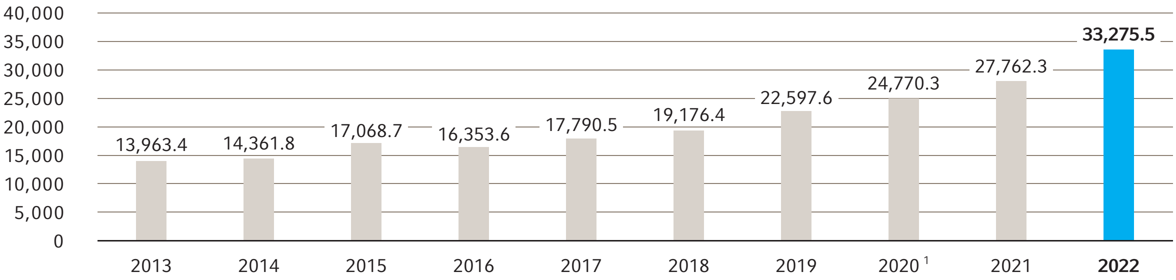
somewhat different

Annual Report 2022

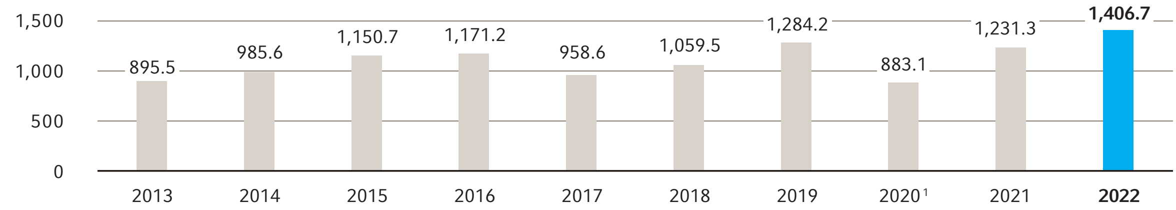
hannover re®

At a glance

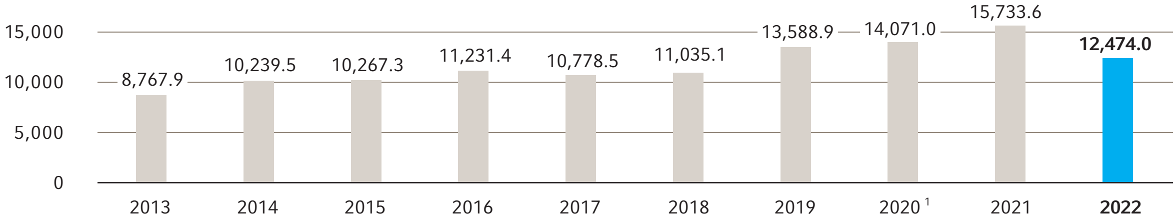
Gross premium I 01
in EUR million



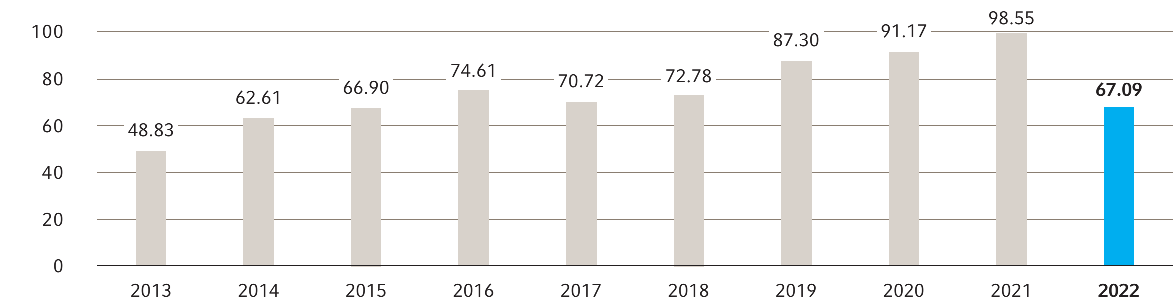
Group net income I 02
in EUR million



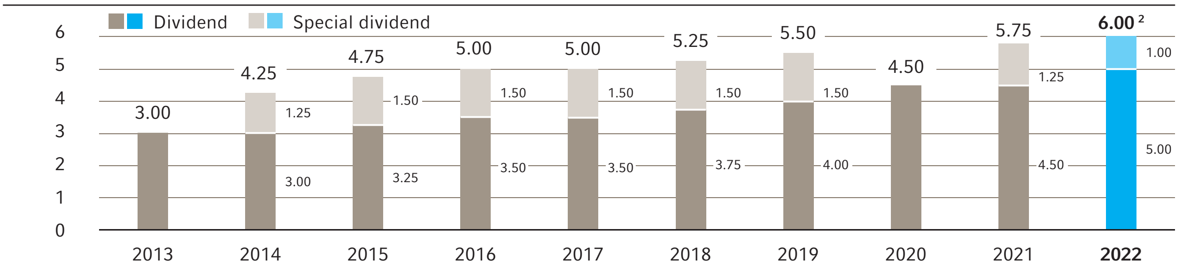
Policyholders' surplus I 03
in EUR million



Book value per share I 04
in EUR



Dividend I 05
in EUR



1 Restated pursuant to IAS 8
2 Proposed dividend

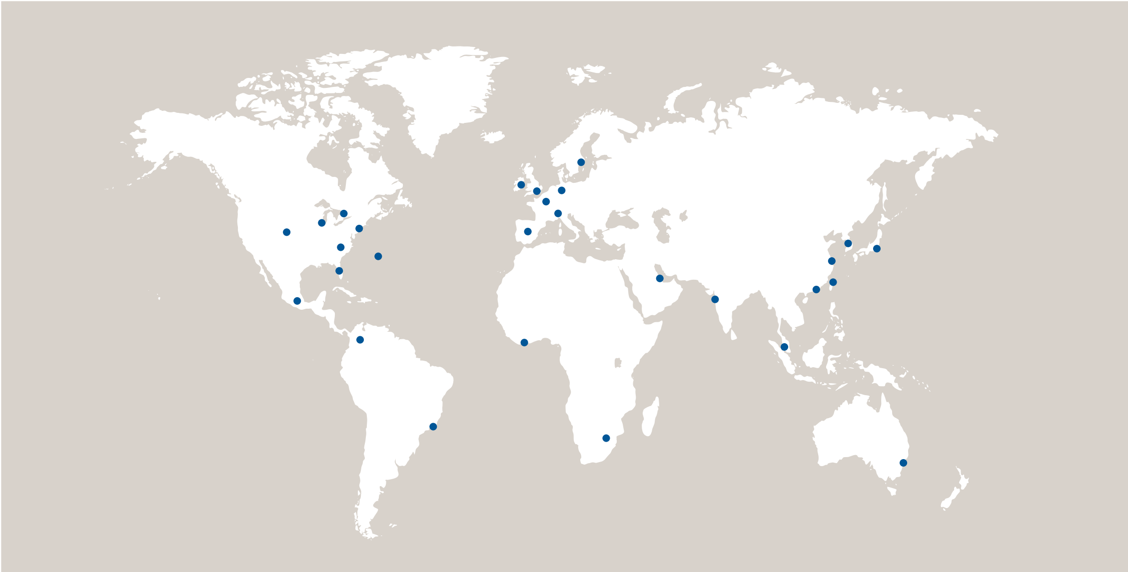
Key figures

in EUR million	2022	+/– previous year	2021	2020[1]	2019	2018
Results						
Gross written premium	33,275.5	+19.9%	27,762.3	24,770.3	22,597.6	19,176.4
Net premium earned	29,672.7	+22.9%	24,143.7	21,360.8	19,729.7	17,289.1
Net underwriting result[2]	(124.5)		(211.1)	(691.0)	(9.7)	156.9
Net investment income	2,060.9	+6.1%	1,943.0	1,685.5	1,757.1	1,530.0
Operating profit (EBIT)	2,087.4	+20.3%	1,734.8	1,214.1	1,853.2	1,596.6
Group net income	1,406.7	+14.2%	1,231.3	883.1	1,284.2	1,059.5
Balance sheet						
Policyholders' surplus	12,474.0	-20.7%	15,733.6	14,071.0	13,588.9	11,035.1
Equity attributable to shareholders of Hannover Rück SE	8,091.0	-31.9%	11,885.0	10,995.0	10,528.0	8,776.8
Non-controlling interests	656.7	-24.6%	871.2	844.4	826.5	765.2
Hybrid capital	3,726.3	+25.2%	2,977.4	2,231.6	2,234.4	1,493.1
Investments (excl. funds withheld by ceding companies)	56,939.5	+1.3%	56,213.2	49,001.6	47,629.4	42,197.3
Total assets	86,952.4	+4.9%	82,902.3	71,437.5	71,356.4	64,508.6
Share						
Earnings per share (basic and diluted) in EUR	11.66	+14.2%	10.21	7.32	10.65	8.79
Book value per share in EUR	67.09	-31.9%	98.55	91.17	87.30	72.78
Dividend	723.6	+4.3%	693.4	542.7	663.3	633.1
Dividend per share in EUR	5.00 + 1.00[3, 4]	+4.3%	4.50 +1.25[4]	4.50[4]	4.00 + 1.50[4]	3.75 + 1.50[4]
Share price at year-end in EUR	185.50	+11.0%	167.15	130.30	172.30	117.70
Market capitalisation at year-end	22,370.8	+11.0%	20,157.8	15,713.8	20,778.9	14,194.3
Ratios						
Combined ratio (property and casualty reinsurance)[2]	99.8%		97.7%	101.6%	98.2%	96.5%
Large losses as percentage of net premium earned (property and casualty reinsurance)[5]	7.9%		7.5%	11.2%	7.5%	7.9%
Retention	90.0%		89.5%	90.1%	90.0%	90.7%
Return on investment (excl. funds withheld by ceding companies)	3.2%		3.2%	3.0%	3.5%	3.2%
EBIT margin[6]	7.0%		7.2%	5.7%	9.4%	9.2%
Return on equity (after tax)	14.1%		10.8%	8.2%	13.3%	12.2%

1 Restated pursuant to IAS 8
2 Including interest on funds withheld and contract deposits
3 Proposed dividend
4 Dividend of EUR 5.00 plus special dividend of EUR 1.00 for 2022, dividend of EUR 4.50 plus special dividend of EUR 1.25 for 2021, dividend of EUR 4.50 for 2020, dividend of EUR 4.00 plus special dividend of EUR 1.50 for 2019 and dividend of EUR 3.75 plus special dividend of EUR 1.50 for 2018
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 Operating result (EBIT)/net premium earned

The Group worldwide

I 07



A complete list of our shareholdings is provided on page 184 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 281 et seq.

Strategic business groups

I 08

Hannover Re Group

Property & Casualty reinsurance

Regional Markets

- EMEA (including CIS)
- Americas
- APAC

Worldwide Markets

- Structured Reinsurance and Insurance-Linked Securities
- Facultative Reinsurance
- Credit, Surety and Political Risks
- Aviation and Marine
- Agricultural Risks

Life & Health reinsurance

Financial Solutions

Risk Solutions

- Longevity
- Mortality
- Morbidity

Growth through innovation

Within just 50 years Hannover Re has grown into a global company that tackles risk and opportunity with equal success. We intend to write the next chapter of our success story as a reinsurer – with a partnership-based approach, a power of innovation that spans the world and the extensive decision-making powers entrusted to our experts.

Somewhat different.

Contents

About us

Hannover Re, with gross premium of more than EUR 33 billion, is the third-largest reinsurer in the world.

We transact all lines of property & casualty and life & health reinsurance and are present on all continents with around 3,500 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 very good financial strength ratings: Standard & Poor's AA- "Very Strong" and A.M. Best A+ "Superior".

For our investors

Jean-Jacques Henchoz,
Chairman of the
Executive Board

Dear Shareholders,
Ladies and Gentlemen,

A year ago I expressed the hope here that in my letter to shareholders for 2022 I would only have to make passing reference to Covid-19. Fortunately, this hope has to a very large extent become reality. Despite this, I am looking back once again on a year of wide-ranging challenges – and not only for reinsurers. Along with the progressive march of climate change and numerous natural disasters, it is above all Russia's war of aggression on Ukraine that has put the world in general and our risk management in particular to the test. Behind every war and every catastrophic event there are countless human fates. My deepest sympathy therefore goes out to everyone who has been impacted, especially the people of Ukraine.

As a reinsurer, we help to mitigate the financial repercussions of such blows that fate can bring. Together, our employees are committed to this goal. Our excellent risk and capital management as well as our first-class underwriting and cycle management establish the foundation that enables us to reliably deliver on our value proposition at all times.

In the 2022 financial year we once again demonstrated our resilience and our earning power. While expenditures related to the Covid-19 pandemic and major losses such as Hurricane Ian or reserves constituted for the war in Ukraine took a toll on the result of our Property & Casualty reinsurance business group, we generated solid Group net income of EUR 1.4 billion thanks to good profit contributions from the investments and our life and health reinsurance business. This shows once again just how important the diversification of our business is.

