)
recognised directly in shareholders' equity	–	–	(3,298)	(57,796)	–
Transfers	(102)	–	–	–	–
Purchases	–	103,507	75,906	374,508	7,814
Sales	–	48,934	41,262	393,933	164,914
Settlements	–	–	–	4,746	–
Reclassifications pursuant to IFRS 5	–	–	(12,370)	–	–
Transfers to level 3	–	–	–	–	–
Transfers from level 3	–	–	–	–	–
Currency translation at 31 December	2	(2,636)	1,399	2,468	(6,871)
Net book value at 31 December of the year under review	**–**	**132,339**	**433,899**	**1,647,992**	**24,548**

Movements in level 3 financial assets and liabilities N 36

in EUR thousand	2017				
	Equities, equity funds and other variable-yield securities	Other financial assets	Real estate funds	Other invested assets	Other liabilities
Net book value at 31 December of the previous year	**10**	**–**	**390,676**	**1,653,902**	**168,943**
Currency translation at 1 January	(1)	–	(18,082)	(130,950)	(20,481)
Net book value after currency translation	**9**	**–**	**372,594**	**1,522,952**	**148,462**
Changes in the consolidated group	103	–	–	–	–
Income and expenses					
recognised in the statement of income	(88)	2,024	(2,341)	9,093	(29,818)
recognised directly in shareholders' equity	–	–	(5,842)	35,188	–
Purchases	78	66,331	92,817	320,334	69,113
Sales	–	18,232	72,043	245,092	–
Transfers to level 3	1	–	–	–	–
Transfers from level 3	–	–	–	–	–
Currency translation at 31 December	(1)	(1,084)	(212)	(3,410)	(2,259)
Net book value at 31 December of the year under review	**102**	**49,039**	**384,973**	**1,639,065**	**185,498**

The breakdown of income and expenses recognised in the statement of income in the financial year in connection with financial assets and liabilities assigned to level 3 is as follows:

Income and expenses from level 3 financial assets and liabilities N 37

in EUR thousand	2018				
	Equities, equity funds and other variable-yield securities	Other financial assets	Real estate funds	Other invested assets	Other liabilities
Total in the financial year					
Ordinary investment income	–	–	–	(10)	–
Realised gains and losses on investments	–	–	–	56,694	–
Change in fair value of financial instruments	–	29,037	–	350	5,775
Total depreciation, impairments and appreciation of investments	–	–	(2,601)	(15,299)	–
Thereof attributable to financial instruments included in the portfolio at 31 December of the year under review					
Ordinary investment income	–	–	–	(10)	–
Change in fair value of financial instruments	–	29,037	–	512	5,775
Total depreciation, impairments and appreciation of investments	–	–	(2,601)	(15,299)	–

Income and expenses from level 3 financial assets and liabilities N 38

in EUR thousand	2017				
	Equities, equity funds and other variable-yield securities	Other financial assets	Real estate funds	Other invested assets	Other liabilities
Total in the financial year					
Ordinary investment income	–	–	–	108	–
Realised gains and losses on investments	(79)	–	–	15,538	–
Change in fair value of financial instruments	–	2,024	–	1,887	29,818
Total depreciation, impairments and appreciation of investments	(9)	–	(2,341)	(8,440)	–
Thereof attributable to financial instruments included in the portfolio at 31 December of the year under review					
Ordinary investment income	–	–	–	108	–
Change in fair value of financial instruments	–	2,024	–	1,392	29,818
Total depreciation, impairments and appreciation of investments	(9)	–	(2,341)	(8,440)	–

If models are used to measure financial assets and liabilities included in level 3 under which the adoption of alternative inputs leads to a material change in fair value, IFRS 13 requires disclosure of the effects of these alternative assumptions. Of the financial assets included in level 3 with fair values of altogether EUR 2,214.2 million (EUR 2,073.2 million) as at the balance sheet date, Hannover Re measures financial assets with a volume of EUR 1,924.9 million (EUR 1,892.6 million) using the net asset value method. These items consist principally of shares in private equity and real estate funds. Assuming that the present values of the assets and liabilities contained in the funds would be 10% lower than used for measurement as at the balance sheet date, the fair values for these items would amount to EUR 1,732.4 million. The remaining financial assets included in level 3 with a volume of EUR 289.3 million (EUR 180.6 million) relate to investments, the valuation of which is based inter alia on technical parameters. Derivative financial instruments in connection with the reinsurance business were recognised under the other liabilities included in level 3 in the year under review. Their performance is dependent upon lapse rates within an underlying primary insurance portfolio. The application of alternative inputs and assumptions has no material effect on the consolidated financial statement.

Fair value hierarchy of financial assets and liabilities measured at amortised cost **N 39**

	2018			
in EUR thousand	Level 1	Level 2	Level 3	Total
Fixed-income securities	–	2,719,789	155,812	2,875,601
Investment property	–	–	1,945,401	1,945,401
Other invested assets	–	8,089	154,973	163,062
Total financial assets	**–**	**2,727,878**	**2,256,186**	**4,984,064**
Long-term debt and notes payable	–	2,677,938	35	2,677,973
Total financial liabilities	**–**	**2,677,938**	**35**	**2,677,973**

Fair value hierarchy of financial assets and liabilities measured at amortised cost **N 40**

	2017			
in EUR thousand	Level 1	Level 2	Level 3	Total
Fixed-income securities	–	2,985,404	121,239	3,106,643
Investment property	–	–	1,743,632	1,743,632
Other invested assets	–	7,917	121,376	129,293
Total financial assets	**–**	**2,993,321**	**1,986,247**	**4,979,568**
Long-term debt and notes payable	–	1,977,559	39	1,977,598
Total financial liabilities	**–**	**1,977,559**	**39**	**1,977,598**

Disclosures relating to deferred adoption of IFRS 9

Fair value disclosures for financial assets **N 41**

in EUR thousand	2018			
	Financial assets that give rise solely to payments of principal and interest		All other financial assets	
	Fair value as at 31.12.	Fair value change in the financial year	Fair value as at 31.12.	Fair value change in the financial year
Fixed-income securities – held to maturity	269,651	(14,398)	266	216
Fixed-income securities – loans and receivables	2,602,013	(35,616)	3,671	(3,544)
Fixed-income securities – available for sale	32,746,438	(70,690)	493,247	(18,879)
Fixed-income securities – at fair value through profit or loss	–	–	559,750	(19,933)
Equity securities – available for sale	–	–	28,729	(1,170)
Other financial assets – at fair value through profit or loss	–	–	173,865	(9,619)
Real estate funds	–	–	433,899	(41,181)
Other invested assets	133,262	(1,525)	1,537,851	(78,798)
Short-term investments	380,590	(532)	41,360	345
Other assets	146,641	–	933	1,767
Total	**36,278,597**	**(122,761)**	**3,273,571**	**(170,796)**

The above table shows the financial assets that are to be recognised in future in accordance with IFRS 9 and splits them into a group that satisfies the cash flow criterion for financial assets as well as all other financial assets. The latter encompass the financial assets currently measured at fair value through profit or loss, especially equity instruments held and shares in investment funds that by their very nature cannot fulfil the cash flow criterion enshrined in IFRS 9. The cash flow criterion is met if the contractual conditions of the financial instrument give rise to cash flows at set times that are solely payments of principal and interest (SPPI test).

Rating structure of financial assets that give rise to solely payments of principal and interest **N 42**

in EUR thousand	2018 Carrying amount before impairment
AAA	17,440,918
AA	5,642,495
A	5,067,975
BBB	6,017,406
BB or lower	936,185
No rating	
low credit risk	630,371
more than a low credit risk	175,447
Total	**35,910,798**

The fair value for financial assets that meet the cash flow criterion and have more than a low credit risk corresponds to the carrying amount before impairment shown in the table.

6.2 Funds withheld (assets)

The funds withheld totalling EUR 10,691.8 million (EUR 10,735.0 million) represent the cash deposits furnished by our company to our cedants that do not trigger any cash flows and cannot be realised by cedants without our consent. The maturities of these deposits are matched to the corresponding provisions. In the event of default on such a deposit our reinsurance commitment is reduced to the same extent.

6.3 Contract deposits (assets)

The contract deposits on the assets side increased slightly by EUR 5.0 million in the year under review from EUR 167.9 million to EUR 172.9 million.

6.4 Technical assets

The retrocessionaires' portions of the technical provisions are based on the contractual agreements of the underlying reinsurance treaties. For further details please refer to our comments on the technical provisions in section 6.7 "Technical provisions". With regard to the nature and scope of risks arising out of insurance contracts we would also refer to the explanatory remarks on page 102 et seq. of the risk report.

SFAS 60 requires that acquisition costs be capitalised as assets and amortised in proportion to the earned premium.

In the case of reinsurance treaties for unit-linked life insurance policies classified as "universal life-type contracts" pursuant to SFAS 97, the capitalised acquisition costs are amortised on the basis of the estimated gross profit margins from the reinsurance treaties, making allowance for the period of the insurance contracts. A discount rate based on the interest for medium-term government bonds was applied to such contracts. In the case of annuity policies with a single premium payment, these values refer to the expected policy period or period of annuity payment.

In life and health reinsurance the deferred acquisition costs associated with life and annuity policies with regular premium payments are determined in light of the period of the contracts, the expected surrenders, the lapse expectancies and the anticipated interest income.

In property and casualty reinsurance acquisition costs directly connected with the acquisition or renewal of contracts are deferred for the unearned portion of the premium.

Development of deferred acquisition costs N 43

in EUR thousand	2018	2017
Net book value at 31 December of the previous year	2,228,246	2,264,034
Currency translation at 1 January	(1,494)	(152,916)
Net book value after currency translation	**2,226,752**	**2,111,118**
Additions	782,122	676,407
Amortisations	668,351	530,606
Portfolio entries/exits	(64,252)	(16,796)
Reclassifications pursuant to IFRS 5	(126,833)	–
Currency translation at 31 December	6,382	(11,877)
Net book value at 31 December of the year under review	**2,155,820**	**2,228,246**

For further explanatory remarks please see section 3.1 "Summary of major accounting policies".

The age structure of the accounts receivable which were unadjusted but considered overdue as at the balance sheet date is presented below.

Age structure of overdue accounts receivable **N 44**

	2018		2017	
in EUR thousand	Three months to one year	More than one year	Three months to one year	More than one year
Accounts receivable	241,637	90,747	303,242	130,437

Within the scope of our management of receivables we expect to receive payment of accounts receivable within three months of the date of creation of the debit entry unless otherwise agreed – a period for which we also make allowance in our risk analysis. Please see our comments on the counterparty default risk within the risk report on page 114 et seq.

The default risks associated with accounts receivable under reinsurance business are determined and recognised on the basis of case-by-case analyses.

The value adjustments on accounts receivable that we recognise in adjustment accounts changed as follows in the year under review:

Value adjustments on accounts receivable **N 45**

in EUR thousand	2018	2017
Cumulative value adjustments at 31 December of the previous year	17,391	40,468
Currency translation at 1 January	182	(321)
Cumulative value adjustments after currency translation	**17,573**	**40,147**
Value adjustments	19,151	9,299
Reversal	5,506	31,427
Utilisation	1,500	628
Reclassifications pursuant to IFRS 5	(215)	–
Cumulative value adjustments at 31 December of the year under review	**29,503**	**17,391**
Gross book value of accounts receivable at 31 December of the year under review	4,005,281	3,838,515
Cumulative value adjustments at 31 December of the year under review	29,503	17,391
Net book value of accounts receivable at 31 December of the year under review	**3,975,778**	**3,821,124**

In addition, we took specific value adjustments on reinsurance recoverables on unpaid claims in the year under review. We would refer the reader to the corresponding remarks on the loss and loss adjustment expense reserve in section 6.7 "Technical provisions". With regard to the credit risks resulting from technical assets we would also refer the reader to our comments on page 114 et seq. of the risk report.

6.5 Goodwill

In accordance with IFRS 3 "Business Combinations" amortisation is not taken on goodwill. Goodwill was subject to an impairment test.

Development of goodwill N 46

in EUR thousand	2018	2017
Net book value at 31 December of the previous year	91,692	64,609
Currency translation at 1 January	(1,289)	(1,405)
Net book value after currency translation	**90,403**	**63,204**
Additions	3,506	28,775
Value adjustments	8,389	–
Currency translation at 31 December	68	(287)
Net book value at 31 December of the year under review	**85,588**	**91,692**

This item principally includes the goodwill from the acquisitions of E+S Rückversicherung AG, Integra Insurance Solutions Limited, Glencar Underwriting Managers Inc. and Argenta Holdings Limited.

For the purposes of the impairment test, the goodwill was allocated to the cash-generating units (CGUs) that represent the lowest level on which goodwill is monitored for internal management purposes. In the instances of goodwill recognised as at the balance sheet date, the CGUs are the respective legal entities. The recoverable amount is established on the basis of the value in use, which is calculated using the discounted cash flow method. In this context, the detailed planning phase draws on the planning calculations of the CGUs/companies covering the next five years. These planning calculations represent the outcome of a detailed planning process in which all responsible members of management are involved and where allowance is made for the latest market developments affecting the relevant entity (in relation to the sector and the economy as a whole). The subsequent perpetuity phase is guided by the profit margins and revenue growth rates that management believes can be sustainably generated. The capitalisation rate is based on the Capital Asset Pricing Model (CAPM) as well as growth rates that are considered realistic in light of the specific market environment. The risk-free basic interest rate is determined, where possible, using corresponding yield curve data from the respective national banks. If this data cannot be obtained or can only be obtained with a disproportionately high effort, reference is made to the yields of the respective 30-year government bonds. Both the yield curves and the government bonds reflect the current interest rate trend on financial markets. The selection of the market risk premium is guided by the current recommendations of the Institute of Public Auditors in Germany (IDW). The beta factor is calculated for Hannover Rück SE on the basis of publicly accessible capital market data. The foreign exchange rates used for currency translation correspond to the situation on the balance sheet date.

The following capitalisation rates and growth rates were recognised for the individual cash-generating units:

Capitalisation rates N 47

	Capitalisation rate	Growth rate
Argenta Holdings Limited	7.320%	1.000%
E+S Rückversicherung AG	6.650%	0.900%
Glencar Underwriting Managers Inc.	9.280%	1.000%
Integra Insurance Solutions Limited	7.920%	1.000%

Sensitivity analyses were performed in which the capitalisation rates as well as material and value-influencing items of the relevant planning calculations (such as premium volumes, investment income or loss ratios) were varied. In this context individual parameters were each varied within appropriate ranges that could be anticipated in view of the prevailing market circumstances and developments. It was established that in the event of changes in parameters within ranges that could reasonably occur, the values in use of Argenta Holdings Limited and E+S Rückversicherung AG were in each case higher than the corresponding book values.

Based on the current financial planning, it was necessary to make value adjustments on the goodwill allocated to the cash-generating units Glencar Underwriting Managers Inc. and Integra Insurance Solutions Limited because the recoverable amount in each case fell short of the book value of the

CGU. The value adjustment on the level of Glencar Underwriting Managers Inc. amounts to EUR 5.0 million and encompasses the entire goodwill. The value adjustment taken on the level of Integra Insurance Solutions Limited amounts to EUR 3.4 million. The expense was in each case recognised under the other income/expenses in the property and casualty reinsurance segment.

We would also refer to our basic remarks in section 3.1 "Summary of major accounting policies".

6.6 Other assets

Other assets N 48

in EUR thousand	2018	2017
Present value of future profits on acquired life reinsurance portfolios	39,609	63,285
Other intangible assets	129,397	133,713
Insurance for pension commitments	93,962	90,789
Own-use real estate	63,551	64,036
Tax refund claims	83,173	78,016
Fixtures, fittings and equipment	29,804	29,653
Receivables from advance payments and services	74,018	58,491
Other	115,906	386,270
Total	**629,420**	**904,253**

The item "Other" includes receivables of EUR 50.4 million (EUR 286.8 million) which correspond to the present value of future premium payments in connection with derivative financial instruments arising from transactions in the life and health reinsurance business group. For further explanation please see section 8.1 "Derivative financial instruments and financial guarantees".

The other receivables include unadjusted items of EUR 0.3 million (EUR 0.3 million) that were overdue by more than twelve months as at the balance sheet date.

Present value of future profits (PVFP) on acquired life reinsurance portfolios

Development of the present value of future profits (PVFP) on acquired life reinsurance portfolios N 49

in EUR thousand	2018	2017
Gross book value at 31 December of the previous year	121,859	136,053
Currency translation at 1 January	4,719	(14,194)
Gross book value at 31 December of the year under review	**126,578**	**121,859**
Cumulative depreciation at 31 December of the previous year	58,574	59,461
Currency translation at 1 January	1,718	(4,909)
Cumulative depreciation after currency translation	**60,292**	**54,552**
Amortisation	25,859	4,267
Currency translation at 31 December	818	(245)
Cumulative depreciation at 31 December of the year under review	**86,969**	**58,574**
Net book value at 31 December of the previous year	**63,285**	**76,592**
Net book value at 31 December of the year under review	**39,609**	**63,285**

This item comprises the present value of future cash flows recognised on business acquired in 2009 in the context of the acquisition of the ING life reinsurance portfolio. This intangible asset is amortised over the term of the underlying reinsurance contracts in proportion to the future premium income. The period of amortisation amounts to altogether 30 years.

The increased amortisation results from treaty recaptures made by individual cedants as a consequence of rate increases. For further information please refer to our explanatory notes on intangible assets in section 3.1 "Summary of major accounting policies".

Insurance for pension commitments

Effective 1st of July 2003 Hannover Rück SE took out insurance for pension commitments. The commitments involve deferred annuities with regular premium payment under a group insurance policy. In accordance with IAS 19 "Employee Benefits" they were carried as a separate asset at fair value as at the balance sheet date in an amount of EUR 94.0 million (EUR 90.8 million).

Fixtures, fittings and equipment

Fixtures, fittings and equipment **N 50**

in EUR thousand	2018	2017
Gross book value at 31 December of the previous year	157,511	155,812
Currency translation at 1 January	953	(5,474)
Gross book value after currency translation	**158,464**	**150,338**
Additions	11,791	12,743
Disposals	5,567	3,974
Reclassifications	–	(4,451)
Change in the consolidated group	(64)	2,696
Reclassifications pursuant to IFRS 5	(5,101)	–
Currency translation at 31 December	(158)	159
Gross book value at 31 December of the year under review	**159,365**	**157,511**
Cumulative depreciation at 31 December of the previous year	127,858	128,578
Currency translation at 1 January	1,143	(4,592)
Cumulative depreciation after currency translation	**129,001**	**123,986**
Disposals	5,199	3,773
Depreciation	10,042	8,047
Reclassifications	–	(793)
Change in the consolidated group	(39)	294
Reclassifications pursuant to IFRS 5	(4,119)	–
Currency translation at 31 December	(125)	97
Cumulative depreciation at 31 December of the year under review	**129,561**	**127,858**
Net book value at 31 December of the previous year	**29,653**	**27,234**
Net book value at 31 December of the year under review	**29,804**	**29,653**

With regard to the measurement of fixtures, fittings and equipment, the reader is referred to our explanatory notes on the other assets in section 3.1 “Summary of major accounting policies”.

Other intangible assets

Development of other intangible assets N 51

in EUR thousand	2018	2017
Gross book value at 31 December of the previous year	364,879	265,220
Currency translation at 1 January	(2,603)	(777)
Gross book value after currency translation	**362,276**	**264,443**
Changes in the consolidated group	(289)	85,853
Reclassifications	–	4,451
Additions	21,800	11,775
Disposals	–	184
Reclassifications pursuant to IFRS 5	(13,538)	–
Currency translation at 31 December	(57)	(1,459)
Gross book value at 31 December of the year under review	**370,192**	**364,879**
Cumulative depreciation at 31 December of the previous year	231,166	213,132
Currency translation at 1 January	(815)	(369)
Cumulative depreciation after currency translation	**230,351**	**212,763**
Changes in the consolidated group	(3)	203
Reclassifications	–	793
Disposals	–	149
Depreciation	18,965	17,614
Reclassifications pursuant to IFRS 5	(8,316)	–
Currency translation at 31 December	(202)	(58)
Cumulative depreciation at 31 December of the year under review	**240,795**	**231,166**
Net book value at 31 December of the previous year	**133,713**	**52,088**
Net book value at 31 December of the year under review	**129,397**	**133,713**

The item includes EUR 37.8 million (EUR 33.7 million) for purchased software as at the balance sheet date, on which depreciation is taken over useful lives of three to ten years. Of the additions, an amount of EUR 8.7 million (EUR 3.6 million) is attributable to purchased software.

The gross book values include rights from long-term reinsurance treaties still existing as at the balance sheet date. The intangible assets resulting from these rights were recognised in the context of business acquisitions in the years 1997 and 2002 and were written off in full as at the balance sheet date.

Credit risks may result from other financial assets that were not overdue or adjusted as at the balance sheet date. In this regard, the reader is referred in general to our comments on the credit risk contained in the risk report on page 94 et seq.

6.7 Technical provisions

In order to show the net technical provisions remaining in the retention the following table compares the gross provisions with the corresponding retrocessionaires' shares, which are shown as assets in the balance sheet.

Technical provisions **N 52**

	2018			2017		
in EUR thousand	gross	retro	net	gross	retro	net
Loss and loss adjustment expense reserve	28,758,575	2,084,630	26,673,945	28,378,545	1,651,335	26,727,210
Benefit reserve	9,184,356	909,056	8,275,300	8,977,946	959,533	8,018,413
Unearned premium reserve	3,166,964	93,678	3,073,286	3,541,194	96,402	3,444,792
Other technical provisions	575,996	7,170	568,826	394,460	7,301	387,159
Total	**41,685,891**	**3,094,534**	**38,591,357**	**41,292,145**	**2,714,571**	**38,577,574**

The loss and loss adjustment expense reserves are in principle calculated on the basis of the information supplied by ceding companies. Additional IBNR reserves are established for losses that have been incurred but not as yet reported. The development of the loss and loss adjustment expense reserve is shown in the following table. Commencing with the gross reserve, the change in the reserve after deduction of the reinsurers' portions is shown in the year under review and the previous year.