Permit me, if I may, to highlight in a little more detail two aspects of our risk management that have had direct effects in the 2022 financial year. Firstly, for years now we have protected ourselves against a rise in inflation. Today, we are benefiting from our holding of inflation-linked bonds in our investments. Secondly, it was some years ago that we took out coverage for extreme mortality such as that caused, for example, by a pandemic. This, too, is paying off now. We have put in place this prudent risk management not only for ourselves – we also offer it to our clients.

Along with risk management, Hannover Re counts first-class underwriting expertise and capital management among its outstanding strengths. Our capital resources – with a capital adequacy ratio under Solvency II of 252 percent – are as usual comfortably above the target level. The same is true of our return on equity. Our clients consequently prefer us as a financially robust and reliable reinsurance partner, while our shareholders enjoy consistent and attractive dividends.

The financial year just ended highlighted how important and sought-after high-quality reinsurance protection is. We grew our gross premium income for the Group by 20 percent – while at the same time recording significantly improved prices. In the major renewals for our property and casualty reinsurance business on 1 January 2023, we were able to secure further appreciable price increases and improvements in conditions. This shows that Hannover Re's coverage is in particularly high demand among our clients and we are therefore superbly placed to further boost our profitability.

This success and our position as one of the most profitable reinsurers in the world are grounded on the excellent work of our people – on their considerable expertise and discipline and the partnership-based collaboration with one another and with our clients and business partners. On behalf of the entire Executive Board, I would therefore like to extend our sincerest thanks to our employees. Their great dedication in these challenging times is the decisive factor in our success.

Our special thanks also go out to you, our valued shareholders, for the trust that you place in us. This, too, is a vital cornerstone of our daily work. We shall do everything in our power to earn this trust going forward, as we have in the past. The environment in which we operate will not get any more straightforward in the coming years. I have no doubt of this. To name just a few of the challenges: climate change continues its onward march, likely resulting in more frequent and severe natural disasters now and in the future. Increasing digitalisation not only means the emergence of new risks but will also change the business models of insurers. When it comes to accelerating the transition to a more sustainable society, we can help new ideas to break through by contributing our expertise and risk-carrying capacity.

All of this means that we will be faced with numerous complex issues. The volatility of our business will increase and we will be called on to show even greater resilience than we have to date. We must prepare for this now. Our strategy for the upcoming 2024 to 2026 cycle, which we are currently mapping out, will play an important role here. For whatever the future may bring, the professional handling of recurring uncertainties is our core business as a reinsurer and helps our clients to control their diverse risks.

Yours sincerely,

Jean-Jacques Henchoz
Chairman of the Executive Board

Executive Board of Hannover Rück SE

As of 31 December 2022

Dr Klaus Miller

Life & Health Reinsurance
Regional responsibility:
- North America and Bermuda, United Kingdom, Ireland, Northern, Eastern and Central Europe

Claude Chèvre

Life & Health Reinsurance
Worldwide responsibility:
- Analytics & Longevity

Regional responsibility:
- Africa, Asia, Australia, Latin America, Middle East, Western and Southern Europe

Jean-Jacques Henchoz

Chairman
Compliance
IT and Facility Management
Human Resource Management
Internal Auditing
Risk Management
Group Operations and Strategy
Corporate Communications

Clemens Jungsthöfel

Asset Management
Reinsurance Accounting and Valuation
Group Finance
Investor and Rating Agency Relations

Silke Sehm

Property & Casualty Reinsurance
Worldwide responsibility:
- Catastrophe XL (Cat XL)
- Structured Reinsurance and Insurance-Linked Securities
- Retrocessions

Regional responsibility:
- Continental Europe and Africa

Sven Althoff

Coordination of Property & Casualty Reinsurance Business Group
Worldwide responsibility:
- Aviation and Marine
- Credit, Surety and Political Risks
- Facultative Reinsurance
- Quotations

Regional responsibility:
- North America and Caribbean
- United Kingdom, Ireland and London Market

Dr Michael Pickel

Property & Casualty Reinsurance
Group Legal Services
Worldwide responsibility:
- Run-Off Solutions
- Agricultural Risks

Regional responsibility:
- Asia, Australia and Middle East
- Germany, Switzerland, Austria and Italy
- Latin America, Iberian Peninsula

The Hannover Re share

- Share price clearly outperforms the DAX in 2022 with a gain of 15.6%
- Dividend proposal: Ordinary dividend of EUR 5.00 and special dividend of EUR 1.00

Turbulent year on equity markets

2022 proved to be another challenging year on global equity markets. The stock market year initially got off to a very positive start as the DAX rose to 16,285 points on 5 January, only narrowly missing its all-time high of 16,290 from November 2021. The S&P 500 in the United States had reached a record high of 4,819 on the previous day. The Dow Jones similarly climbed to a new high of 36,952 in January 2022.

Despite the low interest rate environment still prevailing at the beginning of the year, the hoped-for return to normalcy after the Covid-19 pandemic initially failed to materialise. Slowing growth, especially in the three major economic areas of the US, China and Europe, dampened the mood. Moreover, the continued sharp surge in inflation – which over the course of the year prompted a withdrawal of liquidity as central banks tightened their monetary policy – was another adverse factor. The German stock index was therefore unable to sustain its high-flying performance, instead falling steadily throughout the first quarter.

In February geopolitical events also began to influence developments on the financial markets. The Russian attack on Ukraine on 24 February 2022 unsettled the markets and triggered a massive collapse in prices around the world. Oil and gas prices saw explosive increases. The war and the energy crisis in turn added further fuel to the inflation fire. Inflation rates soared to a level last experienced in the 1970s. Central banks gave in to the pressure and hiked key interest rates at a tremendous pace. The federal funds rate in the US was raised four times by 0.75 percentage points, with another 50 basis points added at year-end. The European Central Bank (ECB) similarly raised rates altogether four times during the year in an effort to tackle high inflation in the Eurozone. The ECB's key interest rate had been set at 0% since March 2016.

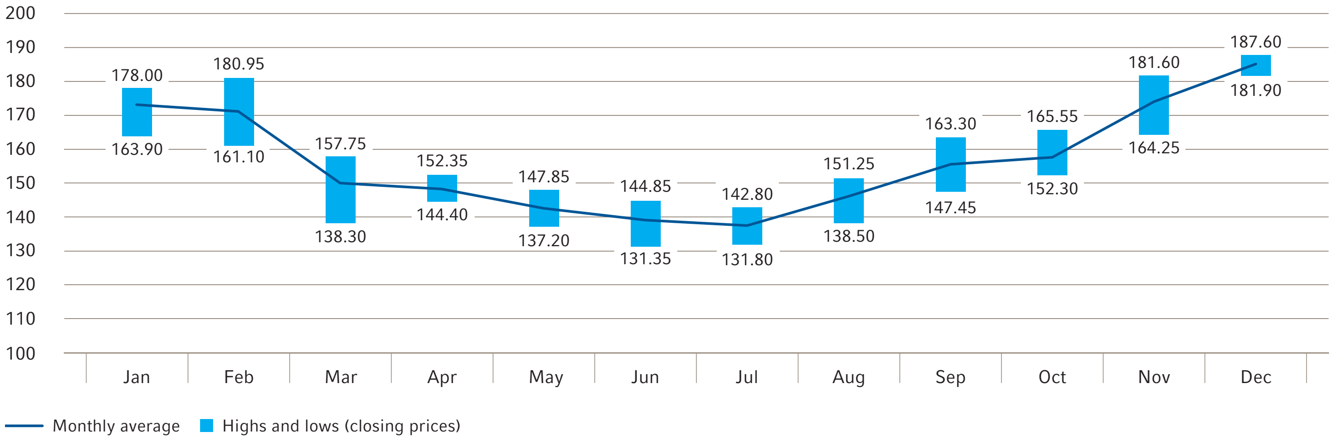
The downward slide on the DAX consequently accelerated sharply to reach a low of 11,863 points in September 2022. From the end of September onwards the decrease in US inflation rates – which came in better than market expectations – gave grounds to hope that central banks would ease back on the pace of interest rate increases. This was reflected in a marked recovery on the German share index to more than 14,500 points. Closing out the year at 13,924, it was still down by 12.4% owing to the negative performance in the first nine months. With this minus the DAX nevertheless clearly beat the S&P 500 (-19.4%) in 2022.

Performance of benchmark indices I 09

in EUR	Opening price 2022	Closing price 2022	Change
DAX	15,884.86	13,923.59	-12.4%
S&P 500	4,766.18	3,839.50	-19.4%
Dow Jones Industrial	36,338.30	33,147.25	-8.8%
MSCI World	3,241.43	2,602.69	-19.7%

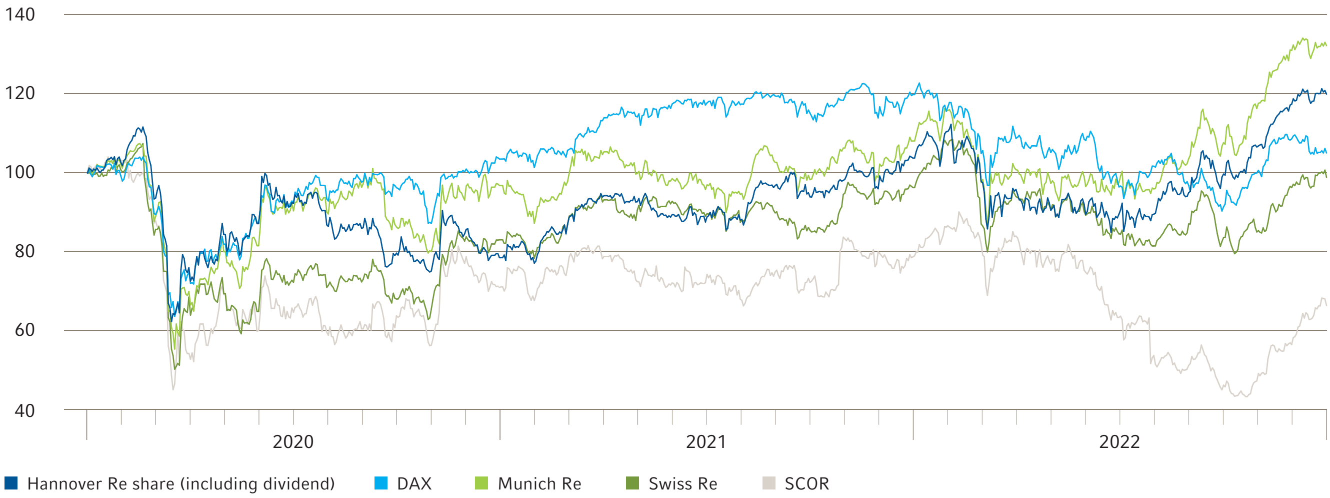
Highs and lows of the Hannover Re share I 10

in EUR



Relative performance of the Hannover Re share (including reinvested dividends) | 11

in %



Hannover Re share comfortably outperformed benchmark indices in 2022

The Hannover Re share stood at EUR 167.15 going into the new stock market year and continued rising until early February to reach EUR 180.95. This marked an initial high for the year, as the share declined in the months that followed. This was triggered by movements on global stock markets and especially by uncertainties around potential loss payments in connection with the war in Ukraine and the influence of future claims inflation on the (re)insurance industry.

By the beginning of March the share price had fallen to EUR 138.30. On 21 March the Hannover Re share was for the first time included in the DAX again at a price of EUR 148.10. It subsequently moved in a sideways direction with a slightly downward trend.

The share then began to rally progressively in the second half of the year. The share price initially got a boost from the fact that despite all the choppy waters, Hannover Re was able to maintain its earnings guidance for the year. Furthermore, the expectation of rising prices in property and casualty reinsurance spurred on the share price over the remainder of the year.

The Hannover Re share thus closed out the 2022 financial year with a gain of 11.0% at EUR 185.50. The share performance of our main peers Munich Re (+16.7%), Swiss Re (-4.2%) and Scor (-21.7%) varied widely in the 2022 financial year.

The performance including reinvested dividends amounted to +15.6% in 2022. From an annual perspective, the Hannover Re share thus fared significantly better than the benchmark DAX index, which moved in the opposite direction (-12.3%). In a three-year comparison, the Hannover Re share delivered a performance (including reinvested dividends) of 20.0%, which similarly outperformed the DAX (+5.1%).

Based on the year-end closing price, Hannover Re's market capitalisation totalled EUR 22.4 billion at the end of the financial year. According to the DAX rankings drawn up by Deutsche Börse AG, the company placed twenty-sixth at the end of December in terms of its free float market capitalisation. With a book value per share of EUR 67.09, the Hannover Re share showed a price-to-book ratio of 2.76 at the end of the year under review; it was thus above the average DAX price-to-book ratio of 1.47 at year-end. Compared to the average price-to-book ratio for its peer group, the Hannover Re share continues to be significantly better valued.

By the end of the 2022 financial year, 24 analysts had handed down opinions on our company: 14 analysts recommended the Hannover Re share as "buy" or "overweight". Altogether seven opinions were a "hold". "Underweight" or "sell" recommendations were issued by only three analysts.

Dividend proposal envisages a higher distribution

The Executive Board and the Supervisory Board intend to propose to the Annual General Meeting on 3 May 2023 that a dividend of EUR 6.00 per share should be distributed. Against the backdrop of a comfortable level of capitalisation and achievement of the profit guidance, the ordinary dividend of EUR 5.00 – an increase of 50 cents compared to the previous year – will be supplemented by a special dividend of EUR 1.00. This would put the ordinary dividend on the level of the previous year and is thus in line with the company's goal of pursuing a consistent dividend policy. Based on the year-end closing price, this produces a dividend yield of 3.2%.

Attendance at the Annual General Meeting again around 76%

The Annual General Meeting 2022 of Hannover Rück SE was held on 4 May 2022 in a virtual format for the third consecutive time without the physical presence of shareholders or their authorised proxies on account of the Covid-19 pandemic. Altogether, around 76% of the share capital was represented, a similar figure to the previous year.

The shareholders approved the proposal made by the Executive Board and Supervisory Board to pay a total dividend of EUR 5.75 per share for the 2021 financial year. The payment was composed of an unchanged ordinary dividend of EUR 4.50 per share and a special dividend of EUR 1.25 per share. The distribution made to Hannover Re shareholders was therefore on a record level. In his address to the meeting, Chief Executive Officer Jean-Jacques Henchoz looked back on the challenges of the past year and previewed the most important issues facing Hannover Re going forward, such as global warming, sustainability, digitalisation and demographic change.

All items on the agenda were adopted by a clear majority of the represented voting rights. The results of the votes and the attendance were published on the company's website following the Annual General Meeting.

The next Annual General Meeting will be held on 3 May 2023.

Ongoing dialogue with the capital market remains a high priority

Maintaining an active, open and regular dialogue with the capital market continued to be a top priority in the 2022 financial year. In the first half of the year the Executive Board and representatives of the Investor Relations department kept up a virtual dialogue with institutional investors, analysts and private investors in the form of audio or video broadcasts owing to the ongoing pandemic. Covid-19 measures were eased as the year progressed, enabling the gradual resumption of in-person investor conferences and roadshows.

The focus of our efforts on the financial centres of Europe and North America remained unchanged. While the number of participations in capital market conferences rose again sharply from 18 to 23, the roadshow days were down slightly by two at eleven in total.

As the year got underway the dialogue with the capital market initially focused on the themes of retrocession as well as the impacts on Hannover Re of the Covid-19 pandemic and the Ukraine war. Another important topic was the approach adopted to protecting against natural catastrophes. In general terms, there was interest in how the company addresses the increased risks associated with climate change and rising inflation.

Hannover Re's 25th Investors' Day was held in London on 6 October 2022. Parallel to this, it was carried as a webcast on the company's website. After two years of virtual events, many analysts and investors made the most of the opportunity to attend again in person. Along with insights into the current business development and a preview of how Hannover Re intends to invest in future readiness, the effects of inflation and rising interest rates were also covered. The overview of the foreseeable implications of the new financial reporting standards IFRS 17 and IFRS 9 was also received with interest.

We continue to see a growing tendency to align investments with sustainability criteria, and hence questions relating to Hannover Re's sustainability efforts as well as ESG (environmental, social and governance) issues remained highly relevant.

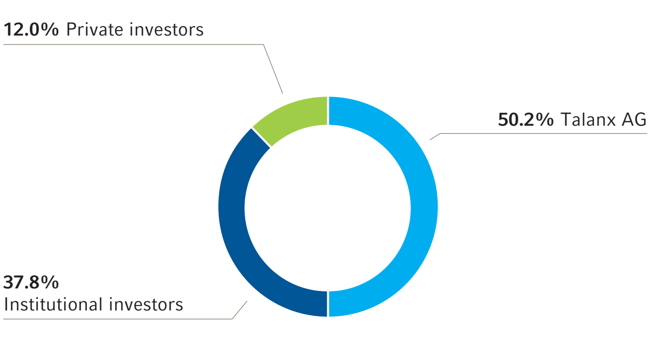
Sustainability ratings improved

Along with traditional financial considerations, non-financial aspects are coming to play an increasingly important role in the evaluation of companies on the capital market. In the financial year just ended, therefore, Hannover Re again reported extensively on sustainability and ESG topics. The disclosures took the form of, among other things, a combined non-financial information statement as an integral component of the Group management report. In this connection we also report, as in the previous year, on how and to what extent our operations fall within the frame of reference of the EU taxonomy for sustainable activities. In addition, we publish annual sustainability reports compiled in accordance with the internationally recognised reporting standards of the Global Reporting Initiative (GRI). In the year under review, as in prior years, we maintained a dialogue with a number of different stakeholders on sustainability issues. In addition, Hannover Re participates in the feedback processes of various ESG rating agencies. The company has ratings from, among others, CDP, ISS ESG, MSCI and Sustainalytics and is listed in the FTSE4Good, the Global Challenges Index and the sustainability index of Deutsche Börse AG (DAX 50 ESG).

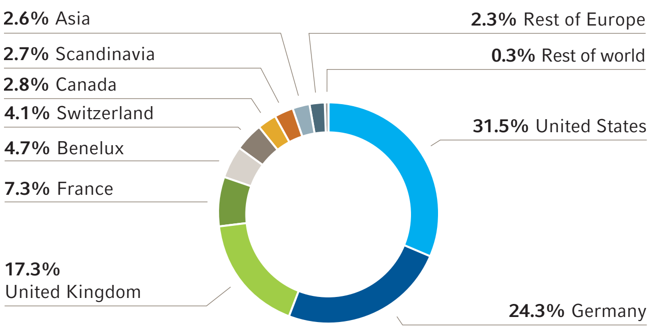
Number of shareholders continues to grow

Our share register showed some 73,361 shareholders at the end of the year, another increase in the number of shareholders year-on-year (70,560). The largest shareholders at year-end were Talanx AG with 50.2% as well as BlackRock, Inc. with a reported 3.0%, Deutsche Asset Management Investment GmbH with a reported 3.0% and FMR LLC with a reported 3.0% of the voting rights. Within the free float, institutional investors accounted for 37.8% (37.7%) of the total shares outstanding, while private investors held 12.0% (12.1%).

Sharedolder structure as at 31 December 2022 I 12



Geographical breakdown of the shares held by institutional investors I 13



Basic information

I 14

Securities identification number	840 221
International Securities Identification Number (ISIN)	DE 000 840 221 5
Ticker symbols	HRN1 (Bloomberg), HRNGn (Reuters), HVRRY (ADR)
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 membership	DAX
First listed	30 November 1994
Number of issued shares (as at 31 December 2022)	120,597,134
Common shares	EUR 120,597,134.00
Share class	No-par-value registered shares

Key figures

I 15

in EUR	2022	2021	2020	2019	2018
Number of shares in million	120.6	120.6	120.6	120.6	120.6
Annual low [1]	131.35	128.00	107.50	116.40	104.70
Annual high [1]	187.60	167.95	192.40	175.20	125.30
Year-opening price [1]	167.15	130.30	172.30	117.70	104.90
Year-ending price [1]	185.50	167.15	130.30	172.30	117.70
Market capitalisation at year-end in EUR million	22,370.8	20,157.8	15,713.8	20,778.9	14,194.3
Equity attributable to shareholders of Hannover Rück SE in EUR million	8,091.0	11,885.0	10,995.0	10,528.0	8,776.8
Book value per share	67.09	98.55	91.17	87.30	72.78
Earnings per share (basic and diluted)	11.66	10.21	7.32	10.65	8.79
Dividend per share	5.00 + 1.00 [2, 3]	4.50 + 1.25 [3]	4.50 [3]	4.00 + 1.50 [3]	3.75 + 1.50 [3]
Cash flow per share	42.82	40.97	26.79	20.81	18.45
Return on equity (after tax) [4]	14.1%	10.8%	8.2%	13.3%	12.2%
Dividend yield [5]	3.2%	3.1%	3.5%	3.2%	4.5%
Price-to-book (P/B) ratio [6]	2.8	1.7	1.4	2.0	1.6
Price/earnings (P/E) ratio [7]	15.9	16.4	17.8	16.2	13.4
Price-to-cash flow (P/CF) ratio [8]	4.3	4.1	4.9	8.3	6.4

1 Xetra daily closing prices from Bloomberg
2 Proposed dividend
3 Dividend of EUR 5.00 plus special dividend of EUR 1.00 for 2022, dividend of EUR 4.50 plus special dividend of EUR 1.25 for 2021, dividend of EUR 4.50 for 2020, dividend of EUR 4.00 plus special dividend of EUR 1.50 for 2019 and dividend of EUR 3.75 plus special dividend of EUR 1.50 for 2018
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 diversification both regionally and in relation to the underlying risks
- Competitive advantages due to our low cost of capital and administrative expenses
- Financial strength secured through sophisticated risk management
- Commitment to responsible and transparent corporate governance geared to long-term success

With a gross premium volume of more than EUR 33 billion, the Hannover Re Group is the third-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: "Striving for sustainable outperformance". Our business operations are dedicated to our goal of being the preferred partner for our clients. It is for this reason that our clients and their concerns form the focus of our activities.

In addition, 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.

Furthermore, we 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 across all lines and regions of property & casualty and life & health reinsurance. In conjunction with efficient capital management, this is the key to our comparatively low cost of capital.

Guided by a clearly defined risk appetite, the Executive Board steers the company using risk management techniques 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 "Reinsurer for Germany", 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. Particularly in the current market environment, we actively manage our portfolio to ensure long-term profitability on the underwriting side.

In the Life & Health reinsurance business group we are recognised – as customer surveys confirm – as one of the top players for traditional covers and a leading provider of structured solutions. We achieve this standing by, among other things, anticipating the future needs of our customers through the early identification of trends.

Our business model further makes allowance for the fact that social and environmental factors influence corporate success and our activities impact people and the environment.

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 key 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. Given that reinsurance business is subject to cyclical fluctuations, our primary focus is on medium- and long-term attainment of the strategic targets across the cycle.

Target attainment **M 01**

Business group	Key data	Targets for 2022	Target attainment			
			2022	2021	2020 [1]	Ø 2020–2022 [2]
Group	Return on equity [3]	900 bps above risk-free	14.1%	10.8%	8.2%	10.9%
	Solvency ratio [4, 5]	≥ 200%	251.9%	243.1%	235.2%	243.7%
Property & Casualty reinsurance	Gross premium growth	≥ 5% [6]	17.9%	16.3%	15.8%	16.7%
	EBIT growth	≥ 5% [7]	-10.6%	83.7%	-36.0%	1.7%
	Combined ratio	≤ 96%	99.8%	97.7%	101.6%	99.6%
	xRoCA [4, 8]	≥ 2%	4.0%	11.9%	0.9%	5.5%
Life & Health reinsurance	Gross premium growth	≥ 3% [6]	1.0%	5.5%	4.7%	3.7%
	EBIT growth	≥ 5% [7]	230.1%	-43.2%	-31.0%	8.9%
	Value of New Business (VNB) [4, 9]	≥ EUR 250 million	EUR 496 million	EUR 326 million	EUR 778 million	EUR 533 million
	xRoCA [4, 8]	≥ 2%	15.7%	-11.3%	17.6%	8.2%

1 Restated pursuant to IAS 8
2 Annual average growth / weighted averages
3 After tax; risk-free: five-year average return of ten-year German government bonds
4 This information has not been audited by the independent auditor.
5 According to our internal capital model and Solvency II requirements
6 Average annual growth at constant exchange rates
7 Average annual growth
8 Excess return (one-year economic profit in excess of the cost of capital) on allocated economic capital

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[1] **M 02**

	2022		2021		2020	
in EUR million	IVC	xRoCA	IVC	xRoCA	IVC	xRoCA
Property and casualty reinsurance	264.8	4.0%	717.0	11.9%	53.9	0.9%
Life and health reinsurance	652.4	15.7%	(384.0)	-11.3%	653.5	17.6%
Investments[2]	(690.8)	-9.6%	663.5	11.0%	245.4	4.1%
Group	**226.5**	**1.3%**	**996.4**	**6.5%**	**952.6**	**6.0%**

[1] This information has not been audited by the independent auditor
[2] Income above risk-free interest rate after deduction of risk-appropriate cost of capital

The allocated capital consists of the economic equity pursuant to Solvency II including non-controlling interests 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 625 basis points above the risk-free interest rate, meaning that economic 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 (unaudited by the independent auditor) 4.2% in 2022 (previous year: 4.6%).

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.

The close interlinking of our internal capital model with the capital allocation and value-based management helps us to 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. For 2022 these were 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. With the adoption of IFRS 17 the parameters will be adjusted in the course of the financial year.

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. With regard to the individual goals and associated remuneration elements of the members of the Executive Board, the reader is referred to page 114 et seq. of the remuneration report.

Research and development

In the context of our innovation activities we continuously develop products and solutions that deliver value added both for Hannover Re and for our clients. Our innovation and digitalisation initiatives are enshrined in our Group strategy.