Loss and loss adjustment expense reserve **N 53**

	2018			2017		
in EUR thousand	gross	retro	net	gross	retro	net
Net book value at 31 December of the previous year	28,378,545	1,651,335	26,727,210	28,129,418	1,506,292	26,623,126
Currency translation at 1 January	385,920	38,332	347,588	(1,917,751)	(120,535)	(1,797,216)
Net book value after currency translation	**28,764,465**	**1,689,667**	**27,074,798**	**26,211,667**	**1,385,757**	**24,825,910**
Reclassifications pursuant to IFRS 5	(1,642,408)	(87,253)	(1,555,155)	–	–	–
Incurred claims and claims expenses (net)[1]						
Year under review	11,553,628	1,383,873	10,169,755	10,434,270	1,022,795	9,411,475
Previous years	2,849,915	450,520	2,399,395	3,163,944	382,340	2,781,604
	14,403,543	**1,834,393**	**12,569,150**	**13,598,214**	**1,405,135**	**12,193,079**
Less:						
Claims and claims expenses paid (net)[1]						
Year under review	(3,435,681)	(145,670)	(3,290,011)	(2,910,584)	(393,551)	(2,517,033)
Previous years	(9,337,763)	(1,192,926)	(8,144,837)	(8,531,198)	(724,128)	(7,807,070)
	(12,773,444)	**(1,338,596)**	**(11,434,848)**	**(11,441,782)**	**(1,117,679)**	**(10,324,103)**
Changes in the consolidated group	–	–	–	164,813	41,964	122,849
Specific value adjustment for retrocessions	–	9,257	(9,257)	–	43,609	(43,609)
Reversal of impairments	–	1,155	(1,155)	–	519	(519)
Portfolio entries/exits	(8,160)	(3,274)	(4,886)	2,171	–	2,171
Currency translation at 31 December	14,579	(2,205)	16,784	(156,538)	(20,752)	(135,786)
Net book value at 31 December of the year under review	**28,758,575**	**2,084,630**	**26,673,945**	**28,378,545**	**1,651,335**	**26,727,210**

[1] Excluding effects from portfolio entries/exits recognised in income

Annual financial statements

On balance, cumulative specific value adjustments of EUR 54.6 million (EUR 44.5 million) were recognised in these reinsurance recoverables as at the balance sheet date.

The total amount of the net reserve before specific value adjustments was EUR 26,619.3 million (EUR 26,682.7 million) as at the balance sheet date.

Run-off of the net loss reserve in the property and casualty reinsurance segment

To some extent the loss and loss adjustment expense reserves are inevitably based upon estimations that entail an element of uncertainty. The difference between the loss reserves constituted in the previous year and the losses paid out of these reserves is reflected in the net run-off result. In this regard, owing to the fact that the period of some reinsurance treaties is not the calendar year or because they are concluded on an underwriting-year basis, it is frequently impossible to make an exact allocation of claims expenditures to the current financial year or the previous year.

The run-off triangles provided by the reporting units are shown after adjustment for the currency effects arising out of translation of the respective transaction currency into the local reporting currency. The run-off triangles of the reporting units delivered in foreign currencies are translated to euro at the current rate on the balance sheet date in order to show run-off results after adjustment for currency effects. In cases where the originally estimated ultimate loss corresponds to the actual ultimate loss in the original currency, it is ensured that also after translation to the Group reporting currency (EUR) a run-off result induced purely by currency effects is not shown.

The run-off triangles show the run-off of the net loss reserve (loss and loss adjustment expense reserve) established as at each balance sheet date, this reserve comprising the provisions constituted in each case for the current and preceding occurrence years.

The following table shows the net loss reserve for the property and casualty reinsurance business group in the years 2008 to 2018 as well as the run-off of the reserve (so-called run-off triangle). The figures reported for the 2008 balance sheet year also include the amounts for previous years that are no longer shown separately in the run-off triangle. The run-off results shown reflect the changes in the ultimate loss arising in the 2018 financial year for the individual run-off years.

Net loss reserve and its run-off in the property and casualty reinsurance segment N 54

in EUR million	31.12. 2008	31.12. 2009	31.12. 2010	31.12. 2011	31.12. 2012	31.12. 2013	31.12. 2014	31.12. 2015	31.12. 2016	31.12. 2017	31.12. 2018
Loss and loss adjustment expense reserve (from balance sheet)											
	13,625.3	13,945.3	15,206.4	16,555.1	17,178.8	17,746.8	19,644.7	21,672.5	22,592.5	22,727.8	**24,194.7**[1]
Cumulative payments for the year in question and previous years											
One year later	2,958.7	2,755.7	2,445.8	3,127.5	2,899.2	3,185.9	3,509.3	3,267.6	3,732.6	4,430.3	
Two years later	4,602.2	3,984.5	4,085.4	4,856.9	4,518.3	4,988.8	5,252.3	5,175.1	5,800.2		
Three years later	5,363.2	4,805.9	5,073.6	5,788.3	5,715.3	6,106.1	6,517.7	6,534.7			
Four years later	5,951.1	5,452.1	5,722.8	6,724.0	6,564.7	7,098.9	7,511.2				
Five years later	6,432.9	5,957.8	6,483.4	7,442.5	7,355.9	7,911.2					
Six years later	6,763.2	6,459.9	7,026.2	8,037.0	7,994.7						
Seven years later	7,109.9	6,808.5	7,463.5	8,525.0							
Eight years later	7,372.5	7,136.9	7,849.4								
Nine years later	7,661.0	7,425.7									
Ten years later	7,899.0										
Loss and loss adjustment expense reserve (net) for the year in question and previous years plus payments made to date on the original reserve											
End of year	**13,625.3**	**13,945.3**	**15,206.4**	**16,555.1**	**17,178.8**	**17,746.8**	**19,644.7**	**21,672.5**	**22,592.5**	**22,727.8**	**24,194.7**
One year later	14,728.2	13,430.2	14,565.5	16,263.2	16,697.7	17,558.2	19,146.1	20,777.6	21,424.6	21,731.1	
Two years later	13,465.6	12,674.5	13,960.8	15,867.4	16,343.6	16,922.2	18,031.5	19,349.6	20,457.2		
Three years later	12,597.5	12,097.9	13,516.2	15,421.6	15,823.4	15,884.1	17,062.9	18,374.2			
Four years later	12,101.3	11,669.8	13,060.1	14,797.0	15,122.4	15,012.6	16,197.3				
Five years later	11,761.3	11,210.0	12,492.2	14,133.0	14,408.4	14,297.4					
Six years later	11,266.3	10,680.5	11,961.4	13,485.1	13,792.2						
Seven years later	10,778.1	10,313.0	11,361.3	12,896.0							
Eight years later	10,451.7	9,817.6	11,030.0								
Nine years later	10,026.2	9,575.8									
Ten years later	9,865.3										
Change relative to previous year											
Net run-off result	160.9	80.9	89.5	257.8	27.2	99.0	150.4	109.8	(8.0)	29.2	
As percentage of original loss reserve	1.2	0.6	0.6	1.6	0.2	0.6	0.8	0.5	(0.0)	0.1	

1 The net loss reserve shown in the run-off triangle for the 2018 financial year in an amount of EUR 24,194.7 million includes the assets and liabilities held for sale in connection with assets held for sale of International Insurance Company of Hannover SE in an amount of EUR 1,555.2 million.

The run-off profit of altogether EUR 996.7 million (EUR 1,058.0 million) in the 2018 financial year derives, as in the previous year, above all from positive run-offs of reserves in the areas of general liability and marine/aviation as well as in short-tail property business.

Maturities of the technical reserves

IFRS 4 "Insurance Contracts" requires information which helps to clarify the amount and timing of cash flows expected from reinsurance contracts. In the following tables we have shown the future maturities of the technical provisions broken down by the expected remaining times to maturity. As part of our maturity analysis we have immediately deducted the deposits put up as collateral for these reserves, since the cash inflows and outflows from these deposits are to be allocated directly to the ceding companies. For further explanation of the recognition and measurement of the reserves please see section 3.1 "Summary of major accounting policies".

Maturities of the technical reserves N 55

	2018					
	Loss and loss adjustment expense reserves			Benefit reserve		
in EUR thousand	gross	retro	net	gross	retro	net
Due in one year	7,766,589	485,851	7,280,738	980,953	37,475	943,478
Due after one through five years	10,363,466	956,613	9,406,853	1,411,465	573,539	837,926
Due after five through ten years	4,426,226	349,296	4,076,930	777,725	163,443	614,282
Due after ten through twenty years	2,937,053	207,093	2,729,960	595,049	113,647	481,402
Due after twenty years	1,215,338	85,827	1,129,511	1,221,986	18,970	1,203,016
	26,708,672	**2,084,680**	**24,623,992**	**4,987,178**	**907,074**	**4,080,104**
Deposits	2,049,903	54,553	1,995,350	4,197,178	1,982	4,195,196
Total	28,758,575	2,139,233	26,619,342	9,184,356	909,056	8,275,300

Maturities of the technical reserves N 56

	2017					
	Loss and loss adjustment expense reserves			Benefit reserve		
in EUR thousand	gross	retro	net	gross	retro	net
Due in one year	7,836,512	437,216	7,399,296	493,130	111,831	381,299
Due after one through five years	11,094,574	778,008	10,316,566	1,691,898	764,857	927,041
Due after five through ten years	3,911,767	237,354	3,674,413	491,424	58,694	432,730
Due after ten through twenty years	2,337,495	120,616	2,216,879	197,622	(1,711)	199,333
Due after twenty years	1,021,827	53,489	968,338	1,128,499	23,109	1,105,390
	26,202,175	**1,626,683**	**24,575,492**	**4,002,573**	**956,780**	**3,045,793**
Deposits	2,176,370	69,136	2,107,234	4,975,373	2,753	4,972,620
Total	28,378,545	1,695,819	26,682,726	8,977,946	959,533	8,018,413

The average maturity of the loss and loss adjustment expense reserves was 5.2 years (4.6 years), or 5.2 years (4.6 years) after allowance for the corresponding retrocession shares. The benefit reserve had an average maturity of 11.0 years (11.1 years) – or 12.3 years (13.6 years) on a net basis.

The average maturity of the reserves is determined using actuarial projections of the expected future payments. A payment pattern is calculated for each homogenous category of our portfolio – making allowance for the business sector, geographical considerations, treaty type and the type of reinsurance – and applied to the outstanding liabilities for each underwriting year and run-off status.

The payment patterns are determined with the aid of actuarial estimation methods and adjusted to reflect changes in payment behaviour and outside influences. The calculations can also be distorted by major losses, and these are therefore considered separately using reference samples or similar losses. The payment patterns used can be compared year for year by contrasting the projected payments with the actual amounts realised. Liabilities in liability and motor reinsurance traditionally have long durations, sometimes in excess of 20 years, while liabilities in property business are settled within the first ten years.

A benefit reserve is established for life, annuity, personal accident and health reinsurance contracts. Based on the duration of these contracts, long-term reserves are constituted for life and annuity policies and predominantly short-term reserves are set aside for health and personal accident business.

The parameters used to calculate the benefit reserve are interest income, lapse rates and mortality/morbidity rates.

The values for the first two components (interest income and lapse rates) differ according to the country concerned, product type, investment year etc.

The mortality and morbidity rates used are chosen on the basis of national tables and the insurance industry standard. Empirical values for the reinsured portfolio, where available, are also taken into consideration. In this context insights into the gender, age and smoker structure are incorporated into the calculations, and allowance is also made for factors such as product type, sales channel and the frequency of premium payment by policyholders.

At the inception of every reinsurance contract, assumptions about the three parameters are made and locked in for the purpose of calculating the benefit reserve. At the same time, safety/fluctuation loadings are built into each of these components. In order to ensure at all times that the originally chosen assumptions continue to be adequate throughout the contract, checks are made on a regular – normally annual – basis in order to determine whether these assumptions need to be adjusted ("unlocked").

The benefit reserve is established in accordance with the principles set out in SFAS 60. The provisions are based on the Group companies' information regarding mortality, interest and lapse rates.

Development of the benefit reserve N 57

	2018			2017		
in EUR thousand	gross	retro	net	gross	retro	net
Net book value at 31 December of the previous year	8,977,946	959,533	8,018,413	10,313,952	1,189,420	9,124,532
Currency translation at 1 January	61,871	28,384	33,487	(675,675)	(123,427)	(552,248)
Net book value after currency translation	**9,039,817**	**987,917**	**8,051,900**	**9,638,277**	**1,065,993**	**8,572,284**
Changes	(27,007)	(77,798)	50,791	41,738	42,309	(571)
Portfolio entries/exits	173,143	(1,691)	174,834	(698,166)	(153,049)	(545,117)
Currency translation at 31 December	(1,597)	628	(2,225)	(3,903)	4,280	(8,183)
Net book value at 31 December of the year under review	**9,184,356**	**909,056**	**8,275,300**	**8,977,946**	**959,533**	**8,018,413**

The development in the year under review was influenced by portfolio entries attributable principally to UK single premium business.

The unearned premium reserve derives from the deferral of ceded reinsurance premium. The unearned premium is determined by the period during which the risk is carried and established in accordance with the information supplied by ceding companies. In cases where no information was received, the unearned premium was estimated using suitable methods. Premium paid for periods subsequent to the date of the balance sheet was deferred from recognition within the statement of income.

Development of the unearned premium reserve **N 58**

in EUR thousand	2018 gross	2018 retro	2018 net	2017 gross	2017 retro	2017 net
Net book value at 31 December of the previous year	3,541,194	96,402	3,444,792	3,382,498	134,927	3,247,571
Currency translation at 1 January	46,294	1,884	44,410	(233,908)	(12,090)	(221,818)
Net book value after currency translation	**3,587,488**	**98,286**	**3,489,202**	**3,148,590**	**122,837**	**3,025,753**
Reclassifications pursuant to IFRS 5	(564,230)	(26,567)	(537,663)	–	–	–
Changes	128,268	19,869	108,399	437,768	(24,986)	462,754
Portfolio entries/exits	2	–	2	(259)	–	(259)
Currency translation at 31 December	15,436	2,090	13,346	(44,905)	(1,449)	(43,456)
Net book value at 31 December of the year under review	**3,166,964**	**93,678**	**3,073,286**	**3,541,194**	**96,402**	**3,444,792**

The adequacy of the technical liabilities arising out of our reinsurance treaties is reviewed as at each balance sheet date. In the context of the adequacy testing of technical liabilities (liability adequacy test pursuant to IFRS 4 in conjunction with loss recognition test as per US GAAP) the anticipated future contractual payment obligations are compared with the anticipated future income. Should the result of the test indicate that the anticipated future income will not be sufficient to fund future payments, the entire shortfall is recognised in income by first writing off capitalised present values of future profits on acquired life reinsurance portfolios and acquisition costs corresponding to the shortfall. Any remaining difference is constituted as an additional provision.

6.8 Funds withheld (liabilities)

The funds withheld under reinsurance treaties totalling EUR 969.3 million (EUR 974.8 million) represent the cash and securities deposits furnished to our company by our retrocessionaires that do not trigger any cash flows and cannot be realised without the consent of our retrocessionaires. The maturities of these deposits are matched to the corresponding shares of the reinsurers in the technical provisions. If such a share no longer exists the corresponding funds withheld are reduced to the same extent.

6.9 Contract deposits (liabilities)

The contract deposits on the liabilities side decreased by EUR 337.5 million in the year under review from EUR 3,949.2 million to EUR 3,611.7 million. The contract deposits item on the liabilities side essentially encompasses balances deriving from non-traditional life insurance contracts that are to be carried as liabilities.

6.10 Provisions for pensions and other post-employment benefit obligations

Pension commitments are given in accordance with the relevant version of the pension plan as amended. The 1968 pension plan provides for retirement, disability, widows' and orphans' benefits. The pension entitlement is dependent on length of service; entitlements under the statutory pension insurance scheme are taken into account. The pension plan was closed to new participants with effect from 31 January 1981.

On 1 April 1993 (1 June 1993 in the case of senior executives) the 1993 pension plan came into effect. This pension plan provides for retirement, disability and surviving dependants' benefits. The scheme is based upon annual determination of the pension contributions, which are calculated according to the pensionable employment income and the company's performance. The pension plan was closed to new participants with effect from 31 March 1999.

From 1997 onwards it has been possible to obtain pension commitments through deferred compensation. The employee-funded commitments included in the provisions for accrued pension rights are protected by an insurance contract with HDI Lebensversicherung AG, Cologne.

As at 1 July 2000 the 2000 pension plan came into force for the entire Group. Under this plan, new employees included in the group of beneficiaries are granted an indirect commitment from HDI Unterstützungskasse e.V. This pension plan provides for retirement, disability and surviving dependants' benefits.

Effective 1 December 2002 Group employees have an opportunity to accumulate additional old-age provision at unchanged conditions by way of deferred compensation through membership of HDI Pensionskasse AG.

In addition to these pension plans, senior executives and members of the Executive Board, in particular, enjoy individual commitments as well as commitments given under the benefits plan of the Bochumer Verband.

The commitments to employees in Germany predominantly comprise benefit obligations financed by the Group companies. The provisions for pensions in Germany and abroad were calculated on the basis of uniform standards according to prevailing economic circumstances.

Provisions for pensions are established in accordance with actuarial principles and are based upon the commitments made by the Hannover Re Group for retirement, disability and widows' benefits. The amount of the commitments is determined according to length of service and salary level.

The defined benefit plans expose Hannover Re to the following actuarial risks:

- longevity
- currency
- interest rate
- disablement
- pension progression
- rate of compensation increase

Longevity entails the risk that the mortality contained in the actuarial bases does not correspond to the actual mortality and that pension payments have to be rendered and funded for a longer duration than had been assumed.

Disablement entails the risk that the assumed number of retirements from the subportfolio of eligible beneficiaries on grounds of disability does not correspond to the actual experience and for this reason increased benefit obligations have to be met.

The pension progression entails the risk that the anticipated development of the consumer price index factored into the trend assumptions was too low and that increased benefit obligations arise on account of the pension indexation required by law.

The rate of compensation increase entails the risk that the increases in pensionable salaries factored into the trend assumptions on a parallel basis do not adequately reflect the actual developments. In addition, in the case of plans under which the determinative income components above and below the income threshold for contributions to the statutory pension insurance scheme are differently weighted for the purpose of calculating the benefit, there is a risk of a diverging trend in the future with respect to salary and income threshold.

The calculation of the provisions for pensions is based upon the following assumptions:

Measurement assumptions N 59

	2018			2017		
in %	Germany	Australia	United Kingdom	Germany	Australia	United Kingdom
Discount rate	1.60	2.87	2.90	1.75	3.62	2.60
Rate of compensation increase	2.50	3.00	2.15	2.50	3.00	2.25
Pension indexation	1.74	3.00	2.15	1.74	3.00	2.15

The movements in the net pension liability for the Group's various defined benefit plans were as follows:

Movements in net liability from defined benefit pension plans **N 60**

in EUR thousand	2018	2017	2018	2017	2018	2017
	Defined benefit obligation		Fair value of plan assets		Impact of minimum funding requirement/asset ceiling	
Position at 1 January of the financial year	210,855	207,621	33,675	26,981	135	40
Recognised in profit or loss						
Current service costs	5,310	5,450	–	–	–	–
Past service cost and plan curtailments	725	81	–	–	–	–
Net interest component	3,787	3,318	775	572	19	–
	9,822	**8,849**	**775**	**572**	**19**	**–**
Recognised in cumulative other comprehensive income						
Actuarial gain (–)/loss (+) from change in biometric assumptions	373	3,407	–	–	–	–
Actuarial gain (–)/loss (+) from change in financial assumptions	4,597	(7,176)	–	–	–	–
Experience gains (–)/losses (+)	2,618	3,145	–	–	–	–
Return on plan assets, excluding amounts included in interest income	–	–	2,681	4,154	–	–
Change in asset ceiling	–	–	–	–	(113)	94
Exchange differences	(397)	(589)	(340)	1,408	–	1
	7,191	**(1,213)**	**2,341**	**5,562**	**(113)**	**95**
Other changes						
Employer contributions	–	–	3,489	989	–	–
Employee contributions and deferred compensation	63	24	(5)	–	–	–
Benefit payments	(4,358)	(4,438)	(313)	(442)	–	–
Additions and disposals	31	12	27	13	–	–
Effects of plan settlements	–	–	–	–	–	–
	(4,264)	**(4,402)**	**3,198**	**560**	**–**	**–**
Position at 31 December of the financial year	**223,604**	**210,855**	**39,989**	**33,675**	**41**	**135**

The plan assets consist exclusively of qualifying insurance policies as defined by IAS 19.

The reconciliation of the projected benefit obligations with the recognised provisions for pensions is as follows:

Provisions for pensions N 61

in EUR thousand	2018	2017
Projected benefit obligations at 31 December of the financial year	223,604	210,855
Fair value of plan assets at 31 December of the financial year	39,989	33,675
Effect of minimum funding requirement on asset ceiling	41	135
Recognised pension obligations at 31 December of the financial year	**183,656**	**177,315**
thereof: Capitalised assets	349	471
thereof: Recognised pension obligations from IFRS 5	1,714	–
Provisions for pensions	182,291	177,786

In the current financial year Hannover Re anticipates contribution payments of EUR 3.3 million under the plans set out above. The weighted average duration of the defined benefit obligation is 18.0 (18.3) years.

Sensitivity analysis

An increase or decrease in the key actuarial assumptions would have the following effect on the present value of the defined benefit obligation as at the balance sheet date:

Effect on the defined benefit obligation N 62

in EUR thousand		Parameter increase	Parameter decrease
Discount rate	(+/– 0.5%)	(17,832)	20,372
Rate of compensation increase	(+/– 0.25%)	470	(463)
Pension indexation	(+/– 0.25%)	6,224	(5,931)

Furthermore, a change is possible with respect to the assumed mortality rates and lifespans. The underlying mortality tables were adjusted by reducing the mortalities by 10% in order to determine the longevity risk. Extending the lifespans in this way would have produced a EUR 6.6 million (EUR 6.6 million) higher pension commitment at the end of the financial year.

Defined contribution plans

In addition to the defined benefit plans, some Group companies have defined contribution plans that are based on length of service and the employee's income or level of contributions. The expense recognised for these obligations in the financial year in accordance with IAS 19 "Employee Benefits" was EUR 20.6 million (EUR 20.2 million), none of which (EUR 0.8 million) was attributable to commitments to employees in key positions. Of the expense for defined contribution plans, an amount of EUR 11.5 million (EUR 10.8 million) relates to state pension schemes, thereof EUR 7.9 million (EUR 7.6 million) to contributions to the statutory pension insurance scheme in Germany.

6.11 Other liabilities

Other liabilities N 63

in EUR thousand	2018	2017
Liabilities from derivatives	82,488	264,337
Interest	40,674	32,437
Deferred income and prepayments received	182,729	78,909
Sundry non-technical provisions	180,412	181,346
Sundry liabilities	125,790	97,309
Total	**612,093**	**654,338**

With regard to the liabilities from derivatives in an amount of EUR 82.5 million (EUR 264.3 million), please see our explanatory remarks on derivative financial instruments in section 8.1 "Derivative financial instruments and financial guarantees".

The sundry liabilities include, among other things, trade accounts payable and clearing balances. In addition, they include distributions within the year of EUR 19.1 million (EUR 6.9 million) from interests in private equity funds that had still to be recognised in income as at the balance sheet date.