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 market for so-called insurance-linked securities (ILS) has subsequently become established in the intervening years.

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. In addition, we work for and with our customers to develop fresh business approaches and sales channels and we make our proprietary IT applications available for risk assessment in the underwriting process. We are convinced that efficiency gains from automation, data analytics and index-based products, for example, offer growth potential and can close the protection gap because optimised cost structures make the products attractive to a larger circle of customers.

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 the national financial regulator (Federal Financial Supervisory Authority = BaFin).

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. This has significantly supported growth over the past five years, especially in structured reinsurance. 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.

In organisational terms, the exploration of market trends and development of innovative products at Hannover Re are tasks assigned to the individual market units. In addition, business opportunities and innovations that cut across markets and segments are discussed in the department "Group Strategy & Sustainability" team, coordinated in the internal accelerator units and pursued by means of interdisciplinary projects. Various market and service units participate in these projects.

Report on economic position

Macroeconomic climate and industry-specific environment

- Global economy impacted by the Ukraine war and its repercussions
- High inflation and tighter monetary policy put the brakes on economic activity
- Bond and equity markets recover somewhat after steep decline
- Reduced reinsurance capacities good news for the renewal season

Macroeconomic climate

Russia's attack on Ukraine triggered an energy price shock on a scale the world had not seen since the 1970s. Higher commodity prices, especially for oil and gas, adversely affected the world economy and put the brakes on global economic activity. The Organisation for Economic Cooperation and Development (OECD) estimates that growth in price-adjusted global gross domestic product (GDP) was virtually halved in 2022 to 3.1%. In the previous year, as the world economy was devoting considerable energy to making good the pandemic-driven slump, global GDP had still grown by as much as 5.9%.

After a soft second quarter demand for goods and services stabilised, and according to the OECD the deterioration in key economic data such as retail sales, industrial output and international trade also came to a stop. Nevertheless, the economy in many countries and sectors, particularly in Europe, continued to lose momentum towards the end of 2022. Consumers increasingly held back on spending, in part due to the inflation-driven decline in real incomes in most OECD countries, with the associated dampening effect on the economy.

Higher energy prices set in motion an inflationary spiral, as a consequence of which the prices of many goods and services rose. This further fuelled a trend that had begun even before the war in Ukraine, as demand- and supply-side factors caused inflation in the OECD countries to run hot. Major central banks around the world responded in the course of 2022 with emphatic interest rate hikes. This not only put the brakes on economic activity in industrial countries, it also put countless emerging markets under pressure.

United States

The direct economic consequences of Russia's assault on Ukraine were initially more moderate in the US than in many other OECD countries. The US benefited not only as a net exporter of energy but also from the tighter supply of wheat on world markets. The country was not, however, immune to the inflationary trends. The OECD estimates that real GDP grew by 1.8% overall in 2022, a considerably softer figure than the previous year's 5.9%. This was driven primarily by consumers curbing their spending and by reduced investments, especially in the housing market. The Federal Reserve responded to the sharp climb in prices for goods and services by drastically hiking its key interest rate. Bond market yields consequently surged appreciably across all maturities, accelerating the rise in the US dollar and generating increasing headwinds for US exporters.

Europe

At the start of the year 40% of gas imports and one-fifth of oil imports came from Russia, but by the second quarter this dependency on Russian energy imports had already been cut by around half. Still, the Ukraine war had significant impacts in the form of higher energy prices, blocked supply chains and rising input costs. The OECD estimates that GDP growth declined in 2022 from 5.3% to 3.3%. At the same time, inflation reached double-digit percentages, compelling the European Central Bank to take action. Despite the slowdown in economic activity, unemployment continued to fall and was far below the average rate for the last ten years.

In Germany the contraction in GDP growth from 2.6% to 1.8% was relatively moderate. High inflation muted consumer sentiment. The uncertain state of the world, high energy prices and a shortage of materials adversely affected manufacturing industry, the construction sector and investment activity.

In the United Kingdom direct trade relationships with Russia and Ukraine are comparatively more limited. The UK economy is, however, vulnerable to developments on the global energy market. Economic output rose by 4.4% in 2022, compared to 7.5% in the previous year. The surge in prices was especially marked, leading to steep declines in real income and curbing consumer spending. Muted sales and earnings prospects, rising financing costs and heightened economic uncertainty also adversely affected investments as the year progressed. The number of job vacancies remained high, while the unemployment rate slipped below pre-pandemic levels during the year. In common with other central banks, the Bank of England tightened its monetary policy.

Asia

Economic growth in China slowed to 3.3% (previous year: 8.1%). This was due first and foremost to the effects of government measures in response to the spread of the Covid-19 omicron variant. The impacts of the Ukraine war, on the other hand, were limited. Additionally, China is relatively well protected against shocks on global food and energy markets due to consumption patterns. The country sought to combat the economic slowdown with both monetary and fiscal policy moves.

Growth momentum in the Indian economy faded over the summer, although the increase of 6.6% (8.7%) was one of the highest among OECD nations. Surging inflation outside the central bank's target range of 2% to 6% triggered a series of interest rate hikes.

In Japan the impacts on economic growth were limited despite a renewed wave of Covid-19. GDP growth was flat at 1.6%. Rising prices nevertheless began to drag on consumer sentiment. The wage trend was muted in spite of a tighter labour market.

Capital markets

The capital market environment, which had repeatedly proven challenging in recent years, was again highly volatile in the year under review. The Russian attack on Ukraine and the still ongoing effects of the Covid-19 pandemic throughout the year, coupled with surging inflation, presented – and continue to present – particular challenges for the world economy.

Interest rates with minimal risk on fixed-income securities in the currency areas of primary relevance to Hannover Re recorded in some cases very sharp increases in the course of the year. This reflected first and foremost the interest rate policy adopted by central banks, inflation worries and higher levels of public debt. Increases were also seen, albeit on a more modest scale, in the risk premiums for corporate bonds, although these relativised again somewhat towards the end of the year.

Central banks once again exerted a significant influence on capital markets and the economy. In contrast to their expansive monetary policy of the previous years, they executed an in some cases drastic about-turn by stopping bond purchase programmes, raising short-term interest rates in multiple increments sometimes very sharply and in part shrinking their balance sheets. On the whole, the policy pursued by central banks in our main currency areas consistently achieved the difficult balancing act of keeping the lid on inflation, on the one hand, without stifling the still fragile economic momentum, on the other.

As a consequence of high inflation, interest rate hikes, sanctions and supply chain problems, equity markets posted their poorest performance in recent years until the third quarter and only made good a portion of these losses in the fourth quarter.

All in all, inflation remains a dominant issue. Even without the war in Ukraine, catch-up effects from the pandemic are coming up against tight labour markets and fuelling – as can already be seen in the US – a wage-price spiral. Higher energy costs and supply chains that still have some kinks to iron out are additional contributory factors, especially in Europe. As a consequence of the war in Ukraine, concerns around energy and raw materials as well as protectionism and the future of existing globalisation trends and their associated trade flows are becoming even more highly charged.

As in the previous year, the euro continued to soften appreciably against the US dollar over the year. After slipping below parity it rallied somewhat towards year-end, but was still down over the year as a whole from USD 1.13 to USD 1.07. The euro moved slightly higher against the British pound, however, climbing from GBP 0.84 to GBP 0.89. It was virtually unchanged against the Australian dollar (from AUD 1.56 to AUD 1.57) and the Canadian dollar (from CAD 1.45 to CAD 1.44).

Industry-specific environment

The general environment for the international (re)insurance industry proved to be extremely challenging in 2022 due to the clash of economic and geopolitical disruptive effects. Rising inflation, major losses and an accumulation of mid-sized losses drove up insurance payments in property and casualty reinsurance. In natural catastrophe business alone, Hurricane Ian as well as floods, hail and winter storms led to unusually heavy insured losses.

The interest rate hikes initiated by central banks caused the fair values of fixed-income securities held on insurers' IFRS 4 balance sheets to fall sometimes substantially, hence reducing the industry's risk-carrying capital accordingly. Viewed from an economic perspective, however, the decline was less marked because in this case the interest rate effect was also reflected on the liabilities side.

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. With effect from 1 January 2023 IFRS 17 replaced the interim standard IFRS 4, which had been in force since 2005, and is intended to improve transparency around expected future performance and make it easier to compare insurers through a consistent basis for the recognition of insurance contracts. Application of the standard is mandatory for the consolidated financial statements of capital-market-oriented insurance companies. At the same time, insurers had to complete their preparations for the financial instruments standard **IFRS 9**, which also had to be applied for the first time effective 1 January 2023, insofar as appropriate transitional arrangements were utilised.

In June 2022 the European Council decided on its position regarding changes to the directive governing the **Solvency II** prudential regime. The main aim of the revisions is to enable insurance undertakings to step up their long-term investments and thereby contribute to the European Union's recovery from the impacts of the Covid-19 pandemic. The European Commission would also like to make the (re)insurance industry more resilient so that it is even better equipped to weather future crises and hence better protect policyholders. The European Council underlined in its position that the insurance sector provides private sources of financing to European business and can make the economy more robust by supplying protection against a wide range of risks. With this dual role, the insurance sector has the potential to contribute to the Capital Market Union and to the financing of the green and digital transitions.

The insurance industry continued to focus on greater **sustainability**. The elaboration of regulatory requirements for companies in the financial industry continued to pick up pace in 2022 in the context of European sustainability strategies. The establishment of a consistent EU taxonomy for economic activities, for example, is intended to make the sustainability efforts of companies measurable in the future. Similarly, the EU's adoption of the Corporate Sustainability Reporting Directive and the associated publication of the European Sustainability Reporting Standards can be seen as a turning point in the direction of greater transparency and better integration of sustainability into decision processes. Applicable from the 2024 and 2025 financial years onwards, the directive requires large European companies to disclose detailed and audited information about their impact on sustainability aspects and about their risk exposure to developments relevant to sustainability, such as climate change.

As far as **digitalisation** is concerned, threats from cyber attacks and related losses continue to be an issue, including as a consequence of the Ukraine war. Demand for cyber covers increased accordingly. The process of digital transformation in the insurance sector, as in many other lines of industry, also took on added importance. The shift towards digital business models is evident inter alia in the growing adoption of hybrid forms of work and communication, in the design of digital insurance solutions and in cross-sector partnerships.

Business development

- Gross premium for the Group up by 19.9%; sustained strong demand for high-quality reinsurance protection
- Property and casualty reinsurance continues to grow on the back of improved prices and conditions; large loss expenditure higher than expected
- Life and health reinsurance posts sharply improved profitability and lower pandemic-related losses
- Return on investment significantly higher than full-year target at 3.2%
- Group net income of EUR 1.41 billion within the bounds of expectations
- Return on equity reaches 14.1% and clearly beats minimum target

As the third-largest reinsurer in the world, Hannover Re has a far-reaching international network and extensive underwriting expertise. On this basis, we are able to offer our customers traditional, tailor-made and innovative reinsurance solutions and we work with them to open up new business opportunities.

Global reinsurance markets have been fiercely competitive and overshadowed by rising costs from natural catastrophes for some years now. At the same time, climate change, Russia's attack on Ukraine, global macroeconomic developments and the Covid-19 pandemic – which has still not been entirely overcome – confronted insurers and reinsurers alike with major challenges in 2022.

Of the headwinds currently facing us, special mention should be made of the meteoric rise in inflation around the world. Combined with an increase in large losses, which can be attributed in part to climate change, this is leading to a sharp surge in expenditures for insurers and reinsurers.

In their efforts to curb inflation, central banks have responded with sometimes significant interest rate hikes. There will, however, be a time lag before these are positively reflected in investment income.

Despite these challenges, Hannover Re was able to affirm the resilience of its business model as a globally diversified and robustly capitalised reinsurer in the 2022 financial year. All in all, business developed in line with our expectations.

The interplay of the aforementioned effects is boosting demand for high-quality reinsurance protection such as that offered by Hannover Re. Our business consequently continued to chart a profitable growth track.

The gross premium booked by the Hannover Re Group increased by 19.9% as at 31 December 2022 to EUR 33.3 billion (EUR 27.8 billion). At constant exchange rates, growth would have reached 12.7%. We thus beat our guidance, which we had revised upwards to growth of more than 7.5%. The retention stood at 90.0% (89.5%). Net premium earned rose by 22.9% to EUR 29.7 billion (EUR 24.1 billion). The increase would have been 15.7% at unchanged exchange rates.

Gross premium in our **Property & Casualty** reinsurance business group grew by 17.9% at constant exchange rates. The main factors here were the favourable market climate and improved prices. On the other hand, the expenditures from large losses of EUR 1.7 billion surpassed our budgeted expectation of EUR 1.4 billion. The combined ratio in property and casualty reinsurance increased to 99.8% (previous year: 97.7%) owing to the burden of large losses and expenditures connected with the Covid-19 pandemic as well as late reported claims from losses incurred in prior years. The sustained improvement in prices and conditions for reinsurance coverage continued due to the challenging market environment described at the outset. This similarly led to a further increase in the cost of retrocession covers that we take out to protect our own portfolio.