Development of sundry non-technical provisions N 64

in EUR thousand	Balance at 31 December 2017	Currency translation at 1 January	Balance at 1 January of the year under review
Provisions for			
Audits and costs of publishing the annual financial statements	8,964	(16)	8,948
Consultancy fees	2,809	(37)	2,772
Suppliers' invoices	5,282	(148)	5,134
Partial retirement arrangements and early retirement obligations	1,235	(2)	1,233
Holiday entitlements and overtime	11,033	(159)	10,874
Anniversary bonuses	4,492	41	4,533
Management and staff bonuses	75,793	311	76,104
Other	71,738	(158)	71,580
Total	**181,346**	**(168)**	**181,178**

The maturities of the sundry non-technical provisions as at the balance sheet date are shown in the following table:

Maturities of the sundry non-technical provisions N 65

in EUR thousand	2018	2017
Due in one year	100,971	92,214
Due after one through five years	74,905	83,032
Due after five years	4,536	6,100
Total	**180,412**	**181,346**

Reclassifications pursuant to IFRS 5	Reclassifications and other changes	Changes in consolidated group	Additions	Utilisation	Release	Currency translation at 31 December	Balance at 31 December 2018
–	–	(10)	5,323	6,803	750	(10)	6,698
–	–	–	4,703	1,324	271	(2)	5,878
–	(28)	(52)	3,257	3,681	807	95	3,918
(24)	845	–	96	772	–	(7)	1,371
(626)	–	(19)	6,047	6,208	21	(15)	10,032
(143)	–	–	477	22	–	4	4,849
(2,223)	–	–	36,943	29,501	3,357	(17)	77,949
(21)	(124)	–	13,465	6,468	8,682	(33)	69,717
(3,037)	**693**	**(81)**	**70,311**	**54,779**	**13,888**	**15**	**180,412**

6.12 Long-term debt and notes payable

On 18 April 2018 Hannover Rück SE placed a senior bond with a volume of EUR 750.0 million on the European capital market. The bond has a maturity date of 18 April 2028 and may be redeemed at any time from 18 January 2028 onwards, although not later than 18 April 2028. It carries a fixed coupon of 1.125% p. a.

On 15 September 2014 Hannover Rück SE placed a EUR 500.0 million subordinated bond on the European capital market. The issue has a perpetual maturity with a first scheduled call option on 26 June 2025 and may be redeemed at each coupon date thereafter. It carries a fixed coupon of 3.375% p. a. until 26 June 2025, after which the interest rate basis changes to 3-month EURIBOR +325 basis points.

On 20 November 2012 Hannover Rück SE placed a EUR 500.0 million subordinated bond on the European capital market via its subsidiary Hannover Finance (Luxembourg) S.A. The bond has a maturity of approximately 30 years with a first scheduled call option on 30 June 2023 and may be redeemed at each coupon date thereafter. It carries a fixed coupon of 5.00% p. a. until this date, after which the interest rate basis changes to a floating rate of 3-month EURIBOR +430 basis points.

On 14 September 2010 Hannover Rück SE placed a subordinated bond on the European capital market through its subsidiary Hannover Finance (Luxembourg) S.A. This subordinated debt of EUR 500.0 million has a maturity of 30 years with a first scheduled call option after ten years and may be redeemed at each coupon date thereafter. The bond carries a fixed coupon of 5.75% in the first ten years, after which the interest rate basis changes to a floating rate of 3-month EURIBOR +423.5 basis points.

Altogether four (three) bonds were recognised as at the balance sheet date with an amortised cost of EUR 2,235.6 million (EUR 1,492.0 million).

Long-term debt and notes payable **N 66**

in EUR thousand				2018			
	Coupon	Maturity	Currency	Amortised cost	Fair value measurement	Accrued interest	Fair value
Notes payable							
Hannover Rück SE, 2018	1.125	2028	EUR	742,537	(7,177)	5,941	741,301
Hannover Rück SE, 2014	3.375	n/a	EUR	495,616	16,269	8,692	520,577
Hannover Finance (Luxembourg) S.A., 2012	5.00	2043	EUR	498,150	68,550	12,603	579,303
Hannover Finance (Luxembourg) S.A., 2010	5.75	2040	EUR	499,346	38,949	8,507	546,802
				2,235,649	116,591	35,743	2,387,983
Long-term debt				323,200	2,498	747	326,445
Other long-term liabilities				35	–	–	35
Total				**2,558,884**	**119,089**	**36,490**	**2,714,463**

Long-term debt and notes payable

N 67

in EUR thousand	2017						
	Coupon	Maturity	Currency	Amortised cost	Fair value measure-ment	Accrued interest	Fair value
Notes payable							
Hannover Rück SE, 2014	3.375	n/a	EUR	495,033	59,342	8,692	563,067
Hannover Finance (Luxembourg) S.A., 2012	5.00	2043	EUR	497,822	104,038	12,603	614,463
Hannover Finance (Luxembourg) S.A., 2010	5.75	2040	EUR	499,096	71,004	8,507	578,607
				1,491,951	234,384	29,802	1,756,137
Long-term debt				250,083	1,141	918	252,142
Other long-term liabilities				39	–	–	39
Total				**1,742,073**	**235,525**	**30,720**	**2,008,318**

The aggregated fair value of the extended subordinated loans is based on quoted, active market prices. If such price information was not available, fair value was determined on the basis of the recognised effective interest rate method or estimated using other financial assets with similar rating, duration and return characteristics. Under the effective interest rate method the current market interest rate levels in the relevant fixed-interest-rate periods are always taken as a basis.

Maturities of financial liabilities

N 68

in EUR thousand	2018						
	Less than three months	Three months to one year	One to five years	Five to ten years	Ten to twenty years	More than twenty years	No maturity
Other financial liabilities [1]	93,888	248,687	2,910	3,708	–	–	–
Long-term debt	–	74,152	208,896	40,152	–	–	–
Notes payable	–	–	–	742,537	–	997,496	495,616
Other long-term liabilities	–	–	35	–	–	–	–
Total	**93,888**	**322,839**	**211,841**	**786,397**	**–**	**997,496**	**495,616**

[1] Excluding sundry non-technical provisions and derivative financial instruments; the maturities of these items are broken down separately.

Maturities of financial liabilities

N 69

in EUR thousand	2017						
	Less than three months	Three months to one year	One to five years	Five to ten years	Ten to twenty years	More than twenty years	No maturity
Other financial liabilities [1]	76,155	124,661	5,168	2,672	–	–	–
Long-term debt	–	77,826	134,684	37,573	–	–	–
Notes payable	–	–	–	–	–	996,918	495,033
Other long-term liabilities	–	–	1	–	–	–	38
Total	**76,155**	**202,487**	**139,853**	**40,245**	**–**	**996,918**	**495,071**

[1] Excluding sundry non-technical provisions and derivative financial instruments; the maturities of these items are broken down separately.

Net gains and losses from long-term debt and notes payable N 70

in EUR thousand	2018	2017	2018	2017	2018	2017
	Ordinary income/expenses		Amortisation		Net result	
Long-term debt	(8,410)	(9,834)	(289)	757	(8,699)	(9,077)
Notes payable	(76,566)	(70,626)	(1,695)	(1,110)	(78,261)	(71,736)
Total	**(84,976)**	**(80,460)**	**(1,984)**	**(353)**	**(86,960)**	**(80,813)**

The ordinary expenses principally include interest expenses of nominally EUR 76.6 million (EUR 70.6 million) resulting from the issued subordinated and senior bonds.

The following table shows the movements in long-term debt, notes payable and other long-term liabilities with respect to cash and non-cash changes.

Reconciliation of long-term debt and notes payable N 71

in EUR thousand	Balance at 31 December 2017	Cash flow	Non-cash items		Balance at 31 December 2018
			Currency translation	Other changes	
Long-term debt	250,083	65,841	6,987	289	323,200
Notes payable	1,491,951	742,003	–	1,695	2,235,649
Other long-term liabilities	39	–	(4)	–	35
Total	**1,742,073**	**807,844**	**6,983**	**1,984**	**2,558,884**

Reconciliation of long-term debt and notes payable N 72

in EUR thousand	Balance at 31 December 2016	Cash flow	Non-cash items		Balance at 31 December 2017
			Currency translation	Other changes	
Long-term debt	313,377	(39,791)	(22,746)	(757)	250,083
Notes payable	1,490,841	–	–	1,110	1,491,951
Other long-term liabilities	–	39	–	–	39
Total	**1,804,218**	**(39,752)**	**(22,746)**	**353**	**1,742,073**

6.13 Shareholders' equity and treasury shares

Shareholders' equity is shown as a separate component of the financial statement in accordance with IAS 1 "Presentation of Financial Statements" and subject to IAS 32 "Financial Instruments: Disclosure and Presentation" in conjunction with IAS 39 "Financial Instruments: Recognition and Measurement". The change in shareholders' equity comprises not only the net income deriving from the statement of income but also the changes in the value of asset and liability items not recognised in the statement of income.

The common shares (share capital of Hannover Rück SE) amount to EUR 120,597,134.00. They are divided into 120,597,134 voting and dividend-bearing registered ordinary shares in the form of no-par-value shares. The shares are paid in full. Each share carries an equal voting right and an equal dividend entitlement.

Conditional capital of up to EUR 60,299 thousand is available; it can be used to grant shares to holders of bonds and/or profit-sharing rights with conversion rights and warrants. Authorised capital is also available in an amount of up to EUR 60,299 thousand. Both have a time limit of 9 May 2021; the subscription right of shareholders may be excluded with the consent of the Supervisory Board under certain conditions. The Executive Board is authorised, with the consent of the Supervisory Board, to use an amount of up to EUR 1,000 thousand of the existing authorised capital to issue employee shares.

The Executive Board is further authorised, with the consent of the Supervisory Board, to acquire treasury shares – including through the use of derivatives – up to an amount of 10% of the share capital. The authorisation has a time limit of 5 May 2020.

The Annual General Meeting of Hannover Rück SE resolved on 7 May 2018 that a gross dividend of EUR 5.00 per share should be paid for the 2017 financial year. This corresponds to a total distribution of EUR 603.0 million (EUR 603.0 million). The distribution consists of a dividend of EUR 3.50 per share and a special dividend of EUR 1.50 per share.

The increase in the other reserves arising out of currency translation, which is recognised in equity, was attributable in an amount of EUR 16.0 million (EUR 51.4 million) to the translation of long-term debt or loans with no maturity date extended to Group companies and branches abroad.

The disclosures on capital management arising out of IAS 1.134 – 136 "Presentation of Financial Statements" are provided in the "Financial position" section of the management report, to which the reader is referred. This includes both a presentation of our capital management objectives and procedures (page 60 et seq., section entitled "Investment policy") and a description of our policyholders' surplus (page 62 et seq., section entitled "Management of policyholders' surplus"), together with a summary of the diverse external capital requirements to which we are subject. The Solvency II regulatory framework, in particular, gives rise to capital requirements and consequences for capital management, which we discuss more closely on pages 95 et seq. of the risk report.

Treasury shares

IAS 1 requires separate disclosure of treasury shares in shareholders' equity. As part of this year's employee share option plan Hannover Rück SE acquired altogether 16,530 (18,805) treasury shares during the second quarter of 2018 on the legal basis of § 71 Para. 1 No. 2 Stock Corporation Act (AktG) and delivered them to eligible employees at preferential conditions. These shares are blocked until 31 May 2022. This transaction resulted in an expense of EUR 0.4 million (EUR 0.4 million), which was recognised under personnel expenditure, as well as a negligible change in retained earnings recognised in equity. The company was no longer in possession of treasury shares as at the balance sheet date.

6.14 Non-controlling interests

Non-controlling interests in the shareholders' equity of subsidiaries are reported separately within Group shareholders' equity in accordance with IAS 1 "Presentation of Financial Statements". They amounted to EUR 765.2 million (EUR 758.1 million) as at the balance sheet date.

Non-controlling interests in partnerships are reported in accordance with IAS 32 "Financial Instruments: Presentation" under long-term liabilities. The non-controlling interest in profit or loss, which forms part of net income and is shown separately after net income as a "thereof" note, amounted to EUR 86.0 million (EUR 86.0 million) in the year under review.

Subsidiaries with material non-controlling interests N 73

in EUR thousand	2018	2017
	E+S Rückversicherung AG, Hannover, Germany	
Participation of non-controlling interests	35.21%	35.21%
Voting rights of non-controlling interests	35.21%	35.21%
Net income	235,431	205,345
thereof attributable to non-controlling interests	82,892	72,299
Income/expense recognised directly in equity	(73,491)	(63,859)
Total recognised income and expense	161,940	141,486
Shareholders' equity	2,005,406	1,995,032
thereof attributable to non-controlling interests	706,072	702,419
Dividends paid	151,566	125,000
thereof attributable to non-controlling interests	53,364	44,011
Assets	10,022,883	10,190,050
Liabilities	8,017,477	8,195,018
Cash flow from operating activities	79,866	214,794
Cash flow from investing activities	80,399	(87,569)
Cash flow from financing activities	(151,566)	(125,000)

7. Notes on the individual items of the statement of income

7.1 Gross written premium

The following table shows the breakdown of the gross written premium according to regional origin.

Gross written premium N 74

in EUR thousand	2018	2017
Regional origin		
Germany	1,168,186	1,215,478
United Kingdom	2,560,443	2,455,796
France	813,904	748,266
Other	2,389,166	2,215,680
Europe	**6,931,699**	**6,635,220**
USA	5,812,457	5,479,354
Other	796,322	681,468
North America	**6,608,779**	**6,160,822**
Asia	2,955,658	2,535,295
Australia	1,263,171	997,036
Australasia	**4,218,829**	**3,532,331**
Africa	524,109	495,844
Other	892,942	966,289
Total	**19,176,358**	**17,790,506**

7.2 Investment income

Investment income N 75

in EUR thousand	2018	2017
Income from real estate	172,466	171,447
Dividends	2,526	22,290
Interest income	929,337	934,802
Other investment income	217,383	160,494
Ordinary investment income	**1,321,712**	**1,289,033**
Profit or loss on shares in associated companies	4,977	16,006
Appreciation	3,616	912
Realised gains on investments	286,253	447,969
Realised losses on investments	158,594	70,876
Change in fair value of financial instruments	31,160	38,569
Impairments on real estate	36,927	48,995
Impairments on equity securities	–	3,681
Impairments on fixed-income securities	510	309
Impairments on participating interests and other financial assets	15,303	18,876
Other investment expenses	114,342	110,778
Net income from assets under own management	**1,322,042**	**1,538,974**
Interest income on funds withheld and contract deposits	333,069	372,726
Interest expense on funds withheld and contract deposits	125,082	137,811
Total investment income	**1,530,029**	**1,773,889**

Of the impairments totalling EUR 18.7 million (EUR 40.8 million), an amount of EUR 15.3 million (EUR 8.4 million) was attributable to private equity. An impairment loss of EUR 2.9 million (EUR 18.0 million) was recognised on real estate and real estate funds. These impairments contrasted with appreciation of EUR 3.6 million (EUR 0.9 million) recognised on real estate that had been written down in previous periods.

The impairments taken on fixed-income securities amounted to just EUR 0.5 million (EUR 0.3 million).

The portfolio did not contain any overdue, unadjusted assets as at the balance sheet date since overdue securities are written down immediately.

Interest income on investments N 76

in EUR thousand	2018	2017
Fixed-income securities – held to maturity	11,116	13,803
Fixed-income securities – loans and receivables	83,186	80,324
Fixed-income securities – available for sale	792,161	803,855
Financial assets – at fair value through profit or loss	13,769	11,515
Other	29,105	25,305
Total	**929,337**	**934,802**

The net gains and losses on investments held to maturity, loans and receivables and the available-for-sale portfolio shown in the following table are composed of interest income, realised gains and losses as well as impairments and appreciation. In the case of the fixed-income securities at fair value through profit or loss designated in this category and the other financial assets, which include the technical derivatives, income and expenses from changes in fair value are also recognised.

Making allowance for the other investment expenses of EUR 114.3 million (EUR 110.8 million), net income from assets under own management of altogether EUR 1,322.0 million (EUR 1,539.0 million) was recognised in the year under review.

Net gains and losses on investments **N 77**

in EUR thousand	2018				
	Ordinary investment income [1]	Realised gains and losses	Impairments/ appreciation	Change in fair value	Net income from assets under own management [2]
Held to maturity					
Fixed-income securities	10,078	(18)	–	–	10,060
Loans and receivables					
Fixed-income securities	78,911	36,373	–	–	115,284
Available for sale					
Fixed-income securities	835,225	17,275	510	–	851,990
Equity securities	935	800	–	–	1,735
Other invested assets	219,298	64,382	17,900	–	265,780
Short-term investments	25,729	246	4	–	25,971
At fair value through profit or loss					
Fixed-income securities	14,165	2,431	–	(20,324)	(3,728)
Other financial assets	–	2,558	–	34,317	36,875
Other invested assets	24	(981)	–	2,423	1,466
Other	142,324	4,593	30,710	14,744	130,951
Total	**1,326,689**	**127,659**	**49,124**	**31,160**	**1,436,384**

[1] Including income from associated companies, for reconciliation with the consolidated statement of income
[2] Excluding other investment expenses

Net gains and losses on investments **N 78**

in EUR thousand	2017				
	Ordinary investment income [1]	Realised gains and losses	Impairments/ appreciation	Change in fair value	Net income from assets under own management [2]
Held to maturity					
Fixed-income securities	12,147	(18)	–	–	12,129
Loans and receivables					
Fixed-income securities	76,339	2,794	–	–	79,133
Available for sale					
Fixed-income securities	772,776	129,982	309	–	902,449
Equity securities	20,565	226,502	3,681	–	243,386
Other invested assets	254,202	16,998	21,342	–	249,858
Short-term investments	20,711	41	–	–	20,752
At fair value through profit or loss					
Fixed-income securities	11,936	–	–	7,809	19,745
Other financial assets	–	–	–	2,972	2,972
Other invested assets	–	(5,915)	–	2,449	(3,466)
Other	136,363	6,709	45,617	25,339	122,794
Total	**1,305,039**	**377,093**	**70,949**	**38,569**	**1,649,752**

[1] Including income from associated companies, for reconciliation with the consolidated statement of income
[2] Excluding other investment expenses

7.3 Reinsurance result

Reinsurance result N 79

in EUR thousand	2018	2017
Gross written premium	19,176,358	17,790,506
Ceded written premium	1,778,826	1,696,082
Change in unearned premium	(128,268)	(437,768)
Change in ceded unearned premium	19,869	(24,986)
Net premium earned	**17,289,133**	**15,631,670**
Other technical income	599	822
Total net technical income	**17,289,732**	**15,632,492**
Claims and claims expenses paid	11,438,631	10,324,103
Change in loss and loss adjustment expense reserve	1,130,519	1,868,976
Claims and claims expenses	**12,569,150**	**12,193,079**
Change in benefit reserve	50,791	(571)
Net change in benefit reserve	**50,791**	**(571)**
Commissions	4,198,598	3,588,106
Change in deferred acquisition costs	112,361	146,055
Change in provision for contingent commissions	185,499	57,219
Other acquisition costs	21,018	14,141
Other technical expenses	4,804	3,781
Administrative expenses	423,343	411,297
Net technical result	**(51,110)**	**(488,505)**

With regard to the claims and claims expenses as well as the change in the benefit reserve the reader is also referred to section 6.7 "Technical provisions". The change in the benefit reserve relates exclusively to the life and health reinsurance segment. The administrative expenses amounted to altogether 2.4% (2.6%) of net premium earned.

Other technical income N 80

in EUR thousand	2018	2017
Other technical income (gross)	1,769	3,657
Reinsurance recoverables	1,170	2,835
Other technical income (net)	**599**	**822**

Commissions and brokerage, change in deferred acquisition costs N 81

in EUR thousand	2018	2017
Commissions paid (gross)	4,411,114	3,801,302
Reinsurance recoverables	212,516	213,196
Change in deferred acquisition costs (gross)	113,861	128,466
Reinsurance recoverables	1,500	(17,589)
Change in provision for contingent commissions (gross)	185,231	52,849
Reinsurance recoverables	(268)	(4,370)
Commissions and brokerage, change in deferred acquisition costs (net)	**4,271,736**	**3,499,270**

Other technical expenses N 82

in EUR thousand	2018	2017
Other technical expenses (gross)	5.537	5.901
Reinsurance recoverables	733	2.120
Other technical expenses (net)	**4.804**	**3.781**

7.4 Other income/expenses

Other income/expenses N 83

in EUR thousand	2018	2017
Other income		
Exchange gains	723,822	645,544
Reversals of impairments on receivables	6,661	31,946
Income from contracts recognised in accordance with the deposit accounting method	206,525	198,088
Income from services	72,064	47,712
Deconsolidation	2,459	191
Other interest income	27,599	28,881
Sundry income	45,381	37,812
	1,084,511	**990,174**
Other expenses		
Other interest expenses	14,163	25,059
Exchange losses	681,786	655,614
Expenses from contracts recognised in accordance with the deposit accounting method	2,375	5,951
Separate value adjustments on receivables	32,948	64,280
Expenses for the company as a whole	88,923	71,891
Depreciation, amortisation, impairments	11,790	10,261
Expenses for services	46,555	36,085
Sundry expenses	88,241	42,062
	966,781	**911,203**
Total	**117,730**	**78,971**

Of the separate value adjustments, an amount of EUR 19.2 million (EUR 19.6 million) was attributable to accounts receivable and EUR 9.3 million (EUR 43.6 million) to retrocession recoverables.

The sundry expenses include the goodwill impairment of EUR 8.4 million (none) as well as the amortisation of the PVFP in an amount of EUR 25.9 million (EUR 4.3 million). For details we would refer to sections 6.5 "Goodwill" and 6.6 "Other assets".

The other income includes revenues from contracts with customers set out below in accordance with IFRS 15.

With regard to the fundamental approach adopted for first-time application of IFRS 15 we would refer to the remarks in section 2 "Accounting principles".

Revenue categories **N 84**

in EUR thousand	2018
Brokerage commissions, performance fees and similar forms of remuneration [1]	4,457
Other insurance-related services [2]	72,064
Total	**76,521**

[1] Revenue realised at a point in time
[2] Revenue largely realised over time

The brokerage commissions, performance fees and similar forms of remuneration in an amount of EUR 4.5 million were realised at a point in time in the current financial year. Of this amount, EUR 4.0 million is attributable to revenues earned in the South African market. A further EUR 0.5 million is connected with activities on the Lloyd's market in the United Kingdom.

An amount of EUR 44.1 million was realised over time in the current financial year in connection with other insurance-related services.

This involves revenues from administrative services amounting to EUR 24.2 million that were generated on the Lloyd's markets in the United Kingdom and in the Asia-Pacific region. The transaction prices are essentially calculated according to the general fee scales as well as a percentage share of the gross premium. The revenues from the administrative services described here are largely earned over a period of three to four years and for the most part realised pro rata temporis.

In addition, other revenues were realised on the South African market from claims settlement in an amount of EUR 5.6 million as well as other revenues from administrative activities, known as "binding fees", in an amount of EUR 2.8 million. The transaction price is calculated from a percentage rate in relation to the acknowledged invoice amount. Binding fees are considered to be earned as soon as the underlying gross premium was realised. The revenues from claims settlement were generated on an evenly spread basis throughout the year.

On the North American market revenues of EUR 3.9 million were earned by performing administrative tasks. Revenues of EUR 1.0 million were generated from the transfer of use of application software used for the underwriting of insurance risks.

In addition, revenues of EUR 28.0 million were realised at a point in time in the current financial year from other insurance-related services.

In this context revenues of EUR 15.7 million were generated on the North American market by taking on underwriting activities in relation to insurance policies. The amount of the revenues to be recognised is calculated according to the written premiums. A further EUR 3.6 million was earned from the performance of administrative activities. The transaction price corresponds to the agreed contract price. The performance obligation is deemed to be satisfied when the administrative activities specified in the contract were carried out.

A further EUR 3.3 million was earned from the sale of expert reports on improving mine safety. These studies were conducted primarily in Australia, Canada and South Africa and supported the subsequent underwriting process for the risks in the respective countries. The transaction price is calculated according to the surveyor's daily rates, which are agreed in advance, plus travel expenses. The revenues described here are deemed to be earned at a point in time upon handover of the report to the customer.

Revenues of EUR 3.0 million connected with commission-based business were realised in the South African market. The transaction price is arrived at as a percentage of the underlying gross premium share.

7.5 Taxes on income

Actual taxes on income at the domestic companies, comparable actual taxes on income at foreign subsidiaries as well as deferred taxes in accordance with IAS 12 "Income Taxes" are recognised under this item.

The reader is referred to the remarks in section 3.1 "Summary of major accounting policies" regarding the basic approach to the recognition and measurement of deferred taxes.

An unchanged tax rate of 32.63% (rounded to 32.7%) was used to calculate the deferred taxes of the major domestic companies. It is arrived at from the corporate income tax rate of 15.0%, the German solidarity surcharge of 5.5% and a trade earnings tax rate of 16.8%. The Group tax rate consequently also amounts to 32.7% (32.7%). The deferred taxes at the companies abroad were calculated using the applicable country-specific tax rates.

Tax-relevant bookings on the Group level are made using the Group tax rate unless they refer specifically to individual companies.

Deferred tax liabilities on profit distributions of significant affiliated companies are established in the year when they are received.

Breakdown of taxes on income

The breakdown of actual and deferred income taxes was as follows:

Income tax N 85

in EUR thousand	2018	2017
Actual tax for the year under review	328,355	290,675
Actual tax for other periods	(33,330)	(13,245)
Deferred taxes due to temporary differences	562,259	(28,873)
Deferred taxes from loss carry-forwards	(473,668)	(24,482)
Change in deferred taxes due to changes in tax rates	(3,160)	(30,430)
Value adjustments on deferred taxes	(7,595)	54,397
Total	**372,861**	**248,042**

Domestic/foreign breakdown of recognised tax expenditure/income N 86

in EUR thousand	2018	2017
Actual taxes		
Germany	249,690	254,125
Abroad	45,335	23,305
Deferred taxes		
Germany	30,306	(74,067)
Abroad	47,530	44,679
Total	**372,861**	**248,042**

The following table presents a breakdown of the deferred tax assets and liabilities into the balance sheet items from which they are derived.

Deferred tax assets and deferred tax liabilities of all Group companies N 87

in EUR thousand	2018	2017
Deferred tax assets		
Tax loss carry-forwards	610,922	133,057
Loss and loss adjustment expense reserves	413,488	438,531
Benefit reserve	191,162	132,926
Other technical / non-technical provisions	79,217	51,062
Funds withheld	84,627	26,905
Deferred acquisition costs	6,149	15,094
Accounts receivable / reinsurance payable	13,714	19,253
Valuation differences relating to investments	69,640	24,257
Contract deposits	504,403	1,908
Other valuation differences	57,460	19,940
Value adjustments[1]	(69,102)	(81,431)
Total	**1,961,680**	**781,502**
Deferred tax liabilities		
Loss and loss adjustment expense reserves	129,821	96,960
Benefit reserve	1,307,439	307,960
Other technical / non-technical provisions	64,601	57,159
Equalisation reserve	1,063,392	1,108,655
Funds withheld	8,492	10,784
Deferred acquisition costs	178,598	182,155
Accounts receivable / reinsurance payable	133,223	88,884
Valuation differences relating to investments	70,868	205,389
Contract deposits	168,049	26,684
Present value of future profits on acquired life reinsurance portfolios (PVFP)	–	7,911
Other valuation differences	82,671	42,264
Total	**3,207,154**	**2,134,805**
Deferred tax liabilities	1,245,474	1,353,304

[1] Thereof on tax loss carry-forwards: EUR -68,488 thousand (EUR -80,933 thousand)

The deferred tax assets and deferred tax liabilities are shown according to their origin in the above table. Deferred taxes resulting from a single transaction and with respect to which the corresponding temporary valuation differences are simultaneously reversed were already netted on recognition. Further netting was made based on the timing of the reversal of temporary differences and other offsetting possibilities, ultimately resulting in the following disclosure of deferred tax assets and deferred tax liabilities in the balance sheet:

Netting of deferred tax assets and deferred tax liabilities N 88

in EUR thousand	2018	2017
Deferred tax assets	454,608	466,564
Deferred tax liabilities	1,700,082	1,819,867
Net deferred tax liabilities	**1,245,474**	**1,353,303**

In view of the unrealised components of profit and loss actual and deferred tax expenditure – including amounts attributable to non-controlling interests – of EUR 186.7 million (EUR 61.8 million) was also recognised directly in equity. The following table presents a reconciliation of the expected expense for income taxes with the actual expense for income taxes reported in the statement of income. The pre-tax result is multiplied by the Group tax rate in order to calculate the Group's expected expense for income taxes.

Reconciliation of the expected expense for income taxes with the actual expense N 89

in EUR thousand	2018	2017
Profit before taxes on income	1,518,388	1,292,619
Group tax rate	32.7%	32.7%
Expected expense for income taxes	496,513	422,686
Change in tax rates	(3,160)	(30,430)
Differences in tax rates affecting subsidiaries	(72,848)	(62,843)
Non-deductible expenses	47,807	76,312
Tax-exempt income	(37,374)	(140,821)
Tax expense/income not attributable to the reporting period	(26,752)	(42,861)
Value adjustments on deferred taxes/loss carry-forwards	(7,595)	54,397
Trade tax modifications	(27,288)	(32,769)
Other	3,558	4,371
Actual expense for income taxes	**372,861**	**248,042**

The expense for income taxes in the financial year was EUR 124.8 million higher than in the previous year at EUR 372.9 million (EUR 248.0 million). In addition to the increased pre-tax profit compared to the previous year, this was due largely to considerable tax-exempt income from the disposal of equities and equity funds.

The effective tax rate amounted to 24.6% (19.2%).

Availability of non-capitalised loss carry-forwards

Unused tax loss carry-forwards, deductible temporary differences and tax credits of EUR 2,924.7 million (EUR 601.2 million) existed as at the balance sheet date. The increase is attributable primarily to the transfer of extensive portfolios of reinsurance treaties to US Group companies as part of the restructuring of US mortality business. Of existing tax loss carry-forwards, EUR 329.4 million (EUR 367.3 million) was not capitalised in consideration of local tax rates since realisation is not sufficiently certain.

The assets-side unadjusted deferred taxes on loss carry-forwards and tax credits amounting to EUR 545.6 million (EUR 55.1 million) will probably be realised in an amount of EUR 18.1 million (EUR 15.5 million) within one year and in an amount of EUR 527.5 million (EUR 39.6 million) in the subsequent years.

In the year under review the actual taxes on income were reduced by EUR 2.2 million (EUR 5.2 million) because loss carry-forwards were used for which no deferred tax assets were established.

The write-down of deferred tax assets recognised in previous years resulted in a deferred tax expense of EUR 0.8 million (EUR 10.1 million) in the year under review. This is opposed by deferred tax income of EUR 6.3 million (none) from the reversal of earlier write-downs.

Excess deferred tax assets are recognised with respect to losses in the year under review or in the previous year only to the extent that, based on strong evidence, it is likely that the company concerned will generate sufficiently positive taxable results in the future. This evidence was provided for deferred tax assets of EUR 60.7 million (EUR 23.0 million).

No deferred taxes were established on liabilities-side taxable temporary differences amounting to EUR 40.6 million (EUR 50.6 million) in connection with interests in Group companies because the Hannover Re Group can control their reversal and will not reverse them in the foreseeable future.

Availability of loss carry-forwards that have not been capitalised:

Expiry of non-capitalised loss carry-forwards and temporary differences N 90

in EUR thousand	One to five years	Six to ten years	More than ten years	Unlimited	Total
Temporary differences	–	–	–	3,613	3,613
Loss carry-forwards	–	–	–	325,743	325,743
Total	**–**	**–**	**–**	**329,356**	**329,356**

8. Other notes

8.1 Derivative financial instruments and financial guarantees

Derivatives are financial instruments, the fair value of which is derived from an underlying instrument such as equities, bonds, indices or currencies. We use derivative financial instruments in order to hedge parts of our portfolio against interest rate and market price risks, optimise returns or realise intentions to buy/sell. In this context we take special care to limit the risks, select first-class counterparties and adhere strictly to the standards defined by investment guidelines.

The fair values of the derivative financial instruments were determined on the basis of the market information available at the balance sheet date. Please see section 3.1 “Summary of major accounting policies” with regard to the measurement models used.

Hannover Re holds derivative financial instruments to hedge interest rate risks from loans connected with the financing of real estate; these gave rise to recognition of other liabilities in an amount of EUR 0.5 million (EUR 1.0 million) and other financial assets at fair value through profit or loss in an amount of EUR 0.5 million (EUR 0.5 million).

Hannover Re’s portfolio contained derivative financial instruments as at the balance sheet date in the form of forward exchange transactions taken out to hedge currency risks. These transactions gave rise to recognition of other liabilities in an amount of EUR 6.1 million (EUR 17.7 million) and other financial assets at fair value through profit or loss in an amount of EUR 16.4 million (EUR 2.0 million). The increase in equity from hedging instruments recognised directly in equity pursuant to IAS 39 in an amount of EUR 2.9 million (EUR 1.4 million) derived solely from the forward exchange transactions taken out to hedge currency risks from long-term investments in foreign operations. These hedging instruments resulted in the recognition of other financial assets at fair value through profit or loss in an amount of EUR 3.8 million (other liabilities of EUR 2.4 million). Ineffective components of the hedge were recognised in profit or loss under other investment expenses in an amount of EUR 0.1 million (other investment income of EUR 0.2 million).

In order to hedge the risk of share price changes in connection with the stock appreciation rights granted under the share award plan, Hannover Re has taken out hedges since 2014 in the form of so-called equity swaps. The fair value of these instruments amounted to EUR 1.0 million as at the balance sheet date and was recognised under other financial assets at fair value through profit or loss (EUR 0.8 million recognised under other liabilities). The hedge gave rise to an increase in equity from hedging instruments recognised directly in equity in an amount of EUR 0.3 million (decrease in equity of EUR 1.5 million recognised directly in equity). Ineffective components of the hedge were recognised in a minimal amount under other investment income.

The maturities of the fair values and notional values of the hedging instruments described above can be broken down as follows:

Maturity structure of derivative financial instruments **N 91**

in EUR thousand	2018 Less than one year	2018 One to five years	31.12.2018
Interest rate hedges			
Fair values	13	35	48
Notional values	65,213	33,822	99,035
Currency hedges			
Fair values	13,202	(2,980)	10,222
Notional values	886,485	10,670	897,155
Share price hedges			
Fair values	988	–	988
Notional values	24,572	–	24,572
Total hedging instruments			
Fair values	14,203	(2,945)	11,258
Notional values	976,270	44,492	1,020,762

Maturity structure of derivative financial instruments **N 92**

in EUR thousand	2017 Less than one year	2017 One to five years	31.12.2017
Interest rate hedges			
Fair values	(240)	(256)	(496)
Notional values	58,948	94,932	153,880
Currency hedges			
Fair values	(10,219)	(5,635)	(15,854)
Notional values	411,208	43,583	454,791
Share price hedges			
Fair values	(779)	–	(779)
Notional values	34,775	–	34,775
Total hedging instruments			
Fair values	(11,238)	(5,891)	(17,129)
Notional values	504,931	138,515	643,446

The net changes in the fair value of these instruments increased the result of the financial year by EUR 3.2 million (reduction in the result of EUR 3.8 million).

Hannover Re enters into derivative transactions on the basis of standardised master agreements that contain global netting agreements. The netting agreements set out below normally do not meet the criteria for netting in the balance sheet, since Hannover Re has no legal right whatsoever at the present moment in time to netting of the recognised amounts. The right to netting can, as a matter of principle, only be enforced upon occurrence of certain future defined events. Collateral furnished or received is recognised per counterparty up to at most the amount of the respective net liability or net asset.

Netting agreements N 93

in EUR thousand	2018 Fair value	Netting agreement	Cash collateral received/ furnished	Other collateral received/ furnished	Net amount
Derivative receivables	17,349	573	15,312	–	1,464
Derivative liabilities	6,140	573	304	4,638	625

Netting agreements N 94

in EUR thousand	2017 Fair value	Netting agreement	Cash collateral received/ furnished	Other collateral received/ furnished	Net amount
Derivative receivables	4,565	2,043	–	2,522	–
Derivative liabilities	18,676	2,043	3,595	10,239	2,799

Derivative financial instruments in connection with reinsurance

A number of treaties in life and health reinsurance meet criteria which require application of the stipulations contained in IFRS 4 "Insurance Contracts" governing embedded derivatives. These accounting regulations require that certain derivatives embedded in reinsurance contracts be separated from the underlying insurance contract ("host contract"), reported separately at fair value in accordance with IAS 39 "Financial Instruments: Recognition and Measurement" and recognised under investments. Fluctuations in the fair value of the derivative components are to be recognised through profit and loss in subsequent periods.

Within the scope of the accounting of "modified coinsurance" and "coinsurance funds withheld" (ModCo) reinsurance treaties, under which securities deposits are held by the ceding companies and payments rendered on the basis of the income from certain securities of the ceding company, the interest-rate risk elements are clearly and closely related to the underlying reinsurance arrangements. Embedded derivatives consequently result solely from the credit risk of the underlying securities portfolio.

Hannover Re calculates the fair values of the embedded derivatives in ModCo treaties using the market information available on the valuation date on the basis of a "credit spread" method. Under this method the derivative has no value on the date when the contract commences and its value then fluctuates over time according to changes in the credit spreads of the securities. The derivative had a positive value of EUR 14.0 million (EUR 25.1 million) as at the balance sheet date and was recognised under other financial assets at fair value through profit or loss. In the course of the year the change in the fair value of the derivative gave rise to a charge of EUR 11.9 million before tax (income of EUR 3.7 million).

A derivative financial instrument was also unbundled from another similarly structured transaction. This gave rise to recognition of other financial assets at fair value through profit or loss in an amount of EUR 4.8 million (EUR 7.4 million). The performance of this derivative reduced the result by EUR 2.6 million in the financial year (improvement in the result of EUR 3.5 million).

A number of transactions concluded in the life and health reinsurance business group in previous years, under which Hannover Re companies offer their contracting parties coverage for risks from possible future payment obligations arising out of hedging instruments, are also to be classified as derivative financial instruments. The payment obligations result from contractually defined events and relate to the development of an underlying group of primary insurance contracts with statutory reserving requirements. The contracts are to be categorised and recognised as stand-alone credit derivatives pursuant to IAS 39. These derivative financial instruments were carried in equity on initial recognition. Please see section 6.6 "Other assets". The fair value of these instruments was EUR 53.2 million on the balance sheet date and was recognised under other financial assets at fair value through profit or loss (EUR 165.1 million under other liabilities). The change in value in subsequent periods is dependent upon the risk experience and led to an improvement of EUR 32.9 million (EUR 30.0 million) in investment income in the financial year.

A retrocession agreement exists in the area of life and health reinsurance under which the premiums were deposited with Hannover Re and invested in a structured bond. The retrocessionaire has furnished a guarantee for its fair value. In accordance with the requirements of IFRS 4 this guarantee was to be unbundled from the retrocession agreement and is carried as a derivative financial instrument at fair value. The derivative was recognised with a positive fair value of EUR 22.7 million (EUR 2.2 million) as at the balance sheet date under other financial assets at fair value through profit or loss. In the course of the year the change in the fair value of the derivative resulted in income of EUR 19.8 million (charge of EUR 7.4 million). Conversely, the performance of the structured bond, which is also measured at fair value, gave rise to an expense (income) in the same amount.

In the area of life and health reinsurance a reinsurance treaty with a financing component was also written in the previous year under which the amount and timing of the return flows are dependent on lapse rates within an underlying primary insurance portfolio. This treaty and a corresponding retrocession agreement, which were classified as financial instruments pursuant to IAS 39, resulted in the recognition of other liabilities of EUR 24.5 million (EUR 20.4 million) and other financial assets at fair value through profit or loss in an amount of EUR 79.2 million (EUR 49.0 million). Altogether, these arrangements gave rise to an improvement in income of EUR 1.9 million (EUR 1.8 million) in the year under review.

At the end of the previous financial year under review an index-linked cover was written for longevity risks. The resulting derivative was recognised as at the balance sheet date with a negative fair value of EUR 45.5 million (EUR 52.6 million) under other liabilities. The change in the fair value of the derivative gave rise to income of EUR 7.1 million (EUR 0 million) in the course of the year.

All in all, application of the standards governing the accounting for derivatives in connection with the technical account led to recognition of assets totalling EUR 173.9 million (EUR 86.3 million) as well as recognition of liabilities in an amount of EUR 75.9 million (EUR 244.7 million) from the derivatives resulting from technical items as at the balance sheet date. Improvements in investment income amounting to EUR 62.4 million (EUR 40.2 million) as well as charges to income of EUR 14.5 million (EUR 8.6 million) were recognised in the year under review from all separately measured derivatives in connection with the technical account.

Financial guarantees

Structured transactions were entered into in the life and health reinsurance business group in order to finance statutory reserves (so-called Triple-X or AXXX reserves) of US ceding companies. In each case such structures necessitated the involvement of a special purpose entity. The special purpose entities carry extreme mortality risks securitised by the cedants above a contractually defined retention and transfer these risks by way of a fixed/floating swap to a member company of the Hannover Re Group. The total amount of the contractually agreed capacities of the transactions is equivalent to EUR 3,268.7 million (EUR 3,229.1 million); an amount equivalent to EUR 2,623.4 million (EUR 2,525.9 million) had been taken up as at the balance sheet date. The variable payments to the special purpose entities that are guaranteed by the Hannover Re Group cover their payment obligations. Under some of the transactions the payments resulting from the swaps in the event of a claim are reimbursed by the parent companies of the cedants by way of compensation agreements. In this case the reimbursement claims from the compensation agreements are to be capitalised separately from and up to the amount of the provision.

Under IAS 39 these transactions are to be recognised at fair value as financial guarantees. To this end Hannover Re uses the net method, according to which the present value of the agreed fixed swap premiums is netted with the present value of the guarantee commitment. The fair value on initial recognition therefore amounted to zero. The higher of the fair value and the amount carried as a provision on the liabilities side pursuant to IAS 37 is recognised at the point in time when utilisation is considered probable. This was not the case as at the balance sheet date.

8.2 Related party disclosures

IAS 24 "Related Party Disclosures" defines related parties as group entities of a common parent, associated entities, legal entities under the influence of key management personnel and the key management personnel of the entity itself. Transactions between Hannover Rück SE and its subsidiaries, which are to be regarded as related parties, were eliminated through consolidation and are therefore not discussed in the notes to the consolidated financial statement. In the year under review the following significant business relations existed with related parties.

Talanx AG holds an unchanged majority interest of 50.22% in Hannover Rück SE. For its part, HDI Haftpflichtverband der Deutschen Industrie Versicherungsverein auf Gegenseitigkeit (HDI), Hannover, holds a stake of 79.0% in Talanx AG

The business relationship between Hannover Rück SE and its subsidiary E+S Rückversicherung AG is based on a cooperation agreement. A retrocession by Hannover Rück SE to E+S Rückversicherung AG exists in property and casualty reinsurance. The exclusive responsibilities of E+S Rückversicherung AG for German business and of Hannover Rück SE for international markets have been preserved.

Companies belonging to the Talanx Group granted the Hannover Re Group insurance protection inter alia in the areas of public liability, building, contractors all risks, group accident and business travel insurance. Divisions of Talanx AG also performed services for the Hannover Re Group in the areas of taxes and general administration.

Talanx Reinsurance Broker GmbH grants Hannover Rück SE and E+S Rückversicherung AG a preferential position as reinsurers of cedants within the Talanx Group. In addition, Hannover Rück SE and E+S Rückversicherung AG are able to participate in the protection covers on the retention of Group cedants and share in the protection afforded by them. In certain circumstances Hannover Rück SE and E+S Rückversicherung AG are obliged to assume unplaced shares of the reinsurance of Group cedants from Talanx Reinsurance Broker GmbH.

The Hannover Re Group provides reinsurance protection for the HDI Group. To this extent, numerous underwriting business relations exist with related parties in Germany and abroad which are not included in Hannover Re's consolidation. This includes business both assumed and ceded at usual market conditions.

The reinsurance relationships with related parties in the year under review and the previous year are shown with their total amounts in the following table.

Business assumed and ceded in Germany and abroad N 95

	2018			2017		
in EUR thousand	Property and casualty reinsurance	Life and health reinsurance	Total	Property and casualty reinsurance	Life and health reinsurance	Total
Material items in the statement of income						
Business assumed						
Premium	352,659	149,411	502,070	482,064	149,286	631,350
Underwriting result	(56,002)	24,347	(31,655)	22,750	24,165	46,915
Business ceded						
Premium	(3,395)	(58,792)	(62,187)	(11,902)	(59,248)	(71,150)
Underwriting result	(1,519)	(9,555)	(11,074)	(13,524)	(9,319)	(22,843)
Total						
Premium	349,264	90,619	439,883	470,162	90,038	560,200
Underwriting result	(57,521)	14,792	(42,729)	9,226	14,846	24,072
Material items in the balance sheet						
Assets						
Funds withheld	54,767	906,427	961,194	55,831	1,189,813	1,245,644
Deferred acquisition costs	32,651	33,153	65,804	37,010	50,189	87,199
Accounts receivable	35,491	16,050	51,541	33,119	16,615	49,734
Liabilities						
Loss and loss adjustment expense reserve	1,166,164	46,553	1,212,717	1,136,189	50,257	1,186,446
Benefit reserve	–	118,207	118,207	–	129,674	129,674
Unearned premium reserve	92,643	25	92,668	131,182	276	131,458
Contract deposits	–	770,066	770,066	–	1,047,908	1,047,908
Reinsurance payable	27,065	6,252	33,317	64,675	10,380	75,055

In addition, other assets of EUR 3.4 million (EUR 3.5 million) as well as other liabilities of EUR 18.3 million (EUR 17.6 million) exist with respect to Talanx AG and its subsidiaries which are not part of the scope of consolidation of Hannover Re.

Under a purchase agreement dated 1 August 2018, 50.22% of the shares in International Insurance Company of Hannover SE, which is wholly owned by Hannover Rück SE, were sold to HDI Global SE, a subsidiary of Talanx AG, with economic effect from 1 January 2019 for a purchase price of EUR 107.2 million. For details please refer to the information provided in section 4.4 "Major disposals and retirements".

In the context of a bond issue by Talanx AG the Group companies Hannover Rück SE and E+S Rückversicherung AG invested in a nominal amount of EUR 47.0 million in the issued bearer debt, which has a coupon of 3.125%. The carrying amount of the instrument, which is recognised under fixed-income securities held to maturity, was EUR 48.3 million (EUR 48.3 million) including accrued interest of EUR 1.3 million (EUR 1.3 million).