Thanks to its comparatively low administrative expenses and cost of capital as well as its above-average financial strength, Hannover Re has been and remains able to successfully assert itself in the market. Based on our positioning as one of the largest and most robustly capitalised reinsurers in the world, we enjoy sustained very good access to profitable business. The operating profit (EBIT) booked in property and casualty reinsurance fell by 10.6% to EUR 1,352.1 million (EUR 1,512.3 million).

The gross premium booked in our **Life & Health** reinsurance business group grew by 1.0% adjusted for exchange-rate effects. At the same time, demand for reinsurance covers remained strong in areas such as financial solutions and protection against longevity risks. Pandemic-related losses, on the other hand, were considerably lower. The operating result (EBIT) in life and health reinsurance improved sharply to EUR 736.9 million (EUR 223.3 million) and thus played an important part overall in the total result for the year under review.

The **investment income** generated from assets under own management increased by 8.9% to EUR 1,824.6 million (EUR 1,674.8 million) – and was thus another major factor in the total result for the financial year. Positive effects derived from, among other things, strong income from our portfolio of inflation-linked bonds, the sale of the equity portfolio and the contribution of private equity investments to a joint venture. The return on investment stood at 3.2% and thus very comfortably beat our target, which we had revised upwards to more than 2.5%.

Other income improved by 42.8% to EUR 387.3 million (EUR 271.2 million). This reflected, among other things, a positive effect from the contribution of private equity investments in an amount of EUR 129.3 million.

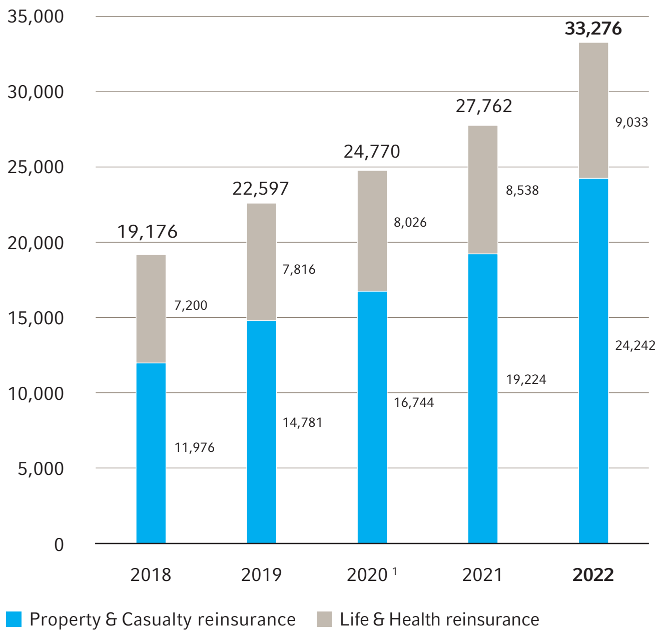
The operating profit (EBIT) grew by 20.3% to EUR 2,087.4 million (EUR 1,734.8 million). Group net income was up by 14.2% at EUR 1,406.7 million (EUR 1,231.3 million). We thus achieved our Group earnings guidance of EUR 1.4 billion to EUR 1.5 billion. Earnings per share stood at EUR 11.66 (EUR 10.21).

Hannover Re's capital position – measured in terms of the capital adequacy ratio which is still comfortably in excess of threshold levels – remains very robust. The equity attributable to shareholders of Hannover Re contracted to EUR 8.1 billion (EUR 11.9 billion) as at 31 December 2022. The decrease was attributable to the rise in the interest rate level, which sharply reduced the prices of fixed-income securities held in the investment portfolio. The return on equity increased to 14.1% (10.8%) on account of the higher profit and lower shareholders' equity. The book value per share reached EUR 67.09 (EUR 98.55). We were able to achieve – and in some cases substantially outperform – all the forecasts shown in the table "Business development and guidance in the year under review", some of which we had revised higher in the course of the financial year.

The total policyholders' surplus, consisting of shareholders' equity, non-controlling interests and hybrid capital, decreased to EUR 12.5 billion (EUR 15.7 billion) as at 31 December 2022.

A detailed overview of the development of our two business groups – Property & Casualty reinsurance and Life & Health reinsurance – and the performance of our investments is provided on pages 26 to 45.

Gross premium by business group **M 03**
in EUR million



[1] Restated pursuant to IAS 8

Business development and guidance in the year of review **M 04**

	Guidance 2022	Target attainment 2022
Gross premium growth (Group) [1]	Gross premium growth of at least 5% / more than 7.5% [2]	12.7%
Return on investment	At least 2.3% / more than 2.5% [2]	3.2%
Group net income	Between EUR 1.4 and 1.5 billion [3]	EUR 1.41 billion

[1] At constant exchange rates
[2] The expected gross premium growth and the expected return on investment were revised with the publication of the half-yearly financial report.
[3] Assuming no unforeseen distortions on capital markets, major loss expenditure remaining within the expected bounds and the Covid-19 pandemic not significantly influencing the result in life and health reinsurance.

Overall assessment of the business position

The 2022 financial year for Hannover Re was shaped by the war in Ukraine and considerable expenditures from large losses in property and casualty reinsurance. Benefits paid out for deaths connected with the Covid-19 pandemic took a toll on the result in life and health reinsurance, albeit to a significantly lesser extent than in the previous year. The result in property and casualty reinsurance reflected the burden of large losses and expenditures connected with the Covid-19 pandemic as well as late reported claims from prior years. We boosted the income from our investments thanks, among other things, to positive contributions from our holding of inflation-linked bonds. At the same time, the improvement in prices and conditions in many lines was sustained on both the insurance and reinsurance side, in some instances even more markedly than before. In total, therefore, we generated a Group profit within the bounds of our expectations.

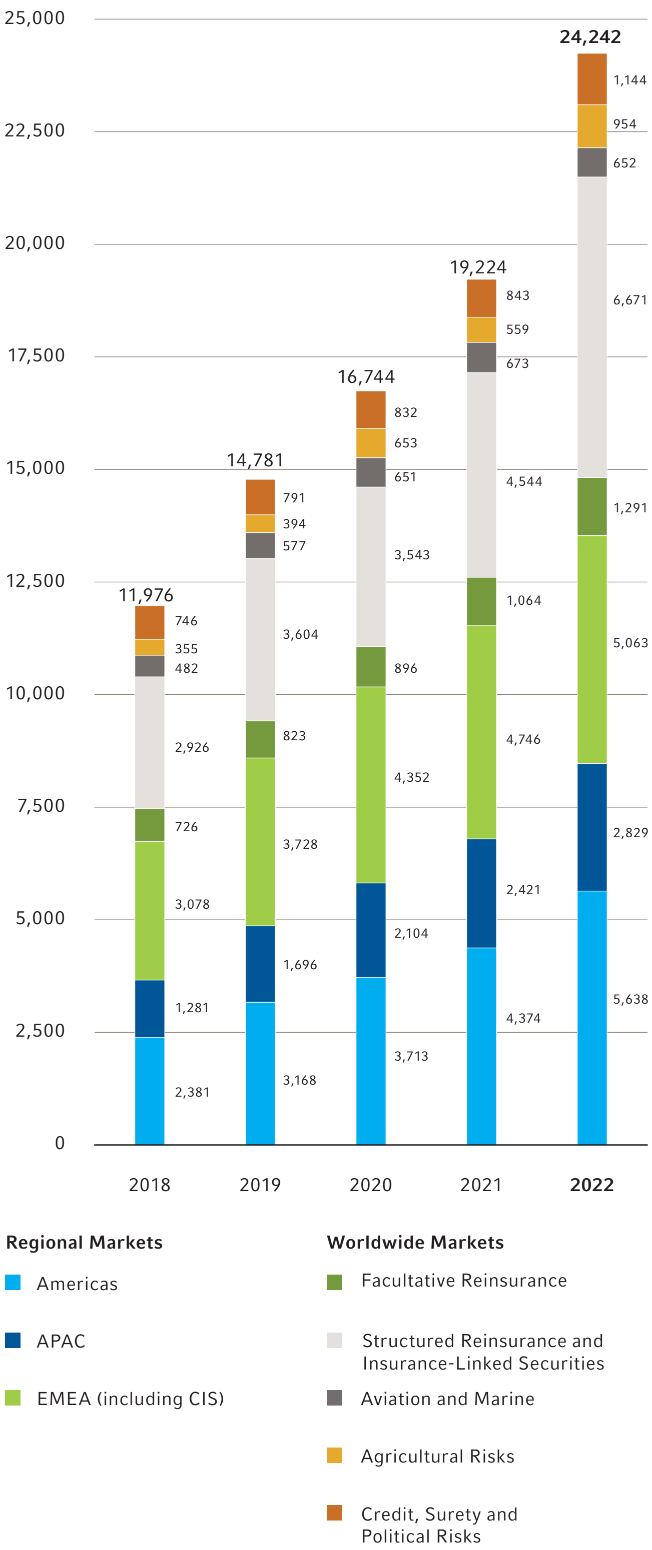
At the time of preparing the management report, it remains the case that both the business position of the Group and its financial strength can be assessed as very good. Within the framework of our Group strategy, we determine our necessary equity resources according to the requirements of our internal capital model, solvency regulations, the expectations of rating agencies for our target rating and the expectations of our clients and shareholders.

Results of operations

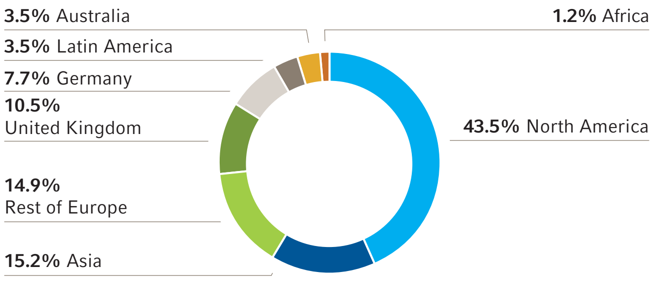
In the following sections we discuss the development of the financial year in our two strategic business groups, namely Property & Casualty reinsurance and Life & Health reinsurance, as well as the performance of our investments and the financial position and assets of our Group.

Property & Casualty reinsurance at a glance

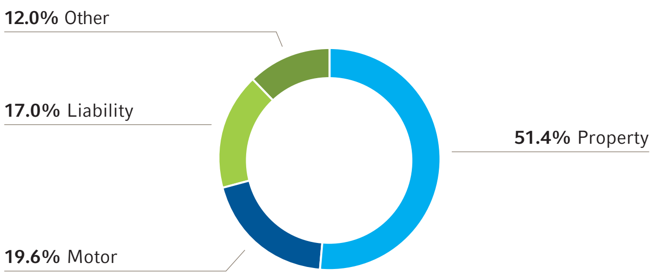
Gross premium in Property & Casualty reinsurance M 05
in EUR million



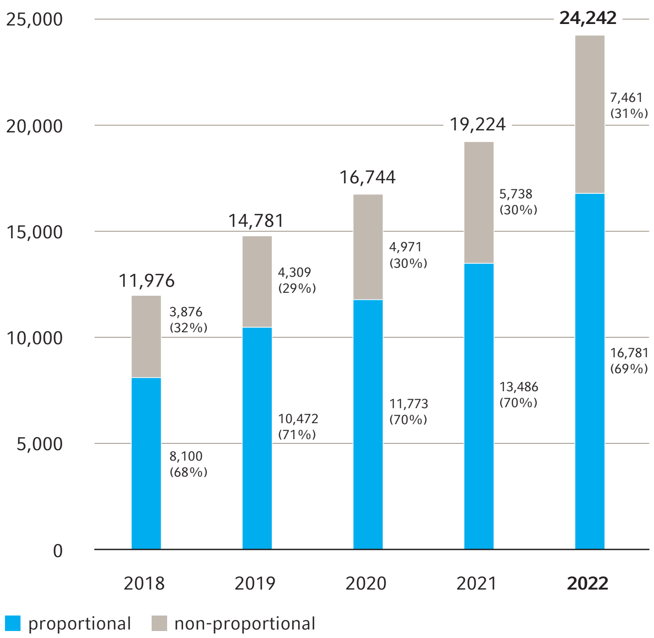
Geographical breakdown of gross premium in 2022 M 06



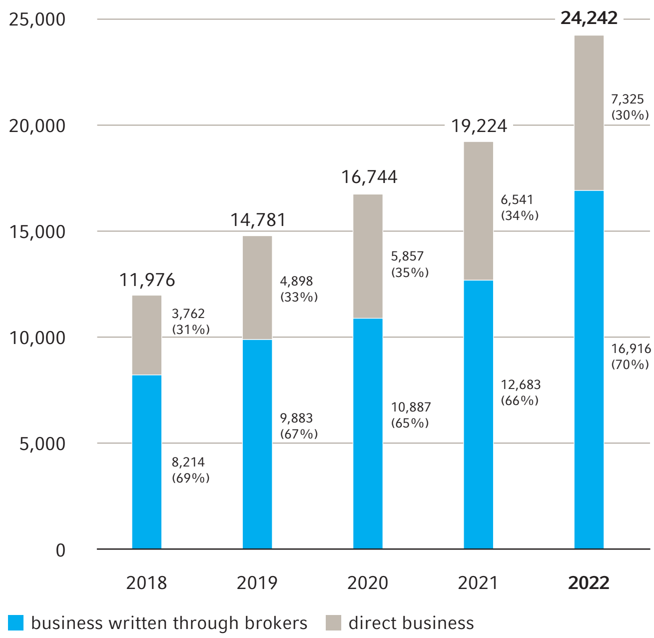
Gross premium by lines of business in 2022 M 07



Breakdown of proportional and non-proportional treaties by volume M 08
in % and in EUR million



Breakdown into business written through brokers and direct business M 09
in % and in EUR million



Property & Casualty reinsurance

- Gross premium grows by 26.1%
- Trend towards rate increases in the treaty renewals gains added momentum
- Large loss expenditure including provision for possible losses from the Ukraine war higher than budgeted
- Combined ratio rises to 99.8%
- Operating profit down by 10.6%

Accounting for 73% of the Group's gross premium, Property & Casualty reinsurance is Hannover Re's largest business group.