HDI Lebensversicherung AG, Cologne, participated in a nominal amount of EUR 50.0 million in the subordinated bond issued by Hannover Rück SE in September 2014 with a coupon of 3.375%.

Within the contractually agreed framework Ampega Asset Management GmbH (name change in January 2019, formerly: Talanx Asset Management GmbH) performs investment and asset management services for Hannover Rück SE and the vast majority of its subsidiaries. A total amount of EUR 42.2 million (EUR 43.2 million) was expensed for the rendering of these services in the financial year just ended. Assets in special funds are managed by Ampega Investment GmbH. Ampega Real Estate GmbH (name change in January 2019, formerly: Talanx Immobilien Management GmbH) performs services for Hannover Re under a number of management contracts.

In 2014 Hannover Rück SE concluded an agreement with Ampega Asset Management GmbH that allows Ampega Asset Management GmbH to use screening software for checking sanctions lists.

Under long-term lease arrangements companies belonging to the Hannover Re Group rented out business premises in 2015 to HDI Service AG, Hannover (name change in January 2019, formerly: Talanx Service AG). In addition, lease agreements exist with HDI Service AG for use of a portion of the space in our data centre.

Furthermore, IT and management services were performed for Talanx Reinsurance Broker GmbH, Hannover, under service contracts.

Actuarial opinions with respect to the pension commitments given to staff are drawn up for Hannover Rück SE and E+S Rückversicherung AG by HDI Pensionsmanagement AG (name change in January 2019, formerly: Talanx Pensionsmanagement AG) and HDI Lebensversicherung AG under an actuarial service contract.

Talanx AG performs various services in the area of taxes for a number of investment vehicles of the Hannover Re Group in the asset classes of private equity and real estate. In this regard corresponding agreements have been concluded with altogether nine Hannover Re companies.

Since 2012 a service agreement has existed between Hannover Rück SE and Talanx AG regarding the purchase of services for operation of data acquisition software.

Hannover Rück SE has concluded a service contract with HDI Service AG in the area of flight services as well as a contract regarding the reciprocal provision of business continuity management services.

Since 2004 a service agreement has existed between Hannover Rück SE, E+S Rückversicherung AG and Talanx Reinsurance Broker GmbH regarding the use of market security services and access to the business partner information system of Hannover Rück SE.

Remuneration and shareholdings of the management boards of the parent company

The remuneration of the active members of the Executive Board of Hannover Re amounted to altogether EUR 8.4 million (EUR 8.0 million). The total remuneration (excluding pension payments) of former members of the Executive Board and their surviving dependants stood at EUR 0.1 million (EUR 0.3 million). The pension payments to previous members of the Executive Board and their surviving dependants, for whom 17 (17) pension commitments existed, totalled EUR 1.7 million (EUR 1.6 million) in the year under review; altogether, a provision of EUR 26.0 million (EUR 24.7 million) has been set aside for these commitments.

The total remuneration of the Supervisory Board of Hannover Re amounted to EUR 1.0 million (EUR 1.0 million). There are no pension commitments to former members of the Supervisory Board or their surviving dependants.

The members of the governing bodies did not receive any advances or loans in the year under review. Nor were there any other material reportable circumstances or contractual relationships as defined by IAS 24 between companies of the Hannover Re Group and the members of the governing bodies or their related parties in the year under review. Furthermore, above and beyond the aforementioned remuneration as Supervisory Board members at Group companies, the members of the Supervisory Board were not in receipt of any remuneration or benefits for personally rendered services as defined by section 5.4.6 Para. 3 of the German Corporate Governance Code.

The information required pursuant to IAS 24.17 "Related Party Disclosures" as well as all other information on the remuneration of the governing bodies, directors' dealings and shareholdings as well as the structure of the remuneration system for the Executive Board is contained in the remuneration report from page 127 onwards. With regard to the disclosures required by IAS 24.17 we would refer in particular to the tables M 87 (Total remuneration of the active members of the Executive Board), M 91 (Pension commitments) and M 92 (Individual remuneration received by the members of the Supervisory Board). The remuneration report is based on the recommendations of the German Corporate Governance Code and contains information which also forms part of the notes to the 2018 consolidated financial statement as required by IAS 24 "Related Party Disclosures". In addition, we took into account the more specific provisions of DRS 17 "Reporting on the Remuneration of Members of Governing Bodies". Under German commercial law, too, this information includes data specified as mandatory for the notes (§ 314 HGB) and the management report (§ 315 HGB). These details are discussed as a whole in the remuneration report. Consequently, we have not provided any further explanation in the notes.

8.3 Share-based payment

In the year under review the following share-based payment plans with cash settlement existed within the Hannover Re Group:

1. Stock Appreciation Rights Plan (in effect since 2000, cancelled in stages from 2011 onwards and currently being wound up)
2. Share Award Plan (valid since 2011)

Stock Appreciation Rights Plan

With effect from 1 January 2000 the Executive Board of Hannover Rück SE, with the consent of the Supervisory Board, introduced a virtual stock option plan that provides for the granting of stock appreciation rights to certain managerial staff. The content of the stock option plan is based solely on the Conditions for the Granting of Stock Appreciation Rights. All the members of the Group's management are eligible for the award of stock appreciation rights. Exercise of the stock appreciation rights does not give rise to any entitlement to the delivery of shares of Hannover Rück SE, but merely to payment of a cash amount linked to the performance of the Hannover Rück SE share.

The Conditions for the Granting of Stock Appreciation Rights were cancelled for all eligible recipients. Awarded stock appreciation rights continue to be exercisable until the end of their period of validity.

Stock appreciation rights were first granted for the 2000 financial year and were awarded separately for each subsequent financial year (allocation year) until cancellation of the plan, provided the performance criteria defined in the Conditions for the Granting of Stock Appreciation Rights were satisfied.

The maximum period of the stock appreciation rights is ten years, commencing at the end of the year in which they are awarded. Stock appreciation rights which are not exercised by the end of the 10-year period lapse. Stock appreciation rights may only be exercised after a waiting period and then only within four exercise periods each year. Upon expiry of a four-year waiting period a maximum 60% of the stock appreciation rights awarded for an allocation year may be exercised. The waiting period for each additional 20% of the stock appreciation rights awarded for this allocation year to a member of the managerial staff is one further year. Each exercise period lasts for ten trading days, in each case commencing on the sixth trading day after the date of publication of the quarterly report of Hannover Rück SE.

Upon exercise of a stock appreciation right the amount paid out to the entitled party is the difference between the basic price and the current market price of the Hannover Rück SE share at the time of exercise. In this context, the basic price corresponds to the arithmetic mean of the closing prices of the Hannover Rück SE share on all trading days of the first full calendar month of the allocation year in question. The current market price of the Hannover Rück SE share at the time when stock appreciation rights are exercised is determined by the arithmetic mean of the closing prices of the Hannover Rück SE share on the last twenty trading days prior to the first day of the relevant exercise period.

The amount paid out is limited to a maximum calculated as a quotient of the total volume of compensation to be granted in the allocation year and the total number of stock appreciation rights awarded in the year in question. In the event of cancellation or termination of the employment relationship as a consequence of a termination agreement or a set time limit, a holder of stock appreciation rights is entitled to exercise all such rights in the first exercise period thereafter. Stock appreciation rights not exercised in this period and those in respect of which the waiting period has not yet expired shall lapse. Retirement, disability or death of the member of management shall not be deemed to be termination of the employment relationship for the purpose of exercising stock appreciation rights.

The allocations for the years 2009 to 2011 gave rise to commitments in the 2018 financial year shown in the following table. No commitments exist for years prior to 2009.

Stock appreciation rights of Hannover Rück SE **N 96**

	Allocation year		
in EUR thousand	2011	2010	2009
Award date	15.3.2012	8.3.2011	15.3.2010
Period	10 Jahre	10 Jahre	10 Jahre
Waiting period	4 Jahre	4 Jahre	2 Jahre
Basic price (in EUR)	40.87	33.05	22.70
Participants in year of issue	143	129	137
Number of rights granted	263,515	1,681,205	1,569,855
Fair value at 31 December 2018 (in EUR)	32.21	8.92	8.76
Maximum value (in EUR)	32.21	8.92	8.76
Weighted exercise price	32.21	8.92	8.76
Number of rights existing at 31 December 2018	13,561	70,266	5,050
Provisions at 31 December 2018 (in EUR million)	0.44	0.63	0.04
Amounts paid out in the 2018 financial year (in EUR million)	1.61	0.22	0.15
Expense in the 2018 financial year (in EUR million)	–	–	–

The existing stock appreciation rights are valued on the basis of the Black-Scholes option pricing model.

The calculations were based on the price of the Hannover Re share of EUR 118.80 as at the reference date of 12 December 2018, expected volatility of 19.74% (historical volatility on a five-year basis), an expected dividend yield of 4.21% and risk-free interest rates of -0.68% for the 2009 allocation year, -0.62% for the 2010 allocation year and -0.53% for the 2011 allocation year.

In the 2018 financial year the waiting period expired for 100% of the stock appreciation rights awarded in 2009, 2010 and 2011. 17,460 stock appreciation rights from the 2009 allocation year, 24,276 stock appreciation rights from the 2010 allocation year and 49,972 stock appreciation rights from the 2011 allocation year were exercised. The total amount paid out stood at EUR 2.0 million.

On this basis the aggregate provisions – included in the sundry non-technical provisions – amounted to EUR 1.1 million (EUR 3.1 million) for the 2018 financial year. No expense (EUR 0.3 million) was recognised in the year under review.

Share Award Plan

With effect from the 2011 financial year the Supervisory Board of Hannover Rück SE implemented a Share Award Plan for the members of the Executive Board of Hannover Re; this provides for the granting of stock participation rights in the form of virtual shares (referred to as "share awards"). The Executive Board of Hannover Re decided to adopt a Share Award Plan for certain management levels at Hannover Re as well with effect from the 2012 financial year.

The Share Award Plan replaced the cancelled Stock Appreciation Rights Plan. Please see our remarks under "Stock Appreciation Rights Plan" in this section. The share awards do not establish any claim against Hannover Re to the delivery of stock, but merely to payment of a cash amount in accordance with the conditions set out below.

The members of the Executive Board and management of Hannover Re who are eligible recipients under the Share Award Plan are those who have been allowed a contractual claim to the granting of share awards and whose service/employment relationship exists at the time when the share awards are granted and does not end through cancellation or a termination agreement on an effective date prior to expiry of the vesting period.

Share awards were granted separately for the first time for the 2011 financial year and then for each financial year (allocation year) thereafter. The first payout of share awards took place in the 2016 financial year for those share awards that had been allocated in the 2011 financial year to the eligible members of the Executive Board. In the 2017 financial year the first payout was also made to the participating senior executives.

The total number of share awards granted is based on the value per share of Hannover Rück SE. The value per share is established according to the unweighted arithmetic mean of the Xetra closing prices of the Hannover Re share. In the conditions applicable to members of the Executive Board a period of five trading days before to five trading days after the meeting of the Supervisory Board that approves the consolidated financial statement for the financial year just-ended is envisaged for the calculation. For senior executives a period of twenty trading days before to ten trading days after the meeting of the Supervisory Board that approves the consolidated financial statement for the financial year just-ended has been agreed. The prices calculated in this way also determine the payout value of the share awards that have become payable. The total number of share awards granted is established by dividing the amount available for the granting of share awards to the respective eligible recipients by the value per share, rounded up to the next full share. For members of the Executive Board 20% and for senior executives 40% or 35% – according to management levels – of the defined variable remuneration shall be granted in the form of share awards.

The share awards are granted automatically without any requirement for a declaration. Following expiry of a vesting period of four years the value of one Hannover Re share calculated at the disbursement date is paid out for each share award. This value is calculated according to the provisions of the preceding paragraph.

The eligible recipient shall be paid an amount that corresponds to the sum total of the values of the share awards calculated at the disbursement date for which the vesting period of four years has expired. The amount is to be paid in the month after expiry of the determinative period for calculating the value per share according to the preceding paragraphs.

In addition, upon payment of the value of the share awards, a sum shall be paid out in the amount of the dividend insofar as dividends were distributed to shareholders. The amount of the dividend is the sum total of all dividends per share paid out during the term of the share awards multiplied by the number of share awards due for disbursement to the eligible recipient at the disbursement date. In the event of early disbursement of the share awards, the value of the dividends shall only be paid out for the period until occurrence of the event that triggers early disbursement. No pro rata allowance shall be made for dividends that have not yet been distributed.

In the event that the Board mandate or service relationship with the member of the Executive Board or the employment relationship with the manager ends, the eligible recipient shall retain his claims to payment of the value of already granted share awards after expiry of the applicable vesting period, unless such termination is based on resignation of office / voluntary termination on the part of the member of the Executive Board or voluntary termination on the part of the manager or dismissal by Hannover Re for a compelling reason. In the event of death the claims arising out of the already granted and / or still to be granted share awards pass to the heirs.

Any entitlement to the granting of share awards after leaving the company is excluded. This shall not apply with respect to claims to variable remuneration acquired (pro rata) in the last year of service of the eligible recipient in the event of exit from the company on account of non-reappointment, occurrence of the pensionable event or death.

The Share Award Plan of Hannover Rück SE gives rise to the amounts shown in the following table.

Share awards of Hannover Rück SE **N 97**

	Allocation year								
	2018	2017		2016		2015		2014	
	Anticipated allocation	Final allocation 2018 for 2017	Anticipated allocation	Final allocation 2017 for 2016	Anticipated allocation	Final allocation 2016 for 2015	Anticipated allocation	Final allocation 2015 for 2014	Anticipated allocation
Valuation date									
Executive Board	28.12.2018	16.03.2018	29.12.2017	16.03.2017	30.12.2016	17.03.2016	30.12.2015	17.03.2015	30.12.2014
Senior executives	28.12.2018	23.03.2018	29.12.2017	23.03.2017	30.12.2016	24.03.2016	30.12.2015	24.03.2015	30.12.2014
Value per share award in EUR									
Executive Board	117.70	111.65	104.90	107.15	102.80	97.64	105.65	89.06	74.97
Senior executives	117.70	111.32	104.90	107.03	102.80	95.30	105.65	87.26	74.97
Number of allocated share awards in the allocation year									
Executive Board	9,010	9,060	9,537	10,244	10,704	11,244	9,355	12,172	13,308
Senior executives	67,421	57,642	64,902	77,325	81,322	79,383	65,107	85,460	85,159
Other adjustments [1]	–	(657)	–	(3,341)	–	(4,002)	–	(6,018)	–
Total	76,431	66,045	74,439	84,228	92,026	86,625	74,462	91,614	98,467

[1] This figure results from originally granted share awards that have since lapsed.

Development of the provision for share awards of Hannover Rück SE **N 98**

	Allocation year							Total
in EUR thousand	2018	2017	2016	2015	2014	2013	2012	
Allocation 2012	–	–	–	–	–	–	1,839	1,839
Allocation 2013	–	–	–	–	–	1,426	1,442	2,868
Allocation 2014	–	–	–	–	1,534	2,364	2,549	6,447
Allocation 2015	–	–	–	1,658	3,102	4,288	5,020	14,068
Allocation 2016	–	–	1,918	2,429	1,920	2,177	2,133	10,577
Allocation 2017	–	1,559	2,127	2,284	2,409	2,861	881	12,121
Utilisation 2017	–	–	–	–	–	–	13,864	13,864
Provision at 31 December of the previous year	**–**	**1,559**	**4,045**	**6,371**	**8,965**	**13,116**	**–**	**34,056**
Allocation 2018	2,018	2,002	2,739	2,920	3,263	1,212	–	14,154
Utilisation 2018	–	–	–	–	–	14,328	–	14,328
Provision at 31 December of the year under review	**2,018**	**3,561**	**6,784**	**9,291**	**12,228**	**–**		**33,882**

The aggregate provision – recognised under the sundry non-technical provisions – amounted to EUR 33.9 million (EUR 34.1 million) as at the balance sheet date.

The personnel expense for share awards in the case of members of the Executive Board is spread on an accrual basis across the relevant term of the share awards or the shorter term of the service contracts; in the case of senior executives the personnel expense is spread across the relevant term of the share awards. The allocation of the financial year recognised in the expenditures on personnel totalled altogether EUR 14.2 million (EUR 12.1 million). This consists of the expense for share awards of the 2018 financial year as well as the dividend claim and the additionally earned portion of the share awards granted in earlier financial years. The value of the share awards finally granted is also influenced by movements in the share price. The sum total of the dividends included in the expenditures on personnel for earlier financial years amounted to EUR 1.6 million (EUR 2.0 million). The distributed dividend is recognised, with no allowance made for expected dividend payments. Dividend claims are recognised in the discounted amounts.

In the year under review the 16,631 share awards of the Executive Board finally allocated in 2013 with a value of EUR 111.65 each plus the dividend entitlement of EUR 17.00 were paid out to the eligible members of the Executive Board. The 94,988 share awards of the senior executives for the 2013 financial year were paid out in 2018 with a value of EUR 111.32 each plus the dividend entitlement of EUR 17.00. The allocation to the provision for the 2013 share awards results from the difference between the share price as at the last balance sheet date (EUR 104.90) and the price from March 2018 on which the payout of the share awards was based (EUR 111.65 and EUR 111.32 respectively).

With regard to the effects of the equity swaps taken out to hedge price risks, please see our explanatory remarks in section 8.1 "Derivative financial instruments and financial guarantees".

8.4 Staff and expenditures on personnel

Staff

The average number of staff at the companies included in the consolidated financial statement of the Hannover Re Group during the reporting period was 3,272 (3,089). As at the balance sheet date altogether 3,317 (3,251) staff were employed by the Hannover Re Group, with 1,426 (1,385) employed in Germany and 1,891 (1,866) working for the consolidated Group companies abroad.

Personnel information N 99

	2018					2017	
	31.3.	30.6.	30.9.	31.12.	Average	31.12.	Average
Number of employees (excluding Board members)	3,239	3,272	3,282	3,317	3,272	3,251	3,089

Expenditures on personnel

The expenditures on insurance business, claims expenses (claims settlement) and expenditures on the administration of investments include the following personnel expenditures:

Personnel expenditures N 100

in EUR thousand	2018	2017
a) Wages and salaries	287,012	274,375
	287,012	**274,375**
b) Social security contributions and expenditure on provisions and assistance		
ba) Social security contributions	26,928	25,486
bb) Expenditures for pension provision	26,117	26,551
bc) Expenditures for assistance	4,067	4,716
	57,112	**56,753**
Total	**344,124**	**331,128**

8.5 Earnings per share and dividend proposal

Calculation of the earnings per share **N 101**

	2018	2017
Group net income in EUR thousand	1,059,493	958,555
Weighted average of issued shares	120,596,995	120,596,977
Basic earnings per share in EUR	8.79	7.95
Diluted earnings per share in EUR	8.79	7.95

The earnings per share is calculated by dividing the net income attributable to the shareholders of Hannover Rück SE by the weighted average number of shares outstanding within the period under review.

Neither in the year under review nor in the previous reporting period were there any dilutive effects. The weighted average of the issued shares was, as in the previous year, slightly lower than the value of the shares in circulation on the balance sheet date. In the context of the employee share option plan Hannover Re acquires treasury shares and sells them at a later date to eligible employees. The weighted average number of shares does not include 16,530 (18,805) treasury shares pro rata temporis for the duration of the holding period. For further details please see our comments in section 6.13 "Shareholders' equity and treasury shares".

There were no other extraordinary components of income which should have been recognised or disclosed separately in the calculation of the earnings per share.

The earnings per share could potentially be diluted in future through the issue of shares or subscription rights from the authorised or conditional capital.

Dividend per share

A dividend of EUR 603.0 million (EUR 603.0 million) was paid in the year under review for the 2017 financial year.

It will be proposed to the Annual General Meeting on 8 May 2019 that a dividend of EUR 3.75 per share as well as a special dividend of EUR 1.50 per share should be paid for the 2018 financial year. This corresponds to a total distribution of EUR 633.1 million. The dividend proposal does not form part of this consolidated financial statement.

8.6 Lawsuits

Member companies of the Hannover Re Group are involved in judicial and supervisory procedures as well as in arbitration proceedings as part of the conduct of insurance and reinsurance business. Depending upon the subject matter of the procedure, the Hannover Re Group sets aside provisions for the amount in dispute in such proceedings – for the most part in the technical account and in exceptional cases as a charge to other income/expenses – if and to the extent that the resulting commitments are likely to materialise and their amount can be estimated with sufficient accuracy. The provision established in each case covers the expense that can be expected in our assessment as at the balance sheet date.

Neither the outcome nor the duration of pending procedures can be definitively foreseen at the time when provisions are established. The final liabilities of Hannover Re may diverge considerably from the constituted provisions because the assessment of probability and the quantification of these uncertain liabilities in large measure require estimates that may prove not to be accurate as the proceedings in question continue to progress. This is also true of procedures for which no provisions were established. Insofar as a commitment exists under such procedures as at the balance sheet date that may possibly but will probably not result in a loss, the Hannover Re Group estimates this potential loss – where practicable – and reports a contingent liability. For estimation purposes Hannover Re takes into account a number of factors. These include, among others, the nature of the claim, the status of the procedure concerned, decision of courts and arbitration bodies, prior settlement discussions, experience from comparable cases as well as expert opinions and the assessments of legal advisers and other experts. If a provision has been established for a particular procedure, a contingent liability is not recognised.

The lawsuits pending in the year under review and as at the balance sheet date were not material for the Hannover Re Group either individually or combined. Furthermore, there were no contingent liabilities from lawsuits to report as at the balance sheet date.

8.7 Contingent liabilities and commitments

Hannover Rück SE has secured by subordinated guarantee the subordinated debts issued by Hannover Finance (Luxembourg) S. A. in the 2010 and 2012 financial years in amounts of EUR 500.0 million each.

The guarantees given by Hannover Rück SE for the subordinated debts attach if the issuer fails to render payments due under the bonds. The guarantees cover the relevant bond volumes as well as interest due until the repayment dates. Given the fact that interest on the bonds is partly dependent on the capital market rates applicable at the interest payment dates (floating rates), the maximum undiscounted amounts that can be called cannot be estimated with sufficient accuracy. Hannover Rück SE does not have any rights of recourse outside the Group with respect to the guarantee payments.

As security for technical liabilities to our US clients, we have established two trust accounts (master trust and supplemental trust) in the United States. They amounted to EUR 3,904.8 million (EUR 3,716.4 million) and EUR 132.3 million (EUR 71.5 million) respectively as at the balance sheet date. The securities held in the trust accounts are shown as available-for-sale investments. In addition, we furnished further collateral to ceding companies in an amount of EUR 2,555.3 million (EUR 1,946.5 million) in the form of so-called "single trust funds". This amount includes a sum equivalent to EUR 2,042.6 million (EUR 1,634.5 million) which was furnished by investors as security for potential reinsurance obligations from ILS transactions.

As part of our business activities we hold collateral available outside the United States in various blocked custody accounts and trust accounts, the total amount of which in relation to the Group's major companies was EUR 2,915.0 million (EUR 3,173.0 million) as at the balance sheet date.

The securities held in the blocked custody accounts and trust accounts are recognised predominantly as available-for-sale investments.

Letter of credit (LoC) facilities existed with a number of financial institutions as at the balance sheet date in a total volume equivalent to EUR 2,417.3 million (EUR 2,890.9 million) and with various terms maturing at the latest in 2023.

As security for our technical liabilities, various financial institutions have furnished sureties for our company in the form of letters of credit. The total amount as at the balance sheet date was EUR 1,330.3 million (EUR 1,216.9 million).

A number of LoC facilities include standard market contractual clauses that allow the banks rights of cancellation in the event of material changes in our shareholding structure or trigger a requirement on the part of Hannover Re to furnish collateral upon materialisation of major events, for example if our rating is significantly downgraded. Please see also our explanatory remarks in the "Financial position" section of the management report, page 66 et seq., on the information pursuant to § 315a Para. 1 German Commercial Code (HGB).

We put up own investments with a book value of EUR 5.6 million (EUR 17.2 million) as collateral for existing derivative transactions. We received collateral with a fair value of EUR 15.6 million (EUR 3.0 million) for existing derivative transactions.

As security for liabilities in connection with participating interests in real estate companies and real estate transactions the usual collateral under such transactions has been furnished to various banks, the amount of which totalled EUR 647.4 million (EUR 508.2 million) as at the balance sheet date.

Outstanding capital commitments with respect to alternative investments exist on the part of the Group in an amount of EUR 1,326.4 million (EUR 1,201.9 million). These primarily involve as yet unfulfilled payment obligations from investment commitments given to private equity funds and venture capital firms.

Group companies are members of the association for the reinsurance of pharmaceutical risks and several atomic and nuclear pools. The failure of one of the other pool members to meet its liabilities would result in an additional call according to the quota participation.

Hannover Rück SE has provided an open-ended guarantee limited to EUR 11.1 million in favour of the pension fund "The Congregational & General Insurance Plc Pension and Life Assurance Scheme" of the now extinguished Congregational & General Insurance Plc., Bradford, United Kingdom, at usual market conditions.

The application of tax regulations may not have been resolved at the time when tax items are brought to account. The calculation of tax refund claims and tax liabilities is based on what we consider to be the regulations most likely to be applied in each case. The revenue authorities may, however, take a differing view, as a consequence of which additional tax liabilities could arise in the future.

Hannover Re enters into contingent liabilities as part of its normal business operations. A number of reinsurance treaties concluded by Group companies with outside third parties include letters of comfort, guarantees or novation agreements under which Hannover Rück SE guarantees the liabilities of the subsidiary in question or enters into the rights and obligations of the subsidiary under the treaties if particular constellations materialise.

8.8 Rent and leases

Non-cancellable operating leases will give rise to the following future minimum payments payable and receivable in subsequent years.

Leased properties

Future minimum lease payments payable N 102

in EUR thousand	Amounts payable
2019	16,013
2020	12,906
2021	11,296
2022	8,461
2023	8,086
Subsequent years	163,852

In the year under review expenses from operating leases of EUR 15.3 million (EUR 13.7 million) were included in the result for the period.

Rented properties

Future minimum lease payments receivable N 103

in EUR thousand	Amounts receivable
2019	106,090
2020	104,500
2021	95,519
2022	81,388
2023	69,309
Subsequent years	188,778

The rental payments receivable result principally from the long-term renting out of properties by the Group's real estate companies.

8.9 Fee paid to the auditor

At its meeting on 8 March 2018 the Supervisory Board of Hannover Re appointed PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft (PwC GmbH) as the auditor of the consolidated financial statement of Hannover Re as defined by § 318 German Commercial Code (HGB). The expense recognised for the fees paid to PwC GmbH and worldwide member firms of PwC International Limited (PwC) in the year under review can be broken down as follows:

Fee paid to the auditor N 104

	2018		2017	
in EUR thousand	PwC worldwide	thereof PwC GmbH	KPMG worldwide	thereof KPMG AG
Services relating to auditing of the financial statements	7,521	2,671	8,953	3,328
Other assurance services	74	36	548	432
Tax consultancy services	11	11	214	21
Other services	202	–	1,311	1,093
Total	**7,808**	**2,718**	**11,026**	**4,874**

The fee for services relating to auditing of the financial statements performed by PwC GmbH includes above all the fees for the auditing of the consolidated financial statement including legally required extensions of the mandate, the review report on the interim report as well as audits of annual financial statements and audits of the Solvency II balance sheets of the subsidiaries included in the consolidated financial statement.

The auditor responsible for performance of the audit engagement as defined by § 38 Para. 2 of the Professional Charter for Accountants/Certified Auditors (Berufssatzung WP/vBP) as amended on 21 June 2016 is Mr. Mathias Röcker. He served as the engagement partner responsible for the audit of the annual and consolidated financial statements for the first time as at 31 December 2018.

Within the Group an amount of roughly EUR 980 thousand was subsequently paid to KPMG in 2018 for audit services dating from 2017.

8.10 Events after the balance sheet date

No significant events beyond the scope of ordinary business activities have occurred since the balance sheet date.

Hannover, 4 March 2019

Executive Board

Wallin	Althoff	Chèvre
Dr. Miller	Dr. Pickel	Vogel

Reproduction of the independent auditor's report
In accordance with the final outcome of our audit, we issued the following unqualified auditor's report dated 5 March 2019:

Independent Auditor's Report

to Hannover Rück SE, Hannover

Report on the audit of the consolidated financial statement and the Group management report

Audit opinions

We have audited the consolidated financial statement of Hannover Rück SE, Hannover, and its subsidiaries (the Group) – comprising the consolidated balance sheet as at 31 December 2018, the consolidated statement of income, the consolidated statement of comprehensive income, the consolidated statement of changes in shareholders' equity and the consolidated cash flow statement for the financial year from 1 January to 31 December 2018 as well as the notes to the consolidated financial statement, including a summary of major accounting policies. In addition, we audited the Group management report of Hannover Rück SE, which is combined with the management report of the company, for the financial year from 1 January to 31 December 2018. In accordance with German statutory requirements, we did not audit the content of the components of the Group management report specified in the "Other information" section of our independent auditor's report.

In our opinion, based on the findings of the audit,

- the attached consolidated financial statement complies in all material respects with IFRS, as applicable in the EU, and with the additional requirements of German law applicable pursuant to § 315e Para. 1 Commercial Code (HGB) and gives a true and fair view of the net assets and financial position of the Group as at 31 December 2018 as well as its results of operations for the financial year from 1 January to 31 December 2018 in accordance with these requirements, and
- the attached Group management report provides an accurate view overall of the position of the Group. In all material respects this Group management report is consistent with the consolidated financial statement, complies with German legal requirements and suitably presents the opportunities and risks of future development. Our audit opinion on the Group management report does not extend to the content of the components of the Group management report specified in the section "Other information".

Pursuant to § 322 Para. 3 Sentence 1 Commercial Code (HGB), we confirm that our audit did not give rise to any reservations concerning the correctness of the consolidated financial statement and the Group management report.

Basis of the audit opinions

We conducted our audit of the consolidated financial statement and the Group management report in conformity with § 317 Commercial Code (HGB) and the EU Audit Regulation (No. 537/2014) with due regard to German generally accepted standards for the auditing of financial statements promulgated by the Institute of Public Auditors in Germany (IDW). Our responsibility according to these requirements and principles is described more extensively in the section of our audit report entitled "Responsibility of the auditor for the auditing of the consolidated financial statement and the Group management report". We are independent of the Group companies in conformity with the requirements of European law as well as German commercial law and professional standards and we fulfilled our other German professional duties in conformity with these requirements. Furthermore, we confirm pursuant to Article 10 (2) letter f) EU Audit Regulation that we did not provide any prohibited non-audit services as defined by Article 5 (1) EU Audit Regulation. We are of the opinion that the audit evidence obtained is sufficient and appropriate to serve as a basis for our audit opinions on the consolidated financial statement and the Group management report.

Key audit matters in the auditing of the consolidated financial statement

Key audit matters are those matters that, in our professional judgement, are of the greatest significance to our audit of the consolidated financial statement for the financial year from 1 January to 31 December 2018. These matters were considered in the context of our audit of the consolidated financial statement as a whole and in forming our audit opinion thereon; we do not provide a separate audit opinion on these matters.

In our assessment, the following matters were of the greatest significance in our audit:

(1) Measurement of certain financial instruments at fair value
(2) Measurement of the loss and loss adjustment expense reserve in property and casualty reinsurance
(3) Measurement of the benefit reserve
(4) Calculation of the estimated gross premium

We have structured our presentation of these key audit matters as follows:

(a) Facts of the matter and problem
(b) Approach taken in the audit and insights gained
(c) Reference to further information

The key audit matters are presented below:

(1) Measurement of certain financial instruments at fair value

(a) Financial instruments in an amount of EUR 53,062.0 million (82.3% of the consolidated balance sheet total) are recognised in the company's consolidated financial statement.

Of these financial instruments, financial assets in an amount of EUR 36,523.8 million are measured at fair value. In turn, of these financial instruments, fair values of EUR 36,045.1 million are determined using valuation models or values indicated by third parties. The measurement of financial instruments, the fair values of which have to be determined using valuation models or values indicated by third parties, is subject to uncertainty because the most up-to-date market data/comparative values are not available for measurement in all cases and hence estimated values and parameters not currently observable on the market are also used.

Financial instruments measured using models are subject to an increased valuation risk in this connection owing to a reduced scope for objectivity and the underlying discretionary decisions, estimates and assumptions of Management. Given that the estimates and assumptions used, especially those in relation to interest rates and cash flows, as well as the applied measurement methods can potentially have material implications for the measurement of these financial instruments and for the net assets and results of operations of the Group and also bearing in mind that extensive disclosures in the notes are required on measurement methods and scope for discretion, this was a key audit matter in the context of our audit.

(b) In the context of our audit we analysed the financial instruments measured using valuation models and values indicated by third parties, with our focus being on the measurement uncertainties. In this regard, we evaluated the adequacy and effectiveness of the relevant controls used for measurement of these financial instruments and for model validation. In so doing, among other things, we assessed the integrity of the underlying data and the process for establishing the assumptions and estimates included in the valuation.

With the support of our internal specialists in financial mathematics, we also evaluated the adequacy of the methods adopted by Management to test assets for impairment and the parameters used for this purpose. We compared the methods and assumptions used to calculate measurement adjustments in the financial year with recognised practices and industry standards and examined the extent to which they are appropriate for proper recognition in the balance sheet.

On the basis of the audit procedures performed we were able to assure ourselves that the methods and assumptions used by Management to measure certain financial instruments (those measured on the basis of models and values indicated by third parties) are suitable overall and the remarks and disclosures presented in the notes to the consolidated financial statement are appropriate.

(c) The information provided by the company regarding the measurement of financial instruments is contained in the sections of the notes to the consolidated financial statement entitled "Accounting policies" and "Notes on the individual items of the balance sheet", subsection "Investments under own management".

(2) Measurement of the loss and loss adjustment expense reserve in property and casualty reinsurance

(a) Technical provisions (known as "loss reserves") of EUR 28,758.6 million (44.6% of the consolidated balance sheet total) are recognised in the company's consolidated financial statement under the balance sheet item "loss and loss adjustment expense reserve". Of this, EUR 24,542.8 million is attributable to the area of property and casualty reinsurance.

The loss reserves in property and casualty reinsurance are estimated based on empirical values in light of the information provided by ceding companies. The measurement of the loss reserves is derived using actuarial methods that necessitate a sufficiently long data history and stability of the observed data. The mathematical methods incorporate assumptions regarding premiums, ultimate loss ratios and run-off patterns that are built upon an expert assessment based on past experience. Taking into account the results of the actuarial procedures and other influencing factors in relation to the uncertainties associated with the calculations, Management determines the amount of the loss reserves.

The determination of the loss reserve requires discretionary decisions, estimates and assumptions on the part of Management. Minimal changes to these assumptions and the methods used can materially affect the measurement of this provision.

Against this backdrop, and also bearing in mind the material significance (in terms of amount) of this provision for the net assets and results of operations of the Group, the measurement of this provision was of particular significance in the context of our audit.

(b) As part of the audit, in light of the significance of the loss reserve, we evaluated the methods used by the company and the assumptions made by Management in cooperation with our own actuaries. In so doing, we worked on the basis of, among other things, our industry expertise and our industry experience.

Among other things, we assessed the adequacy of the design of the reserving process and performed functional checks in order to evaluate the effectiveness of the internal controls. In so doing, we focused especially on controls that ensure the data used are adequate and complete and that the calculation process is subject to a sufficient form of quality assurance.

Building on the review of the controls, we conducted further analytical and substantive audit procedures in relation to the measurement of the loss reserve. Bearing in mind the significance of the loss reserve for the company's total business, our internal measurement specialists evaluated the adequacy of the methods used by the company. Furthermore, our internal measurement specialists assessed the models used by the company and assumptions made by Management on the basis of industry expertise and experience with general accepted actuarial practices. In this context, the consistent application of the measurement methods was also reviewed.

On the basis of our audit procedures we were able to assure ourselves that the estimates and assumptions made by Management with regard to the loss reserve are appropriate overall.

(c) The information provided by the company on the loss reserves in property and casualty reinsurance is contained in the sections of the notes to the consolidated financial statement entitled "Accounting policies" and "Notes on the individual items of the balance sheet", subsection "Technical provisions". Risk information is provided in the section of the Group management report entitled "Risk report", subsection "Underwriting risks in property and casualty reinsurance".

(3) Measurement of the benefit reserve

(a) Technical provisions of altogether EUR 9,184.4 million (14.2% of the consolidated balance sheet total) are recognised in the company's consolidated financial statement under the balance sheet item "benefit reserve". The benefit reserve was established largely for reinsurance transacted in the lines of life and health reinsurance.

The measurement of the benefit reserve is derived using actuarial methods from the present value of future payments to ceding companies less the present value of future premiums still to be paid by ceding companies. Defined actuarial bases are applied upon initial recognition of the treaty in question. Depending on the structuring of the treaty and the regular course of business, the calculation is based either on a combination of available statements of account from ceding companies, as necessary adjusted by estimates of the treaty experience for accounting periods not yet available, or on model-based own calculations of the benefit reserve. In this regard, actuarial assumptions are made in connection with interest rates, investment income, mortality, morbidity, longevity, expenses and future policyholder behaviour.

An annual liability adequacy test is performed on the level of portfolios managed as a unit in order to verify whether the technical provisions, and hence in particular the benefit reserve, established as at the balance sheet date using the actuarial bases for initial recognition, less existing deferred acquisition costs, are sufficient to cover the best estimate as at the balance sheet date of the expected present value of future payments less the present value of premiums payable from the portfolios managed as a unit.

The assessment of the adequacy of the reported benefit reserve, the estimates made in cases where statements of account from ceding companies were not available and the model-based calculations of the benefit reserve are subject to considerable scope for discretion on the part of Management and hence associated estimation uncertainties.

Against this backdrop and in view of the material significance (in terms of amount) of the benefit reserve for the Group's net assets and results of operations as well as the complexity of the underlying calculations, this matter was of particular significance in the context of our audit.

(b) As part of our audit, in light of the significance of the benefit reserve, we evaluated the methods used by the company and the assumptions made by Management in cooperation with our actuaries. In so doing, we worked on the basis of, among other things, our industry expertise and our industry experience.

For the purposes of our evaluation, we assessed the design and effectiveness of the controls put in place to determine and document the benefit reserve. A special focus here was on the controls that ensure new products and contracts are correctly classified and that changes in assumptions are correctly implemented in the systems.

Building on the review of the controls, we conducted further analytical and substantive audit procedures in relation to the measurement of the benefit reserve. With the involvement of our actuaries, we compared the actuarial methods applied in each case and the material assumptions made with generally recognised actuarial practices and industry standards and we examined the extent to which they are suitable for measurement. In the context of case-by-case checks we assessed the correct and appropriate use of statements of account available from ceding companies in the determination of the benefit reserve. In this connection we also evaluated the adequacy of the material assumptions by analysing the actuarial methods used to arrive at them.

Based on the liability adequacy tests performed, we formed an opinion on whether the actuarial bases and methods used were appropriately applied. If market interest rates were used for measurement purposes, we reviewed the adequacy of the discount rates used through comparison with parameters that could be observed on the market. In this context, we devoted particularly close attention to the liability adequacy test for US mortality solutions business on account of the significance of this business to the Group. Furthermore, we analysed the development of the benefit reserve compared to the previous year, in particular with an eye to whether the assumptions consistently reflect the latest available cedant information as well as current business developments at ceding companies and our expectations based on market observations.

On the basis of the audit procedures that we conducted, we were able to assure ourselves that the methods and assumptions used by Management for measurement of the benefit reserve are appropriate overall.

(c) The information provided by the company on the benefit reserve is contained in the sections of the notes to the consolidated financial statement entitled "Accounting policies" and "Notes on the individual items of the balance sheet", subsection "Technical provisions". Risk information is provided in the section of the Group management report entitled "Risk report", subsection "Underwriting risks in life and health reinsurance".

(4) Calculation of the estimated gross premium

(a) The company reports gross written premium of EUR 19,176.4 million in the statement of income contained in its consolidated financial statement.

Premiums for reinsurance assumed are recognised according to the terms and conditions of the reinsurance treaties. Where statements of account from ceding companies are not yet available, the company has made supplementary or complete estimates of the premiums. The estimates are based on assumptions and are therefore subject to considerable uncertainty and highly discretionary.

In view of the material significance (in terms of amount) of the estimated premium volume for the Group's net assets and results of operations as well as the considerable discretionary scope of Management and the associated estimation uncertainties, this matter was of particular significance in the context of our audit.

(b) For the purpose of auditing the estimated gross premium, as a first step we conducted the structural audit of the premium and estimation process. In this connection we identified the material key controls and analysed their design. On this basis, as part of the functional audit, we tested the effectiveness of the key controls implemented in the process and evaluated the adequacy of the material assumptions by reproducing and analysing the calculation method used to arrive at the estimated gross premium.

In the context of audit procedures conducted on a case-by-case basis we critically examined the key assumptions underlying an estimate and had the company provide us with corresponding justifications for the estimate that was made. Using information on the premiums expected in the previous year, we made a comparison with the actual figures and were thus able to draw conclusions about the quality of the estimates.

On the basis of our audit procedures we were able to assure ourselves that the calculation methods used by Management to arrive at the estimated gross premium are appropriate overall.

(c) The information provided by the company on written and estimated gross premium is contained in the sections of the notes to the consolidated financial statement entitled "Accounting policies" and "Notes on the individual items of the statement of income".

Other information

Management is responsible for the other information. The other information encompasses the following components of the Group management report, the content of which was not audited:

- the declaration on corporate governance pursuant to § 289f Commercial Code (HGB) and § 315d Commercial Code (HGB) contained in the section of the Group management report entitled "Enterprise management"
- the non-financial information statement pursuant to § 289b Para. 1 Commercial Code (HGB) and § 315b Para. 1 Commercial Code (HGB) contained in the section of the Group management report entitled "Combined non-financial information statement"
- the disclosures contained in the Group management report that are identified as unaudited in connection with Solvency II reporting

The other information additionally encompasses the other parts of the Annual Report – excluding further cross-references to external information –, with the exception of the audited consolidated financial statement, the audited Group management report and our audit report.

Our audit opinions on the consolidated financial statement and on the Group management report do not extend to the other information, and hence we do not express an audit opinion or draw any other form of audit conclusion in this regard.

In connection with our audit, our responsibility is to read the other information and assess whether the other information

- shows material inconsistencies with the consolidated financial statement, the Group management report or knowledge that we obtained as part of the audit or
- appears to be materially misstated in other respects.

Responsibility of Management and of the Supervisory Board for the consolidated financial statement and the Group management report

Management is responsible for preparation of the consolidated financial statement, which in all material respects is in conformity with IFRS, as applicable in the EU, and with the additional requirements of German law applicable pursuant to § 315e Para. 1 Commercial Code (HGB) and for ensuring that the consolidated financial statement gives a true and fair view of the Group's net assets, financial position and results of operations in accordance with these requirements. In addition, Management is responsible for the internal controls that they have determined to be necessary in order to facilitate preparation of a consolidated financial statement that is free of material misstatements, whether intended or unintended.

In preparing the consolidated financial statement, Management is responsible for assessing the capacity of the Group to continue as a going concern. Furthermore, they are responsible for declaring facts and circumstances connected with continuation as a going concern, where relevant. In addition, they are responsible for financial reporting on the going concern basis of accounting, unless there is an intention to liquidate the Group or cease operations or there is no other realistic alternative.

Moreover, Management is responsible for the preparation of the Group management report, which overall gives an accurate view of the position of the Group and in all material respects is consistent with the consolidated financial statement, complies with German legal requirements and suitably reflects the opportunities and risks of future development. Management is also responsible for the safeguards and measures (systems) that they considered necessary in order to facilitate the preparation of a Group management report in conformity with applicable German legal requirements and in order to be able to provide sufficient appropriate evidence for the statements contained in the Group management report.

The Supervisory Board is responsible for monitoring the financial reporting process used by the Group for drawing up the consolidated financial statement and the Group management report.

Responsibility of the auditor for the auditing of the consolidated financial statement and the Group management report

Our objective is to obtain reasonable assurance as to whether the consolidated financial statement as a whole is free of material – intended or unintended – misstatements and whether overall the Group management report gives an accurate view of the Group's position and in all material respects is consistent with the consolidated financial statement as well as with the insights gained from the audit, is in conformity with German legal requirements and suitably presents the opportunities and risks of future development; it is also our goal to provide an audit report that contains our audit opinions on the consolidated financial statement and on the Group management report.

Reasonable assurance is a high degree of assurance, but not a guarantee, that an audit performed in conformity with § 317 Commercial Code (HGB) and the EU Audit Regulation and with due regard to German generally accepted standards for the auditing of financial statements promulgated by the Institute of Public Auditors in Germany (IDW) always detects a material misstatement. Misstatements may be due to fraud or error and are considered to be material if it could reasonably be expected that individually or as whole they influence the economic decisions made by users on the basis of this consolidated financial statement and Group management report.

During the audit we exercise our due discretion and maintain a fundamentally critical attitude. In addition,

- we identify and assess the risks of material – intended or unintended – misstatements in the consolidated financial statement and in the Group management report, plan and conduct audit procedures in response to these risks and obtain audit evidence that is sufficient and appropriate to serve as a basis for our audit opinions. The risk of material misstatements not being detected is greater with fraud than with error, because fraud may involve fraudulent collaboration, falsifications, wilful incompleteness, misleading representations or the bypassing of internal controls.
- we obtain an understanding of the internal control system relevant to the audit of the consolidated financial statement and the safeguards and measures relevant to the audit of the Group management report in order to plan audit procedures that are appropriate under the existing circumstances, albeit not with the aim of providing an audit opinion on the effectiveness of these systems.
- we assess the adequacy of the accounting policies applied by Management as well as the reasonableness of the estimated values presented by Management and associated disclosures.