Global markets for property and casualty reinsurance faced numerous challenges in the financial year just ended. In terms of large loss expenditure, multiple catastrophic events as well as possible losses from the Ukraine war and the sharp surge in inflation resulted in increased strains for the entire industry.

Partly in response to the many challenges, the trend towards improved prices and conditions gained added momentum in both primary insurance and reinsurance alike. For Hannover Re, underwriting profitability continued to be the overriding priority.

The various rounds of treaty renewals in property and casualty reinsurance during the year passed off favourably for Hannover Re. We traditionally report price changes on a risk-adjusted basis. In other words, the pricing developments that we report have already been adjusted for higher rates of inflation.

Right at the outset of the year, in the main property and casualty reinsurance renewals as at 1 January 2022, we saw a continuation of the previous year's pricing momentum and booked further growth in our renewed business at significantly improved prices and conditions. On 1 January, 62% of Hannover Re's portfolio in traditional property and casualty reinsurance (excluding facultative business, ILS business and structured reinsurance) was up for renewal. We boosted the premium volume here by 8.3%. The average, risk-adjusted price increase was 4.1%.

The 1 April treaty renewals, when we traditionally renegotiate our business in Japan and – on a smaller scale – in Australia, New Zealand, other Asian markets and North America, similarly passed off satisfactorily for Hannover Re. The total renewed premium volume grew by 17.4%. The average, risk-adjusted price increase was 3.7%.

This positive trend continued in the 1 June and 1 July rounds of renewals, when parts of the North American portfolio, natural catastrophe risks and some risks in credit and surety reinsurance are traditionally renewed. The main renewal season in Australia and New Zealand also takes place at this time. The renewals in North America and Australia were particularly successful for Hannover Re in 2022. We grew the premium volume here by 7.2%, while the average, risk-adjusted price increase came to 4.0%.

In natural catastrophe business we continued to pursue our profit-oriented underwriting policy. Our risk appetite for coverage of natural catastrophes grew disproportionately strongly in the original currency relative to the premium growth in property and casualty reinsurance.

In total, gross written premium in the Property & Casualty reinsurance business group rose by 26.1% to EUR 24.2 billion (previous year: EUR 19.2 billion). At constant exchange rates the increase would have been 17.9%. The level of retained premium edged slightly higher to 90.6% (90.1%). Net premium earned grew by 30.2% to EUR 21.6 billion (EUR 16.6 billion); adjusted for exchange rate effects, growth would have amounted to 22.0%.

Large losses in the 2022 financial year exceeded our expectations for the sixth consecutive year. Our net burden of major losses in the year under review added up to EUR 1,705.7 million (EUR 1,250.2 million). This was higher than our budgeted expectation of EUR 1,400 million.

The largest individual losses for net account were Hurricane Ian at EUR 321.9 million, the severe flooding in Australia at a cost of EUR 232.6 million and winter storm "Ylenia" in Central Europe in an amount of EUR 106.6 million. In addition, Hannover Re established an IBNR reserve of EUR 330.9 million for possible losses from the war in Ukraine.

On top of this, additional reserves were constituted for sizeable losses from the previous year based on corresponding loss advices, including amounts of EUR 106.4 million for the drought in Brazil and EUR 54.1 million for floods in Malaysia.

We consider events for which we expect gross loss payments of more than EUR 10 million to be major losses.

Furthermore, the losses from the pandemic can now be better quantified for property and casualty reinsurance. In this respect, we recorded, among other things, a positive run-off in the area of credit, surety and political risks. On the other hand, pandemic-related losses in accident and health insurance in the Asia-Pacific region were significantly higher than anticipated. Overall, the developments described above resulted in a strain of EUR 269.0 million in the year under review.

The underwriting result including interest and expenses on funds withheld and contract deposits for property and casualty reinsurance came to EUR 45.7 million (EUR 383.5 million) on account of the aforementioned expenditures. The combined ratio consequently increased to 99.8% (97.7%).

The investment income booked for the Property & Casualty reinsurance business group rose by 9.5% to EUR 1,470.3 million (EUR 1,343.1 million). The operating profit (EBIT) fell by 10.6% to EUR 1,352.1 million (EUR 1,512.3 million). The contribution made by property and casualty reinsurance to Group net income declined by 18.7% to EUR 880.4 million (EUR 1,082.4 million).

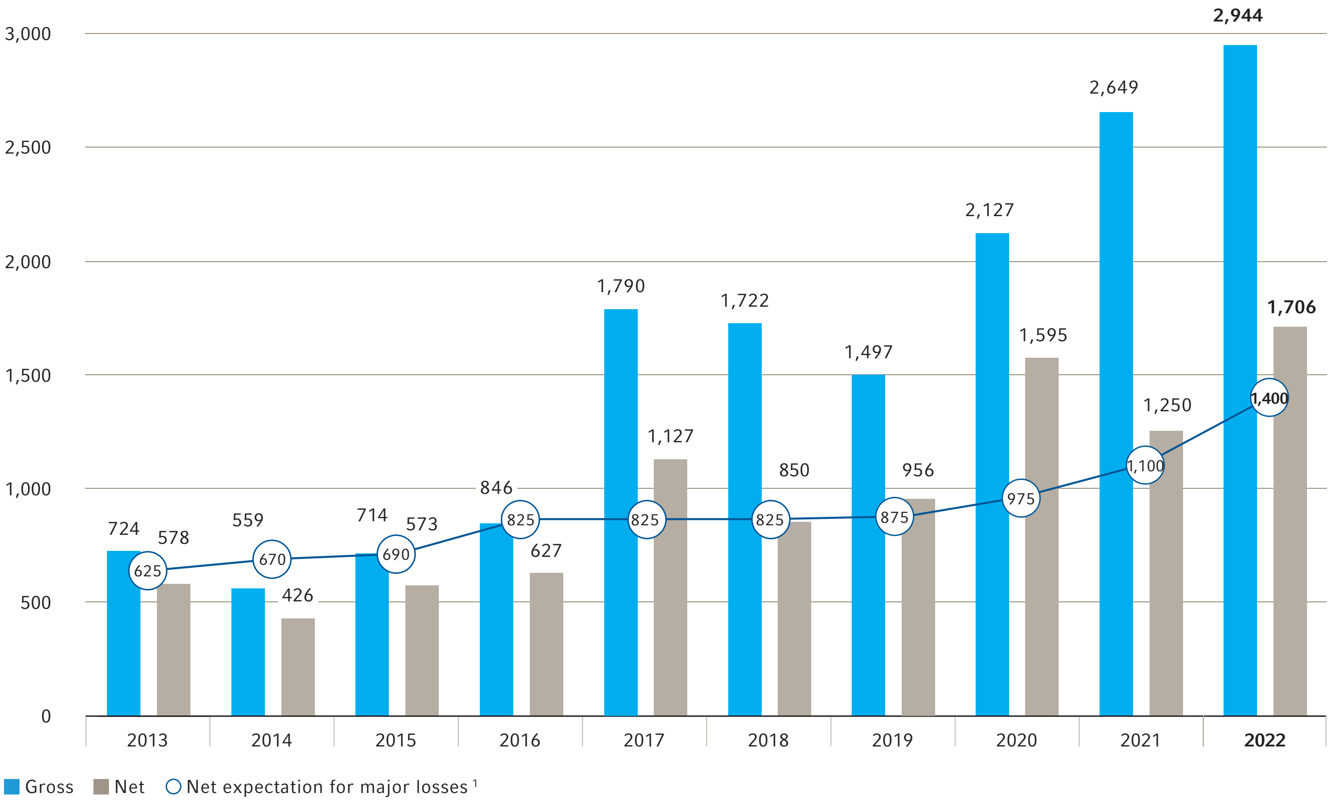
On the following pages we report in detail on developments in our Property & Casualty reinsurance business group. This is split into a number of reporting categories, sorted according to regional markets and worldwide markets.

Key figures for Property & Casualty reinsurance M 10

in EUR million	2022	+/– previous year	2021	2020[1]	2019	2018
Gross written premium	24,242.3	+26.1%	19,224.2	16,744.1	14,781.3	11,976.0
Net premium earned	21,637.4	+30.2%	16,623.9	14,205.4	12,797.6	10,804.2
Net underwriting result[2]	45.7	-88.1%	383.5	(223.5)	235.4	372.8
Net investment income	1,470.3	+9.5%	1,343.1	987.5	1,069.4	1,035.1
Operating result (EBIT)	1,352.1	-10.6%	1,512.3	823.0	1,285.8	1,322.6
Group net income	880.4	-18.7%	1,082.4	614.8	871.7	929.1
Earnings per share in EUR	7.30	-18.7%	8.98	5.10	7.23	7.70
EBIT margin[3]	6.2%		9.1%	5.8%	10.0%	12.2%
Retention	90.6%		90.1%	90.3%	90.3%	90.7%
Combined ratio[2]	99.8%		97.7%	101.6%	98.2%	96.5%

1 Restated pursuant to IAS 8
2 Including interest on funds withheld and contract deposits
3 Operating result (EBIT)/net premium earned

Property & Casualty reinsurance: Major loss trend[1] **M 11**
in EUR million



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

Property & Casualty reinsurance: Key figures for individual markets and lines in 2022 **M 12**

	Gross premium 2022 in EUR million	Change in gross premium relative to previous year	Gross premium 2021 in EUR million	EBIT 2022 in EUR million	Combined ratio 2022	Target combined ratio 2022	EBIT 2021 in EUR million	Combined ratio 2021
Regional Markets								
Americas	5,638.4	+28.9%	4,374.3	548.4	98.1%	94.3%	161.9	107.3%
Asia-Pacific	2,829.3	+16.9%	2,420.7	(544.1)	126.1%	97.5%	299.6	91.6%
Europe, Middle East and Africa (including CIS countries)	5,062.7	+6.7%	4,746.2	468.4	98.2%	95.2%	222.4	101.3%
Worldwide Markets								
Facultative Reinsurance	1,290.5	+21.2%	1,064.4	275.3	84.6%	97.4%	144.0	92.3%
Structured Reinsurance and Insurance-Linked Securities	6,670.8	+46.8%	4,543.7	82.8	99.5%	98.7%	157.9	96.7%
Aviation and Marine	652.5	-3.0%	672.5	142.3	90.4%	95.3%	239.3	69.8%
Agricultural Risks	954.0	+70.7%	559.0	(30.8)	105.8%	93.1%	59.5	95.0%
Credit, Surety and Political Risks	1,144.0	+35.7%	843.3	409.7	68.2%	93.9%	227.7	79.9%

Regional markets

Europe, Middle East and Africa (including CIS countries)

In **Continental Europe** the market environment in primary and reinsurance business remained challenging overall. The sharp surge in inflation as well as an elevated loss frequency from natural catastrophes led to further improvements in prices and conditions for Hannover Re. This had positive implications for the quality of the treaties. In view of the further heavy loss expenditure combined with high inflation, we were not entirely satisfied with the development of premiums and rates.

It was evident that the trend towards price increases already existing from prior years gained added impetus due to worldwide losses from natural catastrophe events in 2022, including for example Hurricane Ian and winter storms in Europe.

Insurance business in **France** was again affected by exceptionally high losses from natural catastrophes in the 2022 financial year. Intense thunderstorms from the end of May to early July caused hail damage to vehicles and above all property damage across much of France. In addition, winter storms Ylenia and Zeynep caused considerable damage not only in France but also in the Netherlands and parts of Belgium.

In **Italy**, frequency losses were again a dominant issue in 2022. In both the motor own damage and fire lines, adjustments were necessary on the insurance and reinsurance side. Against a backdrop of declining average premiums over a number of years, there was also a clear need for adjustments in motor business on account of inflation.

Particularly in the markets of **Central and Eastern Europe**, the Ukraine war left an appreciable mark on economic development in the region. As a sign of solidarity with Ukraine, we continue to stand shoulder-to-shoulder with our clients there and are upholding our coverage commitments. On the other hand, we have stopped renewing treaties with clients in the Russian Federation and Belarus until further notice. Overall, in view of the difficult macroeconomic environment, we anticipate further price increases for the region of Central and Eastern Europe.

Business in **Northern Europe** was shaped by numerous smaller and mid-sized frequency losses in 2022, which took a toll on profitability. Against this backdrop, we were able to push through price increases and further improve the quality of our portfolio. Hannover Re particularly benefits here from its local presence in the market.

Responsibility for the **German** market within the Hannover Re Group is assigned to our subsidiary E+S Rückversicherung AG. As the dedicated "Reinsurer for Germany", E+S Rück is a sought-after partner thanks to its very good rating and the continuity of its business relationships, and it is one of the market leaders for property and casualty reinsurance in Germany.

The repercussions of Russia's war of aggression in Ukraine could also be felt in the German insurance industry. While the public discourse revolved mainly around the effects on energy costs, disrupted supply chains, protracted high inflation and the increased level of interest rates caused headaches for insurers.

In February a series of storms led to losses in German natural catastrophe business, although the overall expenditures were on the moderate side compared to 2021. A further increase in inclusions of natural perils covers and inflation-driven growth in loss exposures remained a dominant topic in the property line.

The claims frequency in motor insurance, which had seen a pandemic-related decrease in the prior years. has largely normalised. At the same time, the general rise in inflation accelerated the years-long trend towards higher costs for spare and replacement parts. On the whole, results in the motor line took a turn for the worse over the course of 2022 compared to the previous year with a combined ratio of 101%. The premium level on the original market consequently rose again.

Premium growth in the high-volume property insurance lines – namely homeowners' insurance and industrial business – was again above average. As a result, the combined ratio on the property and casualty insurance market is expected to be around 95% for 2022, a significant improvement on the previous year. This is driven primarily by the normalisation of the combined ratio in the property line at around 98% (129%). The burden of natural catastrophe expenditure and large fire losses was more on the average side after the considerable damage caused by the low-pressure system Bernd in the previous year.

Industrial and commercial property insurance in Germany grew by close to 10% in 2022, as in the previous year. Overall, in the absence of any exceptional large losses, significantly improved – albeit not yet satisfactory – profitability is to be expected.

In the cyber line, it was not only in Germany that increasingly widespread attacks – and hence also losses – led to greater risk awareness and prompted adjustments in conditions. Questions around the modelling and manageability of accumulation scenarios remain relevant and are restricting the available cyber capacities.

Insurers in the **United Kingdom, Ireland and the London Market** secured further rate increases in the year under review. Although in some instances these were smaller than in the previous year, appreciable increases were pushed through in some lines. Cyber covers, in particular, benefited from the state of the market as a consequence of adverse claims trends in past years as well as ensuing capacity shortages.

The war in Ukraine prompted insurers and reinsurers to pay close attention to covers from the terrorism and political violence segment. Significant market hardening and to some extent a move away from broker facilities were observed. In certain liability lines such as directors' and officers' (D&O) insurance the prices that could be obtained settled on the level of the previous year and on the primary market rate reductions were also observed in this segment. Property insurance initially saw only moderate rate increases in the first half of the year. The losses anticipated from Hurricane Ian, however, then set in motion a clear trend towards appreciably higher prices in the fourth quarter.

Lloyd's of London kept moving forward with the initiative to improve market rates and conditions in 2022, causing capacity shortages on the market to continue. Our customer base expanded further due to the launch of various new Lloyd's syndicates, opening up additional opportunities to profitably grow our reinsurance portfolio.

Significant rate increases were recorded on the reinsurance side in the motor line, in the area of terrorism and political violence as well as in cyber business. Particularly in these segments, we worked with our long-standing clients to agree limits of liability in the proportional treaties.

We continue to monitor developments in the Ukraine war and the possible implications for our reinsurance business in the area of terrorism and political violence, the bulk of which we write on a proportional basis. In this regard we engage in a close dialogue with our customers. In the case of our motor business in the United Kingdom, which we reinsure solely on a non-proportional basis, we shall retain our conservative pricing and underwriting approach.

In the year under review, we were able to support our clients across all lines with a consistent risk appetite. Our portfolio continued to grow in 2022 on the back of rate increases in the original market, which boosted income in our proportional business, and price rises in the non-proportional book.

In the **Middle East** we transact both traditional reinsurance for the Middle East and North Africa region and business in accordance with Islamic law, known as retakaful. We offer retakaful capacities worldwide through our subsidiary Hannover ReTakaful. Our current focus is on business in the Middle East, North Africa and Southeast Asia. In both business segments we observed premium growth in the markets of the Middle East and South Asia in the financial year just ended.

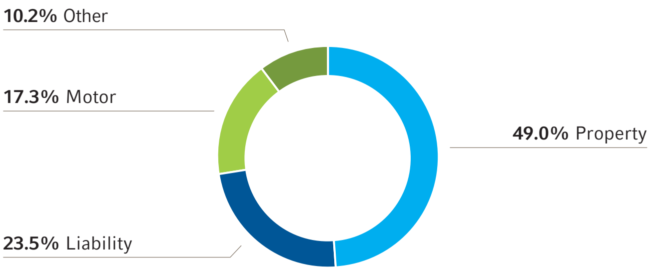
Since 1 January 2021 we have written our business in **South Africa** under the name Hannover Re South Africa as well as with two subsidiaries – Compass Insure and the investment company Lireas –, with the latter holding our shares in managing general agents (MGAs) and insurtechs.

The South African province of KwaZulu-Natal – which had been the site of unrest in the previous year – suffered devastating flooding in the 2022 financial year. This highlighted not only the elevated risks due to climate change but also the widespread need for infrastructure remediation. All in all, the floods and mudslides were the largest natural catastrophe in South Africa's insurance history. At the same time, the country's economy – with the exception of the commodity sector – remained flat.

Despite the flood losses, we were able to generate a modestly positive insurance result. This was due in part to underweighting of our exposures to programmes for catastrophe covers. In addition, the run-off of our reserves for losses from business interruption covers in relation to the Covid-19 pandemic was slightly positive.

We generate a large part of our property and casualty reinsurance business in South Africa through managing general agents in which we hold shares. These agencies were similarly impacted by the flood losses in 2022, but nevertheless proved robust. Compass Insure was also affected by the flood damage, but still generated a very pleasing net profit.

Property & Casualty reinsurance: Gross premium in Europe, the Middle East and Africa (including CIS countries) by lines of business in % M 13



The gross premium volume in our reporting category Europe, Middle East and Africa rose by 6.7% to EUR 5,062.7 million (EUR 4,746.2 million). The combined ratio stood at 98.2% (101.3%). The operating result (EBIT) amounted to EUR 468.4 million (EUR 222.4 million).

Americas

We combine our business in North and Latin America in the **Americas** reporting category.

North America is the largest insurance market in the world. Our business here is written largely through brokers.

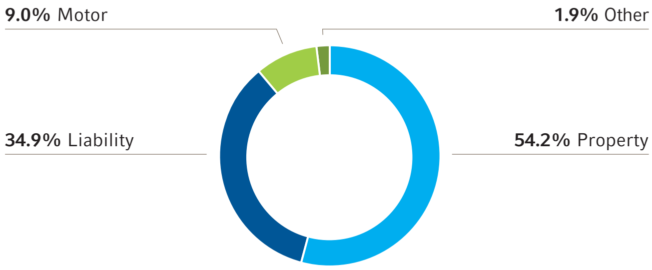
The economic landscape in North America was again dominated by Covid-19 in 2022, but also by surging inflation all around the world. Most significantly, the economy came under pressure from increasing price rises and energy costs as well as supply chain disruptions. The phasing out of Covid-19 restrictions nevertheless generated positive momentum.

The US economy proved to be relatively resilient despite the deteriorating general environment. The premium volume in primary insurance consequently continued to grow, establishing a solid basis for the reinsurance side. Insurers were able to push through rate increases in light of uncertainty in the markets. The trend towards higher prices in property and liability lines was also sustained for the third year in succession.

On the claims side, the financial year was impacted by various major events. These included severe convective storms in the spring of 2022 in the Midwest, which led to considerable insured and reinsured losses, as well as Hurricane Ian, which – particularly owing to the wind and flood damage caused in Florida – went down as the world's costliest natural catastrophe event of the year. Despite a number of other smaller events, the loss burden in North America was not as heavy as in the previous years.

Hannover Re was able to secure improvements in prices and conditions across all lines of North American business in the treaty renewals for 2022.

Property & Casualty reinsurance: gross premium in the Americas by lines of business in % M 14



In **Latin America**, too, the situation on insurance markets largely returned to normal again after the previous years overshadowed by the Covid-19 pandemic. High inflation rates were a dominant issue.

On the whole, 2022 was a comparatively calm year in the region. In contrast to the previous year, Latin American countries were impacted to only a minimal extent by unrest and natural disasters. Most markets in the region saw considerable price adjustments in the year under review on both the insurance and reinsurance side. Against this backdrop we generated a good result in Latin America.

In collaboration with the United Nations Development Programme (UNDP), Global Parametrics and other market players, Hannover Re is working on concepts for the coverage of natural catastrophe risks in countries such as Argentina and Colombia and has positioned itself as a long-term reinsurance partner for public-private partnerships.

The premium volume in our Americas reporting category climbed in the year under review by 28.9% to EUR 5,638.4 million (EUR 4,374.3 million). The combined ratio stood at 98.1% (107.3%). The operating profit (EBIT) increased to EUR 548.4 million (EUR 161.9 million).

Asia-Pacific

The **Asia-Pacific** remains the region with the strongest economic growth in the world. It is thus evolving into one of the largest insurance markets. Back in 2019, Hannover Re had already launched an APAC strategic growth initiative to leverage the region's growth potential even more heavily. We have therefore continued to expand our regional footprint and we assist our clients with their development as they face up to the challenges of the coming years.

This is opening up significant business opportunities, not least because the insurance density is still low in many markets and lines. Among other things, this explains why the devastating floods in Pakistan – one of the year's largest humanitarian disasters – resulted only in comparatively slight insured losses. On the other hand, claims associated with the Covid-19 pandemic in Taiwan and Thailand had a clearly adverse effect on the result in accident and health insurance. The main factors here were high case numbers in connection with the omicron variant as well as regulatory changes, which had negative implications for the scope of coverage provided by the underlying insurance contracts. Among other things, a sickness daily allowance had to paid for quarantine at home.

In China we are a leading reinsurer and our focus is on long-term, stable and profitable customer relationships. As the year progressed, however, we scaled back our market share in response to rate increases that we consider inadequate.

The "Greater China" area, which includes Mainland China as well as Taiwan, Hong Kong and Macau, was only minimally affected in the year under review by the Ukraine war and the associated impacts on inflation rates. Most insurers were therefore able to generate positive underwriting results, not least because 2022 was a rather benign year for catastrophe losses.

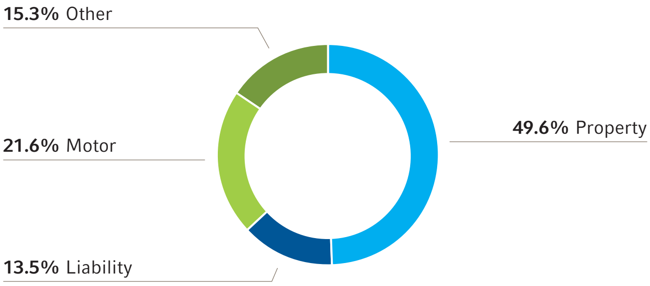
In the region of Southeast Asia – consisting of countries such as Indonesia, Malaysia, the Philippines, Singapore and Vietnam – the 2022 financial year was notable for further growth and sustained heavy loss expenditure. Among other things, we were faced here with additional losses from the Malaysian floods of December 2021 in the year under review.

In the course of the financial year we further expanded our presence in the region, including in South Korea. Special emphasis is put on customer-centric concepts as well as on risk-oriented covers to support expansion of the local infrastructure. In September Japan suffered the effects of Typhoon Nanmadol, an unusually intense storm that brought enormous rainfall; overall, however, the losses there from fire claims and natural disasters remained within reasonable limits. In response to Typhoon Hinnamnor, which caused extensive damage in South Korea, we extended our position as a major market player.

The intensely competitive state of the Indian market remains unchanged. We nevertheless continued to grow as planned in the property insurance lines.

Responsibility for Australia and New Zealand rests with our branch in Sydney. Hannover Re is one of the leading reinsurers in the region. Thanks to strong customer relationships, we have been able to expand our market share in recent years on a good technical rate level. After 2021 had delivered a pleasing underwriting profit, 2022 brought the largest catastrophe loss in Australia's history. Heavy rainfall and the associated devastating flooding in the spring affecting south-east Queensland and the coast of New South Wales led to a market loss of more than AUD 6 billion. Hannover Re's support for its clients as a reliable partner is unwavering. The loss experience in 2022 and prior years prompted significant rate improvements in the region on both the original and reinsurance markets.