- we draw conclusions regarding the adequacy of the going concern accounting principle applied by Management as well as, on the basis of the audit evidence obtained, regarding whether material uncertainty exists in connection with events or circumstances that can raise significant doubts about the capacity of the Group to continue as a going concern. If we conclude that material uncertainty exists, we are required in the audit report to draw attention to the associated disclosures in the consolidated financial statement and in the Group management report or, if these disclosures are inadequate, to modify our audit opinion. We arrive at our conclusions on the basis of the audit evidence obtained until the date of our audit report. Future events or circumstances may, however, result in the Group no longer being able to continue as a going concern.
- we assess the overall presentation, the structure and the content of the consolidated financial statement including the disclosures as well as whether the consolidated financial statement presents the underlying business transactions and events in such a way that the consolidated financial statement gives a true and fair view of the net assets, financial position and results of operations of the Group in conformity with IFRS, as applicable in the EU, and with the additional requirements of German law applicable pursuant to § 315e Para. 1 Commercial Code (HGB).
- we obtain sufficient suitable audit evidence for the accounting information of the companies or business activities within the Group in order to be able to provide audit opinions on the consolidated financial statement and on the Group management report. We are responsible for the direction, monitoring and conduct of the audit of the consolidated financial statement. We bear sole responsibility for our audit opinions.
- we assess the consistency of the Group management report with the consolidated financial statement, its conformity with the law and the view of the position of the Group that it conveys.
- we conduct audit procedures with respect to the prospective information presented by Management in the Group management report. In particular, based on sufficient suitable audit evidence we verify the major assumptions taken as a basis by Management for the prospective information and assess the proper derivation of the prospective information from these assumptions. We do not provide an independent audit opinion on the prospective information or on the underlying assumptions. There is a considerable unavoidable risk that future events may differ substantially from the prospective information.

We discuss with those charged with governance, among other things, the planned scope and the timetable of the audit as well as significant audit findings, including any deficiencies in the internal control system that we identify during our audit.

We provide to those charged with governance a declaration to the effect that we complied with the relevant independence requirements, and we discuss with them all relationships and other matters that can reasonably be assumed to affect our independence as well as the safeguards implemented in this respect.

We determine from among the matters that we discussed with those charged with governance those matters that were most relevant to the current reporting period in the audit of the consolidated financial statement and therefore constitute the key audit matters. We describe these matters in the audit report, unless laws or other legal provisions prevent public disclosure of the matter.

Miscellaneous statutory and other legal requirements

Other information pursuant to Article 10 EU Audit Regulation

We were selected as the auditor of the consolidated financial statement by the Supervisory Board on 8 March 2018. We received the audit mandate from the Supervisory Board on 13 June 2018. We have served as the auditor of the consolidated financial statement of Hannover Rück SE, Hannover, since the 2018 financial year.

We declare that the audit opinions contained in this audit report are consistent with the additional report to the Audit Committee in accordance with Article 11 EU Audit Regulation (long-form audit report).

Lead engagement partner

The lead engagement partner for the audit is Mathias Röcker.

Hannover, 5 March 2019

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

Mathias Röcker Wirtschaftsprüfer	ppa. Dennis Schnittger Wirtschaftsprüfer

Report by the independent auditor on a limited assurance engagement for the non-financial reporting

To Hannover Rück SE, Hannover

We have performed a limited assurance engagement on the combined non-financial information statement of Hannover Rück SE, Hannover (hereinafter the "Company") according to §§ 289b und 315b Commercial Code (HGB), which is contained in the section of the combined management report entitled "Combined non-financial information statement" (hereinafter the "non-financial information statement"), for the period from 1 January to 31 December 2018.

Responsibility of Management

The legal representatives of the Company are responsible for the preparation of the non-financial information statement in conformity with §§ 315b and 315c in conjunction with 289b to 289e Commercial Code (HGB).

This responsibility of Management involves selecting and applying appropriate methods for non-financial reporting as well as making assumptions and estimates regarding individual non-financial disclosures which are reasonable in the circumstances. Furthermore, the legal representatives are responsible for the internal controls that they have determined to be necessary in order to facilitate the preparation of a non-financial information statement that is free from material misstatements, whether due to fraud or error.

Independence and quality assurance on the part of the auditor

We are independent in conformity with the requirements of German professional standards and we fulfilled our other professional duties in accordance with these requirements.

Our audit firm applies the national statutory regulations and professional pronouncements – especially those of the Professional Code for Certified Accountants and Sworn Auditors (BS WP/vBP) as well as of Quality Assurance Standard 1 "Requirements for Quality Assurance in the Practice of Audit Firms" (IDW QS 1) issued by the Institute of Public Auditors in Germany (IDW) – and accordingly maintains an extensive quality assurance system that comprises documented rules and measures in relation to compliance with ethical requirements, professional standards and pertinent statutory and other legal requirements.

Responsibility of the independent auditor

Our responsibility is to express a limited assurance conclusion on the disclosures in the non-financial information statement based on the assurance engagement that we have performed.

An assessment of external documentation sources or expert opinions, to which reference is made in the non-financial information statement, did not form part of our engagement.

We conducted our assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 (Revised): "Assurance Engagements other than Audits or Reviews of Historical Financial Information", issued by the IAASB. This standard requires that we plan and perform the assurance engagement in such a way as to obtain limited assurance about whether facts and circumstances have become known to us that lead us to believe that the company's non-financial information statement for the period from 1 January 2018 to 31 December 2018 has not been prepared, in all material respects, in conformity with §§ 315b and 315c in conjunction with 289b to 289e Commercial Code (HGB). In a limited assurance engagement the assurance procedures carried out are less extensive than for a reasonable assurance engagement, and hence a substantially lower level of assurance is obtained. The assurance procedures are selected according to the auditor's professional judgement.

In the context of our assurance engagement we performed, inter alia, the following assurance procedures and other activities:

- Gaining insight into the structure of the sustainability organisation and into the performance of the materiality analysis
- Questioning Management and relevant employees involved in the preparation of the non-financial information statement about the process of preparing the non-financial information statement, about the internal control system relating to this process and about the disclosures in the non-financial information statement
- Identifying probable risks of material misstatements in the non-financial information statement
- Analytical evaluation of disclosures in the non-financial information statement
- Reconciling disclosures with the corresponding data in the consolidated financial statement and combined management report
- Evaluating the presentation of the disclosures

Assurance conclusion

Based on the assurance procedures performed and the assurance evidence obtained, we are not aware of any facts or circumstances that lead us to believe that the Company's non-financial information statement for the period from 1 January to 31 December 2018 has not been prepared, in all material respects, in conformity with §§ 315b and 315c in conjunction with 289b to 289e Commercial Code (HGB).

Intended use of the assurance report

We issue this report on the basis of the assurance engagement agreed with the Company. The assurance engagement has been performed for the purposes of the Company and the report is intended solely to inform the Company about the result of the assurance engagement.

The report is not intended to assist third parties in making (investment) decisions. Our responsibility is solely to the Company and we assume no responsibility, liability or other obligations towards third parties.

Frankfurt, 5 March 2019

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

Nicolette Behncke
Wirtschaftsprüfer

ppa. Juliane v. Clausbruch

Responsibility statement

To the best of our knowledge, and in accordance with the applicable reporting principles, the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and profit or loss of the Group, and the Group management report includes a fair review of the development and performance of the business and the position of the Group, together with a description of the principal opportunities and risks associated with the expected development of the Group.

Hannover, 4 March 2019

Executive Board

Wallin	Althoff	Chèvre
Dr. Miller	Dr. Pickel	Vogel

Supervisory Board

Report of the Supervisory Board

of Hannover Rück SE

In our function as the Supervisory Board we considered at length during the 2018 financial year the position and development of the company and its major subsidiaries. We advised the Executive Board on the direction of the company and monitored the management of business on the basis of written and verbal reports from the Executive Board. The Supervisory Board of Hannover Rück SE held four regular meetings and two extraordinary meetings in order to adopt the necessary resolutions after appropriate discussion. In addition, the Supervisory Board adopted two resolutions in the reporting period by a written procedure. All nine Supervisory Board members took part in each of the Supervisory Board meetings held in 2018. Two representatives of the Federal Financial Supervisory Authority attended one meeting on a routine basis. In addition, we were informed by the Executive Board in writing and orally on the basis of the quarterly statements about the course of business as well as the position of the company and the Group. The quarterly reports with the components of the financial statements and key figures for the Hannover Re Group constituted an important source of information for the Supervisory Board.

We received an analysis of the 2017 results in property & casualty and life & health reinsurance as well as a presentation from the Executive Board covering the profit expectations for the 2018 financial year and the operational planning for the 2019 financial year. In addition, the Chairman of the Supervisory Board was constantly advised by the Chairman of the Executive Board of major developments and impending decisions as well as of the risk situation within the company and the Group. All in all, we were involved in decisions taken by the Executive Board and assured ourselves of the lawfulness, regularity and efficiency of the company's management as required by our statutory responsibilities and those placed upon us by the company's Articles of Association.

No audit measures pursuant to § 111 Para. 2 Sentence 1 Stock Corporation Act (AktG) were required in the 2018 financial year.

Key points of deliberation

On 12 February 2018 we held an extraordinary meeting dedicated to addressing the US tax reform and its implications for the reinsurance business transacted by Hannover Rück SE as well as specific financing measures.

At the meeting on 8 March 2018 the Supervisory Board discussed the audited annual and consolidated financial statements as well as the Executive Board's proposal for the appropriation of the disposable profit for the 2017 financial year. In this regard, as in the previous year, the Executive Board described all material indicators from the technical and non-technical accounts as well as key data on the investment side and the independent auditor directly presented the results of the audit and elaborated on the audit procedure. The Executive Board outlined the prospects for the current 2018 financial year and we discussed the major insights from the compliance, audit and risk reports. Among the steps taken as part of the annual revision of the investment guidelines, the product catalogue was expanded to include cross-currency swaps and adjustments were made to asset allocations in a few specific cases in response to market developments. Following the announcement that two members of the Supervisory Board – namely Mr. Wolf-Dieter Baumgartl and Dr. Klaus Sturany – would be stepping down with effect from the end of the Annual General Meeting in May, the Supervisory Board discussed the corresponding by-elections of Mr. Torsten Leue and Dr. Ursula Lipowsky, who attended the meeting as guests for this purpose. In this connection consideration was given to the areas of expertise within the body as a whole as well as the envisaged changes to the composition of the committees. The other agenda items to be dealt with at the upcoming Annual General Meeting were also determined. Having chosen the preferred auditing firm in 2017 as recommended by the Finance and Audit Committee following the selection procedure, the Supervisory Board appointed PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft as the independent auditor for the first time in accordance with this determination. Furthermore, the variable remuneration of the members of the Executive Board was defined on the basis of the findings with respect to attainment of the respective targets for the 2017 financial year and, after an in-depth exploration of the matter, a capital increase was approved at the subsidiary Glencar Insurance Company.

On 4 May 2018 the Executive Board reported to us on the first quarter of 2018 and we explored the overall results of the previous year in greater detail; in this regard the Executive Board presented relevant analyses regarding the quality of the loss reserves in property and casualty reinsurance and the intrinsic value creation (IVC). In addition to the outlook for the current financial year, the examination of the Own Risk and Solvency Assessment (ORSA) and the capitalisation under Solvency II constituted further key points of deliberation. Following up on this, the structure of the Regular Supervisory Report (RSR) and its differences and overlaps relative to the ORSA were explained. We also received a report on the return on investment as compared with peer companies. The deliberations on the joint growth initiative in specialty lines between Hannover Rück SE and HDI Global SE formed another major part of our work on the Supervisory Board.

At the extraordinary meeting of the Supervisory Board on 7 May 2018 the necessary by-elections on the committees were held after the Annual General Meeting, together with a by-election for our Deputy Chairman. The personnel particulars in this regard are to be found below in the present report ("Changes on the Supervisory Board and the Executive Board").

On 8 August 2018 the Executive Board reported on the first half of 2018; in this context, as usual, it described the material indicators from the technical and non-technical accounts and outlined the attainment status of the strategic objectives based on the target matrix. The outlook for the current financial year was followed by a discussion of the key insights from the risk report. In addition, the management measures chosen by the company in connection with the so-called US Brock portfolio and the description of the recognition and development of the business concerned were a major focus of the August meeting. The corresponding project "Reboot Update" was also considered at length in the meetings of the Finance and Audit Committee. We also received the audit report on the solvency balance sheet. Furthermore, the Supervisory Board received a detailed explanation of the company's digitalisation strategy from the Executive Board, which it subsequently discussed. With an eye to the self-assessment of the Supervisory Board's areas of expertise that had once more been carried out, the Supervisory Board decided that the extensive list of topics which goes beyond the regulatory requirements will be used again in 2019. Responding to the insights gained from this self-assessment in the previous year, the Supervisory Board took part in an IT training session. The Supervisory Board also received a report on the development of the investment dating from 2016 in Somerset Re, a Bermuda-based reinsurer. In August the Supervisory Board was additionally introduced to Mr. Jean-Jacques Henchoz as a potential successor to Mr. Ulrich Wallin in the role of Chief Executive Officer.

At the last meeting of the year on 7 November 2018, we deliberated at length on the key preliminary results in the business performance together with the outlook for the current financial year. We were provided with the report on employee capacities. The Executive Board also presented the operational planning for 2019; we considered this in detail and subsequently approved the annual/results planning submitted to us. We discussed the latest insights from the risk report and were informed of the status of major pending legal proceedings. The ongoing project "Nukleus" and our associated decision to terminate the control and profit transfer agreement with International Insurance Company of Hannover SE was another focus of our deliberations. As in every year, the full Supervisory Board considered the adequacy of the remuneration system for the members of the Executive Board. We received a report on the allocation, structure and profitability of the real estate portfolio. Based on the findings of the "Fit & Proper" self-assessment that had been conducted, we engaged in an extensive exchange of views on a development plan for the full Supervisory Board. Furthermore, we dedicated a significant part of our discussion to corporate governance issues and in this regard we approved a revised diversity concept and the updated Declaration of Conformity (see also further information below).

As in every year, we were regularly briefed on the work of the Supervisory Board committees.

Committees of the Supervisory Board

Of the committees formed by the Supervisory Board within the meaning of § 107 Para. 3 Stock Corporation Act (AktG), the Finance and Audit Committee met on four occasions, the Standing Committee met three times and the Nomination Committee met twice. The Chairman of the Supervisory Board updated the full Supervisory Board on the major deliberations of the committee meetings at its next meeting and provided an opportunity for further questions.

The Finance and Audit Committee considered inter alia the consolidated financial statement and the quarterly reports drawn up in accordance with IFRS and the individual financial statement of Hannover Rück SE drawn up in accordance with the German Commercial Code (HGB) and it discussed with the independent auditors their reports on these financial statements. As in the previous year, an expert opinion on the adequacy of the loss reserves in property and casualty reinsurance was noted, the retrocession structure of the Hannover Re Group and the accumulated prefinancing volume in life reinsurance including a comparison of the expected return flows with the repayments actually made, the risk reports, the compliance report and the report on adherence to corporate governance principles were discussed and reports on the major subsidiaries were received and considered. In addition, the Committee examined the investment structure and investment income – including the stress tests with regard to the investments and their implications for net income and the equity base – and prepared the audit concentrations for the 2018 financial year for adoption by the full Supervisory Board.

The Committee was provided with detailed reports on the recognition and measurement of the risk-oriented book of US life reinsurance business acquired in 2009 from Scottish Re (Brock portfolio) as well as on the rate increases that had been initiated. The Committee also considered the allocation, structure and profitability of the real estate portfolio. Furthermore, the Committee prepared various resolutions to be adopted by the Supervisory Board. Consideration of the US tax reform and its implications for the reinsurance business transacted by Hannover Rück SE was another focus of deliberations in the work carried out by the Finance and Audit Committee. The Committee's discussions also gave appropriate consideration to the joint growth initiative in specialty lines between Hannover Rück SE and HDI Global SE.

A further subject of discussion was the review of the successful completion of the transition phase between the previous and currently mandated auditing firm. The Finance and Audit Committee subsequently assured itself – including through direct dialogue with the auditors in the context of a meeting – that the change of auditing firm had been completed in an orderly fashion.

The Standing Committee dealt with, among other things, the adequacy of the system of remuneration for the members of the Executive Board, the determination of the variable remuneration of the members of the Executive Board for the 2017 financial year based on the findings with respect to attainment of their respective targets and the examination of the remuneration for the Board members who were due for review. In all these matters the Committee drew up corresponding recommendations for the full Supervisory Board. The Committee deliberated at length on the medium- and long-time succession arrangements for the Executive Board and recommended to the full Supervisory Board the appointment of Mr. Henchoz as a member of the Executive Board, his nomination as Chief Executive Officer to succeed Mr. Wallin and the reappointment of Mr. Claude Chèvre.

The Nomination Committee recommended to the Supervisory Board the candidates for the necessary by-elections to the Supervisory Board. On this basis the Supervisory Board recommended the candidates to the Annual General Meeting on 7 May 2018, which followed the recommendation and elected the candidates to the Supervisory Board. In addition, the Nomination Committee discussed suitable candidates for the upcoming election of new shareholder representatives to the Supervisory Board in the coming year. When recommending candidates for nomination, the Committee takes into account the legal and supervisory stipulations, the goals set by the Supervisory Board itself for the composition of the body, the guidelines regarding the specialist and personal requirements for the members of the Supervisory Board – which the latter had approved in updated form in 2017 – as well as the current self-assessments of each of the members of the Supervisory Board and the self-assessments of the candidates for the Supervisory Board.

Corporate Governance

The Government Commission on the German Corporate Governance Code (DCKG) did not make any changes to the German Corporate Governance Code in 2018. We nevertheless devoted considerable attention to the topic of corporate governance. For example, the Supervisory Board expanded the diversity concept in the year under review (cf. page 126 of the combined management report in the Annual Report) and reported on the manner of its implementation as well as the results achieved in the financial year. Furthermore, diversity on the Supervisory Board and Executive Board was increased in the financial year and steps were initiated to bring about a further improvement in the coming years.

We considered the report by the Executive Board on non-financial matters (cf. page 75 et seq. of the combined management report in the Annual Report) and examined it. Besides PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft audited the information statement with limited assurance in accordance with the audit standard ISAE 3000 (Revised) (see here the Independent Auditor's Report on page 270 et seq.).

In addition, the Supervisory Board received a report on the design of the remuneration schemes as well as the compliance, internal audit and risk reports. The Supervisory Boards further noted that at least two of its members – namely Dr. Andrea Pollak and Dr. Ursula Lipowsky – are to be considered independent members of the Supervisory Board.

Notwithstanding the high importance that the Supervisory Board attaches to the standards of good and responsible enterprise management defined in the German Corporate Governance Code, the Supervisory Board decided not to fully comply with the recommendations contained in Code Section 4.2.3 Para. 2 regarding caps on the amount of variable compensation elements in management board contracts, in Code Section 4.2.3 Para. 4 concerning a cap on severance payments in management board contracts, in Code Section 5.3.2 Para. 3 Sentence 3 concerning the Chair of the Audit Committee and in Code Section 5.3.2 Para. 3 Sentence 2 concerning the independence of the Chair of the Audit Committee. Justification for these divergences is provided in the Declaration of Conformity pursuant to § 161 Stock Corporation Act (AktG) regarding compliance with the German Corporate Governance Code, which is reproduced in the Group Annual Report as part of the Declaration on Corporate Governance (cf. page 122 et seq.). Further information on the topic of corporate governance is available on the website of Hannover Rück SE.

Audit of the annual financial statements and consolidated financial statements

The accounting, annual financial statements, consolidated financial statements and the combined management report were audited by PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft. The Supervisory Board chose the auditor and the Chairman of the Supervisory Board awarded the audit mandate. The auditor's independence declaration was received. Along with the audit concentrations of the German Financial Reporting Enforcement Panel (DPR), the additional audit concentrations defined by the European Securities and Markets Authority (ESMA) also formed part of the scope of the audit. The mandate for the review report by the independent auditors on the Half-yearly Financial Report as at 30 June 2018 was also awarded again. The special challenges associated with the international aspects of the audits were met without reservation. Since the audits did not give rise to any objections PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft issued unqualified audit certificates. It was also determined that the annual financial statement contains the information pursuant to § 289f German Commercial Code (HGB). The Finance and Audit Committee discussed the financial statements and the combined management report with the participation of the auditors and in light of the audit reports, and it informed the Supervisory Board of the outcome of its reviews. The audit reports were distributed to all the members of the Supervisory Board and explored in detail – with the participation of the auditors – at the Supervisory Board meeting held to consider the annual results. The auditors will also be present at the Annual General Meeting.

The report on the company's relations with affiliated companies drawn up by the Executive Board has likewise been examined by PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft and given the following unqualified audit certificate:

"Having audited the report in accordance with our professional duties, we confirm that

1. the factual details of the report are correct;
2. in the case of the transactions detailed in the report, the expenditure of the company was not unreasonably high."

We have examined

a. the annual financial statements of the company, the financial statements of the Hannover Re Group and the combined management report prepared by the Executive Board for the company and the Group, and
b. the report of the Executive Board pursuant to § 312 Stock Corporation Act (AktG) (Report on relations with affiliated companies)

– in each case drawn up as at 31 December 2018 – and have no objections. Nor do we have any objections to the statement reproduced in the dependent company report.

The Supervisory Board thus concurred with the opinions of the auditors and approved the annual financial statements and the consolidated financial statements; the annual financial statements are thereby adopted. Our proposal regarding the appropriation of the disposable profit for 2018 is in accordance with that of the Executive Board.

Changes on the Supervisory Board and the Executive Board

There were changes in the composition of the Supervisory Board, its committees and the Executive Board in the year under review.

On the Supervisory Board Mr. Baumgartl and Dr. Sturany informed the Chairman of the Supervisory Board that they would be resigning their Supervisory Board mandates with effect from the end of the Annual General Meeting of Hannover Rück SE on 7 May 2018. Mr. Baumgartl also sat on the Standing Committee, the Finance and Audit Committee and the Nomination Committee. Dr. Sturany belonged to the Standing Committee. Dr. Lipowsky and Mr. Leue were elected to the Supervisory Board in the scheduled by-election held at the Annual General Meeting on 7 May 2018 with effect from the end of the Annual General Meeting.

At the extraordinary Supervisory Board meeting held after the Annual General Meeting Dr. Erhard Schipporeit resigned his mandate as a member of the Finance and Audit Committee. Dr. Lipowsky and Mr. Leue were subsequently elected to the Finance and Audit Committee. Mr. Leue and Dr. Schipporeit were elected to the Standing Committee. In addition, Mr. Leue was elected to the Nomination Committee.

As a member of the Supervisory Board and employee representative on the company's Supervisory Board, Mr. Otto Müller stepped down from the Supervisory Board effective 31 May 2018 at the end of his active employment relationship with the company. Ms. Benita Bierstedt succeeded Mr. Müller on the Supervisory Board as the appointed personal substitute member with effect from 1 June 2018. Ms. Bierstedt then resigned her mandate as a Supervisory Board member and employee representative on the company's Supervisory Board for personal reasons effective 6 July 2018. In the by-election that was then held for the vacant seat as an employee representative, Mr. Müller was re-elected to the Supervisory Board as an external employee representative with effect from 12 July 2018.

Mr. Henchoz was appointed as a member of the Executive Board with effect from 1 April 2019 and nominated as Chairman of the Executive Board with effect from the end of the

Annual General Meeting on 8 May 2019; from this date onwards he will therefore take over as Chief Executive Officer from Mr. Wallin, who is retiring. Mr. Chèvre was reappointed as a member of the Executive Board.

On 9 November 2018 Mr. Jürgen Gräber, a long-serving member of the Executive Board, passed away suddenly and entirely unexpectedly. Mr. Gräber had joined the company as an underwriter in 1981 after graduating from university. He was appointed to the Executive Board in 1997, most recently overseeing the areas of Worldwide Treaty Reinsurance, Catastrophe XL business, Structured Reinsurance and Insurance-Linked Securities as well as coordination of the Property&Casualty reinsurance business group; he was additionally responsible for Quotations and Retrocessions. Thanks to his efforts and dedication, Mr. Gräber was directly involved in shaping the excellent underwriting results recorded by the company over the past years.

Word of thanks to the Executive Board and members of staff

The good result generated by Hannover Rück SE for the 2018 financial year was made possible by the exceptional performance of the Executive Board and the members of staff working for the company and the Group. The Supervisory Board would like to express its recognition and special appreciation to the Executive Board and all the employees for their efforts.

Hannover, 6 March 2019

The Supervisory Board

Haas Leue Heitmüller Dr. Lipowsky Müller

Dr. Pollak Dr. Querner Dr. Schipporeit Sielaff

Supervisory Board of Hannover Rück SE

Herbert K. Haas [1,2,3]
Burgwedel
Chairman
Former Chief Executive Officer of Talanx AG and HDI Haftpflichtverband der Deutschen Industrie V.a.G.

Torsten Leue [1,2,3]
Hannover
(since 7 May 2018)
Deputy Chairman
Chairman of the Board of Management of HDI Haftpflichtverband der Deutschen Industrie V.a.G.
Chairman of the Board of Management of Talanx AG

Dr. Klaus Sturany [1]
Ascona, Switzerland
(until 7 May 2018)
Deputy Chairman
Former member of the Executive Board of RWE AG

Wolf-Dieter Baumgartl [1,2,3]
Berg
(until 7 May 2018)
Former Chief Executive Officer of Talanx AG and HDI Haftpflichtverband der Deutschen Industrie V.a.G.

Benita Bierstedt [4]
Hannover
(from 1 June 2018 to 6 July 2018)
Employee

Frauke Heitmüller [4]
Hannover
Employee

Dr. Ursula Lipowsky [2]
Munich
(since 7 May 2018)
Member of the Supervisory Board of the Association, Association of German Dioceses (VDD), Corporation under Public Law

Otto Müller [4]
Hannover
(until 31 May 2018 and since 12 July 2018)
Employee

Dr. Andrea Pollak [3]
Vienna, Austria
Independent management consultant

Dr. Immo Querner
Celle
Member of the Board of Management of HDI Haftpflichtverband der Deutschen Industrie V.a.G.
Member of the Board of Management of Talanx AG

Dr. Erhard Schipporeit [1]
Hannover
Member of various supervisory boards

Maike Sielaff [4]
Burgwedel
Employee

1 Member of the Standing Committee
2 Member of the Finance and Audit Committee
3 Member of the Nomination Committee
4 Staff representative

Details of memberships of legally required supervisory boards and comparable control boards at other domestic and foreign business enterprises are contained in the Annual Report of Hannover Rück SE.

Further information

Branch offices and subsidiaries of the Hannover Re Group abroad

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Chantal Cardinez

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President & CEO:
Jeffrey Robert Burt

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Managing Director ASI:
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Glossary

Accumulation loss: sum of several individual losses incurred by various policyholders as a result of the same loss event (e. g. windstorm, earthquake). This may lead to a higher loss for the direct insurer or reinsurer if several affected policyholders are insured by the said company.

Acquisition cost, deferred (DAC): cost of an insurance company that arises from the acquisition or the renewal of an insurance contract (e. g. commission for the closing, costs of proposal assessment and underwriting etc.). Capitalisation results in a distribution of the cost over the duration of the contract.

Aggregate excess of loss treaty: the reinsurance treaty attaches if a ceding insurer incurs losses on a particular line of business during a specific period (usually twelve months) in excess of a stated amount.

Allocated capital: cf. → capital allocation

Alternative risk financing: use of the capacity available on the capital markets to cover insurance risks, e. g. through the securitisation of natural catastrophe risks.

American Depositary Receipt (ADR): share certificates written by US banks on foreign shares deposited there. The ADRs are traded instead of the foreign shares. In the United States Hannover Re has enabled trading on the OTC (over-the-counter) market through an ADR Level 1 program. New capital cannot be raised and the ADR is not listed on a US exchange under a Level 1 program. The main advantage of an ADR Level 1 program compared to higher-level programs is that there is no requirement for accounting or financial reporting in accordance with US GAAP.

BaFin: Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht)

Benefit reserves: value arrived at using mathematical methods for future liabilities (usually prospectively as present value of future liabilities minus present value of future incoming premiums), primarily in life and health insurance (that is transacted in a similar way to life insurance).

Book value per share: shareholders' equity divided by the number of shares outstanding

Capital allocation: risk-appropriate allocation of the economic capital to the business segments of property & casualty reinsurance and life & health reinsurance as well as the investments on the basis of the respective economic risk content. Our internal capital model supplies key parameters such as the volatility of the covered business / investments and the contribution to diversification.

Capital asset pricing model (CAPM): model used to explain the materialisation of prices / returns on the capital market based on investor expectations regarding the future probability distribution of returns. Under this method, the opportunity cost rate for the shareholders' equity consists of three components – a risk-averse interest rate, a market-specific risk loading and an enterprise-specific risk assessment, the beta coefficient. The cost of shareholders' equity is therefore defined as follows: risk-averse interest rate + beta * enterprise-specific risk assessment.

Cash flow statement: statement on the origin and utilisation of cash and cash equivalents during the accounting period. It shows the changes in liquid funds separated into cash flows from operating, investing and financing activities.

Cat. bonds: securitised (re)insurance risks in respect of which the payment of interest and / or repayment of capital is dependent on the occurrence and severity of a predefined insured event. Purchasers of a catastrophe bond assume the risk carried by the (re)insurer upon occurrence of the catastrophic event. Catastrophe bonds are part of the insurance-linked securities market. Cf. → securitisation instruments

Cedant: direct insurer or reinsurer which passes on (also: cedes) shares of its insured or reinsured risks to a reinsurer in exchange for premium.

Cession: transfer of a risk from the direct insurer to the reinsurer.

Claims and claims expenses: sum total of paid claims and provisions for loss events that occurred in the business year; this item also includes the result of the run-off of the provisions for loss events from previous years, in each case after the deduction of own reinsurance cessions.

Coinsurance Funds Withheld (CFW) Treaty: reinsurance treaty under which the ceding company retains a portion of the original premium at least equal to the ceded reserves.

Combined ratio: sum of the loss ratio and expense ratio.

Compliance: compliance by an enterprise with legal requirements.

Confidence (also: probability) level: the confidence level defines the probability with which the defined amount of risk will not be exceeded.

Corporate Governance: serves to ensure responsible management and supervision of enterprises and is intended to foster the trust of investors, clients, employees and the general public in companies.

Credit spread: Mark-up between a risky and a risk-free interest-bearing security with the same maturity, as a risk premium for the credit risk entered into by the investor.

Critical illness cover: cf. → dread disease cover

Deposit accounting: an accounting method originating in US GAAP for the recognition of short-term and multi-year insurance and reinsurance contracts with no significant underwriting risk transfer. The standard includes inter alia provisions relating to the classification of corresponding contract types as well as the recognition and measurement of a deposit asset or liability upon inception of such contracts.

Deposits with ceding companies/deposits received from retrocessionaires (also: funds held by ceding companies/funds held under reinsurance treaties): collateral provided to cover insurance liabilities that a (re-)insurer retains from the liquid funds which it is to pay to a reinsurer under a reinsurance treaty. In this case, the retaining company shows a deposit received, while the company furnishing the collateral shows a deposit with a ceding company.

Derivatives, derivative financial instruments: financial products derived from underlying primary instruments such as equities, fixed-income securities and foreign exchange instruments, the price of which is determined on the basis of an underlying security or other reference asset. Notable types of derivatives include swaps, options and futures.

Direct (also: primary) insurer: company which accepts risks in exchange for payment of an insurance premium and pays indemnification for the insured loss in the event of a claim. A direct insurer has a direct contractual relationship with the policyholder (private individual, company, organisation).

Discounting of loss reserves: determination of the present value of future profits through multiplication by the corresponding discount factor. In the case of the loss reserves this is necessary because of the new profit calculation methods for tax purposes applicable to German joint-stock corporations.

Diversification: orientation of business policy towards various revenue streams in order to mitigate the effects of e.g. economic fluctuations or natural catastrophes and thereby minimise the volatility of results. Diversification is an instrument of growth policy and risk policy for a company.

Dread disease (also: critical illness) cover: personal rider on the basis of which typically a lump-sum cash payment is made in the event of previously defined severe illnesses.

Earnings per share, diluted: ratio calculated by dividing the consolidated net income (loss) by the weighted average number of shares outstanding. The calculation of the diluted earnings per share is based on the number of shares including subscription rights already exercised or those that can still be exercised.

Earnings retention: non-distribution of a company's profits leading to a different treatment for tax purposes than if profits were distributed.

Excess of loss treaty: cf. → non-proportional reinsurance

Excess return on capital allocated (xRoCA): indicator which describes the IVC in relation to the allocated capital and shows the relative excess return generated above and beyond the weighted cost of capital.

Expense ratio: administrative expenses (gross or net) in relation to the (gross or net) premium earned.

Exposure: level of danger inherent in a risk or portfolio of risks; this constitutes the basis for premium calculations in reinsurance.

Facultative reinsurance: participation on the part of the reinsurer in a particular individual risk assumed by the direct insurer. This is in contrast to obligatory (also: treaty) reinsurance.

Fair value: price at which a financial instrument is freely traded between two parties.

Financial Solutions: reinsurance transactions which – in addition to the transfer of biometric risks – also include financing components such as financing arrangements for new and existing business, reserve relief, smoothing of volatility in results, optimisation of the solvency position.

Frequency losses: losses that occur frequently in a foreseeable amount, i.e. where the underlying risks are associated with relatively high probabilities of occurrence and usually low loss amounts.

Funds held by ceding companies/funds held under reinsurance treaties: cf. → deposits with ceding companies/deposits received from retrocessionaires

Goodwill: the excess of the cost of an acquired entity over the net of the amounts assigned to assets acquired and liabilities assumed.

Gross/Retro/Net: gross items constitute the relevant sum total deriving from the acceptance of direct insurance policies or reinsurance treaties; retro items constitute the relevant sum total deriving from own reinsurance cessions. The difference is the corresponding net item (gross – retro = net, also: for own account).

Group net income: Group net income under IFRS corresponds to the profit for the year available to the shareholders of Hannover Re.

Hybrid capital: debt structure which because of its subordination bears the character of both debt and equity.

IBNR (Incurred but not reported) reserve: provision for claims which have already occurred but which have not yet been reported.

Impairment: extraordinary amortisation taken when the present value of the estimated future cash flow of an asset is less than its book value.

Insurance-linked securities (ILS): securitised insurance risks, such as catastrophe bonds, derivatives or collateralised reinsurance.

Insurance pool: a risk-sharing partnership under civil law formed by legally and economically independent insurers and reinsurers in order to create a broader underwriting base for particularly large or unbalanced risks. The members undertake to write certain risks only within the scope of the insurance pool. They include such risks – while maintaining their commercial independence – in the insurance pool against a commission fee. Each insurer participates in the profit or loss of the insurance pool according to its proportionate interest. Reinsurance is often ceded or accepted in order to further diversify the risk. Pools can be divided into two types: coinsurance pools, in which all members take the role of primary insurers according to their interests, and reinsurance pools, in which a primary insurer writes the risks and then spreads them among the participating insurers by way of reinsurance.

Insurtech: term referring to new business models/companies in the insurance industry that focus primarily on the use of new technologies.

Internal model: economic capital model verified and approved by the Federal Financial Supervisory Authority that better reflects the company's risk profile than the standard formula under Solvency II.

International Securities Identification Number (ISIN): ten-character universal code used to identify securities internationally. It is prefixed by a country code that specifies the country where the issuer entity is legally registered or in which it has legal domicile, e. g. DE = Germany.

Intrinsic value creation (IVC): the IVC is calculated according to the following formula: real operating value creation = adjusted operating profit (EBIT) – (capital allocated x weighted cost of capital). IVC is a tool of value-based enterprise management used to measure the accomplishment of long-term targets on the level of the Group, the individual business groups and the operating units (profit centres).

Investment grade: investment grade ratings are awarded to companies and assigned to securities that have a low risk profile. They contrast with non-investment-grade ratings, which by definition include speculative elements and therefore entail a significantly higher risk.

IVC: cf. → Intrinsic value creation

Issuer: private enterprise or public entity that issues securities, e. g. the federal government in the case of German Treasury Bonds and a joint-stock corporation in the case of shares.

Leader: if several (re-)insurers participate in a contract, one company assumes the role of leader. The policyholder deals exclusively with this lead company. The lead (re-)insurer normally carries a higher percentage of the risk for own account.

Letter of credit (LOC): bank guarantee under which, at the request of the guaranteed party, the bank undertakes to render payment to the said party up to the amount specified in the LOC. This method of providing collateral in reinsurance business is typically found in the USA.

Life and health (re-)insurance: collective term for the lines of business concerned with the insurance of persons, i. e. life, pension, health and personal accident insurance.

Life business: this term is used to designate business activities in our life and health reinsurance business group.

Longevity risk: in general terms, the actuarial risk that a person receiving regular living benefits – such as annuities or pensions – lives longer than expected.

Loss, economic: total loss incurred by the affected economy as a whole following the occurrence of a loss. The economic loss must be distinguished from the insured loss.

Loss, insured: the insured loss reflects the total amount of losses covered by the insurance industry (insurers and reinsurers).

Loss ratio: proportion of loss expenditure in the retention relative to the (gross or net) premium earned.

Major loss: loss which has special significance for the direct insurer or reinsurer due to the amount involved; it is defined as a major loss in accordance with a fixed loss amount or other criteria (in the case of Hannover Re more than EUR 10 million gross).

Major loss budget: annual budget for major losses determined from the modelled loss expectancy for business with natural perils exposure as well as for man-made net losses larger than EUR 10 million.

Mark-to-market valuation: the evaluation of financial instruments to reflect current market value or fair value.

Matching currency cover: coverage of technical liabilities in foreign currencies by means of corresponding investments in the same currency in order to avoid exchange-rate risks.

Modified Coinsurance (ModCo) treaty: type of reinsurance treaty where the ceding company retains the assets with respect to all the policies reinsured and also establishes and retains the total reserves on the policies, thereby creating an obligation to render payments to the reinsurer at a later date. Such payments include a proportional share of the gross premium plus a return on the assets.

Morbidity risk: in general terms, the actuarial risk that the state of health of a person is adversely impacted by illness, malfunctioning of organs or other body parts (functional disability), injury or frailty and that higher costs are triggered by medical treatment, long-term care or protracted periods of disability.

Mortality risk: in general terms, the actuarial risk that a person upon whose death a benefit is payable lives shorter than expected. From a (re)insurer's perspective, this is the risk that the observed mortality experience in an underlying portfolio deviates from what had previously been calculated on the basis of actuarial assumptions.

Net: cf. → Gross/Retro/Net

Non-proportional reinsurance: reinsurance treaty under which the reinsurer assumes the loss expenditure in excess of a particular amount (priority) (e.g. under an excess of loss treaty). This is in contrast to proportional reinsurance.

Obligatory (also: treaty) reinsurance: reinsurance treaty under which the reinsurer participates in a cedant's total, precisely defined insurance portfolio. This is in contrast to facultative reinsurance.

Other securities, available-for-sale: securities that cannot be clearly allocated to the "trading" or "held-to-maturity" portfolios; these securities can be disposed of at any time and are reported at their fair value at the balance sheet date. Changes in fair value are not recognised in the statement of income.

Other securities, held-to-maturity: investments in debt securities that can and are intended to be held to maturity. They are measured at amortised cost.

Other securities, trading: securities that are held principally for short-term trading purposes. They are measured at their fair value at the balance sheet date.

Portfolio: a) all risks assumed by an insurer or reinsurer in a defined sub-segment (e.g. line of business, country) or in their entirety; b) group of investments defined according to specific criteria.

Premium: remuneration for the risks accepted from an insurance company. Unlike the earned premiums, the written premiums are not deferred.

Present value of future profits (PVFP): intangible asset primarily arising from the purchase of life and health insurance companies or portfolios. The present value of expected future profits from the portfolio assumed is capitalised and amortised according to schedule.

Price/earnings ratio (PER): a valuation ratio of a company's share price compared to its per-share earnings.

Primary insurer: cf. → direct insurer

Priority: direct insurer's loss amount stipulated under non-proportional reinsurance treaties; if this amount is exceeded, the reinsurer becomes liable to pay. The priority may refer to an individual loss, an accumulation loss or the total of all annual losses.

Probability level: cf. → confidence level

Property and casualty (re-)insurance: collective term for the lines of business concerned with the insurance of property, including for example liability, fire, hail or marine insurance.

Proportional reinsurance: reinsurance treaties on the basis of which shares in a risk or portfolio are reinsured under the relevant direct insurer's conditions. Premiums and losses are shared proportionately on a pro-rata basis. This is in contrast to non-proportional reinsurance.

Protection cover: protection of segments of an insurer's portfolio against major losses (per risk/per event), primarily on a non-proportional basis.

Provision: liability item as at the balance sheet date to discharge obligations which exist but whose extent and/or due date is/are not known. Technical provisions, for example, are for claims which have already occurred but which have not yet been settled, or have only been partially settled (= provision for outstanding claims, abbreviated to: claims provision).

Provision for unearned premiums (also: unearned premium reserve): premiums written in a financial year which are to be allocated to the following period on an accrual basis. This item is used to defer written premiums.

Purchase cost, amortised: the cost of acquiring an asset item including all ancillary and incidental purchasing costs; in the case of wasting assets less scheduled and/or special amortisation.

Quota share reinsurance: form of proportional reinsurance under which the reinsurer assumes a contractually set percentage share of the written risk. Since the insurer is responsible for acquisition, pricing, policy administration and claims handling, the administrative expenditure for the reinsurer is very low. The latter therefore participates in the aforementioned expenses through payment of a reinsurance commission.

Rate: percentage rate (usually of the premium income) of the reinsured portfolio which is to be paid to the reinsurer as reinsurance premium under a non-proportional reinsurance treaty.

Reinsurance: passing on of a primary insurer's or reinsurer's risks to a reinsurer.

Reinsurer: company which accepts risks or portfolio segments from a direct insurer or another reinsurer in exchange for an agreed premium.

Reserve ratio: ratio of (gross or net) technical provisions to the (gross or net) premiums.

Retention: the part of the accepted risks which an insurer/reinsurer does not reinsure, i. e. shows as net (retention ratio: percentage share of the retention relative to the gross written premiums).

Retrocession (also: Retro): ceding of risks or shares in risks which have been reinsured. Retrocessions are ceded to other risk carriers (retrocessionaires) in exchange for a pro-rata or separately calculated premium (cf. → Gross/Retro/Net).

Risk, insured: risk that can lead to the occurrence of a loss. The insured risk is the subject of the insurance contract.

Securitisation instruments: instruments for transferring reinsurance business to the capital markets with the goal of refinancing or placing insurance risks.

Segment reporting: presentation of items in the balance sheet and income statement split according to functional criteria such as business sectors and regions.

Solvency II: European directive for the insurance industry. The new European regulatory regime for (re)insurers that entered into force on 1 January 2016 on the basis of the Solvency II Directive (Directive 2009/138/EC) is comprised of risk-based capital requirements and imposes quantitative, qualitative and reporting-related requirements in three main areas known as pillars.

Solvency capital ratio: Percentage coverage of the supervisory capital requirement (target solvency capital) under Solvency II by eligible own funds.

Spread loss treaty: treaty between an insurer and a reinsurer that covers risks of a defined portfolio over a multi-year period.

Structured entity: entity with specific characteristics not bound to a particular legal form that is used to conduct closely defined activities or to hold assets and for which the traditional concept of consolidation – based on voting rights – is often inadequate for determining who exercises control over the entity.

Structured reinsurance: reinsurance with limited potential for profits and losses. In most cases customers strive for risk equalisation over time or solvency relief, both of which have a stabilising effect on the ceding company's balance sheet.

Surplus reinsurance: form of proportional reinsurance under which the risk is not spread between the insurer and reinsurer on the basis of a previously agreed, set quota share. Instead, the insurer determines a maximum sum insured per risk up to which it is prepared to be liable. Risks that exceed the ceding company's retention (surpluses) are borne by the reinsurer. The reinsurer's lines thus vary according to the level of the retention and the sum insured of the reinsured contract. The reinsurer's liability is generally limited to a multiple of the ceding company's retention.

Surplus relief treaty: reinsurance contract under which an admitted reinsurer assumes (part of) a ceding company's portfolio to relieve stress on the cedant's policyholders' surplus.

Survival ratio: ratio of loss reserves to paid losses under a specific contract or several contracts in a balance sheet year.

Target solvency capital: regulatory solvency capital requirement in accordance with Solvency II standards. At Hannover Re this is calculated using an internal model.

Technical result: balance of income and expenditure allocated to the insurance business and shown in the technical statement of income.

Treaty reinsurance: cf. → obligatory reinsurance

Underwriting: process of examining, accepting or rejecting (re-)insurance risks and classifying those selected in order to charge the proper premium for each. The purpose of underwriting is to spread the risk among a pool of (re-)insureds in a manner that is equitable for the (re-)insureds and profitable for the (re-)insurer.

Unearned premium reserve: cf. → provision for unearned premiums

Volatility adjustment: Addition to the risk-free curve used under Solvency II to calculate technical provisions. Its use must be approved by the responsible supervisory authority and is intended to smooth volatility in the measurement of bonds due to changes in credit spreads.

xRoCA: cf. → Excess Return on Capital Allocated

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Financial calendar 2019/2020

7 March 2019
Annual financial statements 2018
Annual Results Press Conference, Hannover
Analysts' Meeting, London

7 May 2019
Quarterly Statement as at 31 March 2019

8 May 2019
Annual General Meeting
Hannover Congress Centrum
Theodor-Heuss-Platz 1–3
30175 Hannover

8 August 2019
Half-yearly Financial Report 2019

23 October 2019
22nd International Investors' Day, Frankfurt am Main

6 November 2019
Quarterly Statement as at 30 September 2019

5 February 2020
Results of 1 January treaty renewals

11 March 2020
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