Property & Casualty reinsurance: Gross premium in Asia-Pacific by lines of business in % **M 15**



The gross premium volume in the Asia-Pacific region grew by 16.9% to EUR 2,829.3 million (EUR 2,420.7 million). The combined ratio came in at 126.1% (91.6%) due to the considerable expenditures incurred in connection with the Covid-19 pandemic and natural catastrophes, such as the flood losses in Australia. The operating result (EBIT) consequently fell to EUR -544.1 million (EUR 299.6 million).

Worldwide markets

Structured Reinsurance and Insurance-Linked Securities

In the **Structured Reinsurance and Insurance-Linked Securities** reporting category we combine our business involving tailor-made property and casualty reinsurance solutions and insurance-linked securities (ILS).

In **structured reinsurance** we rank as one of the largest providers of innovative and bespoke reinsurance solutions. These provide solvency relief and thus have a positive effect on the client's capital and hence its rating, or they protect against the strain of frequency losses. Structured concepts also offer an alternative in cases where traditional reinsurance capacity cannot be accessed to the full extent. Along with the traditional clientele of primary insurers, structured reinsurance is increasingly in demand among large corporate groups and their in-house insurance captives.

In a difficult market situation the 2022 financial year saw sustained strong demand on the whole in the area of structured reinsurance. A particular challenge emerged in the summer of 2022 when early market indicators pointed to accelerating claims trends in the US retail segment, especially in the motor and homeowners insurance lines. In response, we substantially scaled back our exposure to new proportional business in these lines.

Globally, we were again able to grow our customer base and significantly increased the number of treaties and associated premium volume. In total, more than half of our premium income derived from the United States and roughly a third from Europe.

The purchasing habits of many customers are continuing to shift towards holistic reinsurance solutions. This sustained trend has resulted in more and more clients seeking complex structured contractual arrangements. Given that this business is to some extent based on large-volume transactions, premium income in structured reinsurance can generally fluctuate sharply.

The market for **insurance-linked securities (ILS)** in 2022 was slightly below the level of the previous year with a capacity of around USD 93 billion. Another heavy burden of claims – the effects of Hurricane Ian left a significant mark on the ILS market – led to losses and cash outflows. A volume of some USD 5 billion to USD 10 billion in trapped collateral for claims that have still to be settled – especially in connection with Hurricane Ian – further reduced the funds available for reinvestment. While the substantial rate increases worldwide promise unusually good prospects for 2023, only limited cash inflows were observed as many investors are waiting to see the future profit trend before making any further investments.

Amounting to USD 10.3 billion, the worldwide volume of newly issued catastrophe bonds fell short of the almost USD 14 billion in the record year of 2021, although this figure is on a par with recent years. The coupons paid on new issues, which reflect the insurance risk premium on catastrophe bonds, increased along similar lines to traditional reinsurance.

According to our estimates, roughly two-thirds of the ILS market can be attributed to collateralised reinsurance, under which insurers and investors conclude private risk transfer agreements secured by collateral held in trust accounts.

Hannover Re leverages the entire spectrum of opportunities offered by the ILS market. On the one hand, we take out reinsurance with ILS investors, while at the same time we transfer our customers' risks to the capital market as a service. This is done in the form of catastrophe bonds or through collateralised reinsurance, under which our partners on the investment side are primarily specialised ILS funds. We also invest ourselves in catastrophe bonds.

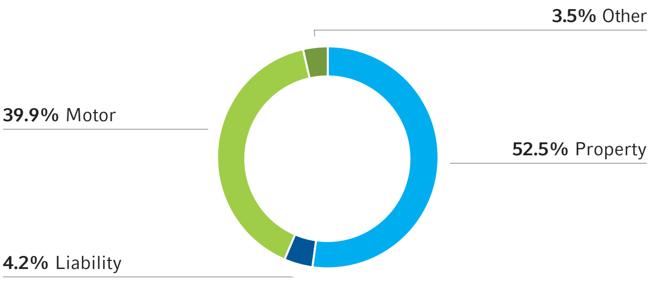
In 2022 the volume of new exposures that we transferred to the capital market in the form of catastrophe bonds was in the region of USD 1.3 billion, split into six transactions. This is below the record year of 2021 with USD 2.7 billion, but otherwise on the level of past years. Covers were placed to protect against losses from natural catastrophes such as floods, windstorm events and earthquakes. The largest transaction was a catastrophe bond with a volume of USD 450 million for the US Federal Emergency Management Agency (FEMA).

Collateralised reinsurance, which remains by far our largest segment in the ILS sector, showed further pleasing growth in the year under review. Most notably, we were able to grow our business with existing clients.

The important role played by the capital market in our purchasing of retrocession protection was unchanged. For example, we have placed a protection cover for Hannover Re known as the "K quota share" – a modelled quota share cession consisting of non-proportional reinsurance treaties in the property, catastrophe, aviation and marine (including offshore) lines – inter alia on the ILS market since as long ago as 1994. In addition to the K quota share, we made use of the ILS market for other protection covers.

The gross premium volume in the Structured Reinsurance and ILS reporting category increased by 46.8% to EUR 6,670.8 million (EUR 4,543.7 million). The combined ratio was 99.5% (96.7%). The operating profit (EBIT) contracted to EUR 82.8 million (EUR 157.9 million).

Property & Casualty reinsurance: Gross premium in Structured Reinsurance and Insurance-Linked Securities by lines of business in % **M 16**



Facultative Reinsurance

In contrast to obligatory reinsurance, we write primarily individual risks in **facultative reinsurance**. The general framework conditions for both types of reinsurance in the various markets are extensively correlated.

In the first half of 2022 reinsurance conditions remained fairly stable. Initial softening tendencies could, however, be discerned. From the second half of the year onwards reinsurance prices and conditions nevertheless improved again. The only exceptions were the directors' and officers' (D&O) and financial institutions lines, where we had recorded significant improvements in recent years but are now regularly seeing rate reductions coming off this high basis.

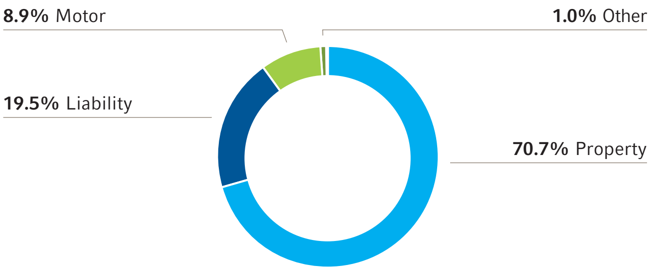
The supply of facultative reinsurance solutions was stable in the year under review, although a renewed upsurge in demand was evident towards year-end as capacities in obligatory reinsurance tightened.

The impact of the war in Ukraine as well as the year's heavy burden of catastrophe losses – inter alia caused by Hurricane Ian – on facultative reinsurance was below average in the year under review. War damage is excluded under our property polies as a matter of principle. Nor do natural disasters have appreciable implications for the facultative department. No further claims developments resulting from the pandemic were recorded. As in the previous year, man-made losses were again notable for a small number of significant loss events.

The gross premium volume in our reporting category Facultative Reinsurance grew by 21.2% to EUR 1,290.5 million (EUR 1,064.4 million). The combined ratio came to 84.6% (92.3%). We were able to book a record result thanks to the marked improvements in prices and conditions seen in recent years. The operating profit (EBIT) amounted to EUR 275.3 million (EUR 144.0 million).

Hannover Re has enshrined sustainability goals as part of its Group strategy and implements appropriate measures. In recent years, for example, we have taken a very conservative approach to the coverage of thermal coal and oilsands risks in facultative business and from 2020 onwards we have no longer written any new business in these areas. Furthermore, in 2022 we added exclusions for the development of new oil and gas fields. Not only that, we have included the sustainability issues of human rights and biodiversity in our review processes. If we identify violations of internationally recognised conventions, we decline the business in question.

Property & Casualty reinsurance: Gross premium in Facultative Reinsurance by lines of business in % **M 17**



Credit, Surety and Political Risks

Loss ratios continued to fall in **credit and surety insurance** as well as in the **political risks** segment despite the global economic and geopolitical challenges. This reflects wide-ranging government support programmes on the fiscal and monetary side in 2020 and 2021, the effects of which could still be felt in 2022.

General economic conditions have, however, deteriorated substantially owing to the sharp surge in inflation and interest rates, with the result that 2022 likely marked a low point in the insolvency trend. The considerably gloomier state of the economy appreciably spurred demand for insurance and reinsurance, while prices held stable or picked up slightly. Implications for claims activity could not be discerned in 2022.

Given that the wave of insolvencies anticipated at year-end 2021 failed to materialise on any tangible scale – primarily as a consequence of pandemic-related government supports, we were able to release the relevant reserve of EUR 165 million in the area of credit, surety and political risks at the end of 2022. The amount thereby freed up was, however, used to correspondingly strengthen the reserves in other segments. The provision for catch-up effects on the insolvency front nevertheless remains adequate.

The gross premium for the Credit, Surety and Political Risks reporting category increased in the financial year by 35.7% to EUR 1,144.0 million (EUR 843.3 million). The combined ratio amounted to 68.2% (79.9%). The operating profit (EBIT) came in at EUR 409.7 million (EUR 227.7 million).

Aviation and Marin

The positive rate momentum of the previous years in the primary market for **aviation** covers has seen a sharp slowdown and even ground to a halt in some parts of the market. From the perspective of insurers, improvements in pricing and coverage are still being recorded for the general aviation segment, although these certainly vary widely across regions. The airline segment, on the other hand, has suffered declining rates of late coming off a stable phase, with activities here remaining slightly below the level before the outbreak of the Covid-19 pandemic. Lease agreements with Russian airlines, among other things, may be affected by the war in Ukraine and associated sanctions. The coverage issues raised between insurers and insureds are currently being clarified in the courts. The product liability segment similarly reported rate reductions, which will probably neutralise the higher premium volumes associated with increasing activity.

In contrast to the original market, the tendencies observed in the reinsurance market are far more positive. They are primarily driven by a significant increase in a product liability claim as well as by uncertainties around the Ukraine war, especially on account of currently unresolved coverage issues relating to lease agreements taken out by Russian airlines. Along with substantial rate increases, we are seeing substantially better treaty terms and conditions for reinsurers.

Particularly where the Russian invasion of Ukraine is concerned, our unchanged adherence to a conservative underwriting approach led to an appreciable drop in business. We continued to write business only with extensive exclusions in relation to the conflict, which some of our clients were not prepared to accept.

World trade normalised in the reporting period after the easing of pandemic-related restrictions. This was a development that also benefited the primary and reinsurance market for **marine business**. Logistical problems still cropped up in some areas, for example due to a shortage of personnel, although these had no significant implications for Hannover Re’s business.

The upward momentum evident on the marine market in 2020 and 2021 continued in the year under review, albeit less dynamically. Rate adjustments were pushed through in cargo, marine hull and specie insurance for loss-making risks or in areas where the exposure had changed.

The war in Ukraine will likely have considerable implications for marine insurers and reinsurers. The naval blockade of Ukrainian ports left a sizeable number of vessels stuck in port. Over the course of the year, however, the values of vessels that were unable to leave port were reduced. A helpful factor here was the agreements reached around the export of Ukrainian grain, for which these ships were used. On the other hand, possible losses from terrorism and political violence, which to some extent are reinsured in the marine market, may negatively impact the result of Hannover Re’s book of reinsurance on the marine side, most of which is written on a non-proportional basis.

In the renewals for both aviation and marine risks Hannover Re agreed sweeping exclusions under the treaties immediately following the outbreak of war in Ukraine and – where this was not possible – relinquished business. Among other things, it was important here to protect the portfolio against the possibility of the war spreading in future.

In offshore energy business the insurance and reinsurance markets were stable. Losses were once again only moderate. The war in Ukraine drove oil and gas prices sharply higher worldwide. Efforts to explore and develop new resources and transport them to importing countries consequently picked up. Demand for insurance and reinsurance products in this line remained steady or rose slightly.

It is our expectation that Hurricane Ian in the United States will have moderate implications for our book of marine reinsurance. Aside from Ian and possible consequences of the Ukraine war, no significant losses were recorded from individual risks.

We achieved improved conditions and prices in all rounds of treaty renewals in the year under review. Reinsurance programmes covering risks associated with terrorism and political violence were restructured and repriced. In our discussions with customers we were able to build on our long-standing relationships.

The premium volume for our Aviation and Marine reporting category declined by 3.0% to EUR 652.5 million (EUR 672.5 million). The combined ratio was 90.4% (69.8%). The operating profit (EBIT) came in at EUR 142.3 million (EUR 239.3 million).

Agricultural risks

In the year under review we continued to grow our position in **agricultural risks** in selected markets. The growing need for agricultural commodities and foodstuffs combined with the accumulation of extreme weather events led to stronger demand for insurance and reinsurance solutions. In this area Hannover Re offers its customers both comprehensive traditional reinsurance concepts and innovative insurance tools such as parametric covers.

The enormous losses caused by the drought in southern Brazil in 2021 nevertheless highlighted once again the effects of climate change. The sustainable development of the market for agricultural risks is contingent on improved profitability for both insurers and reinsurers. The increasing exposures must therefore also be clearly reflected in rate movements.

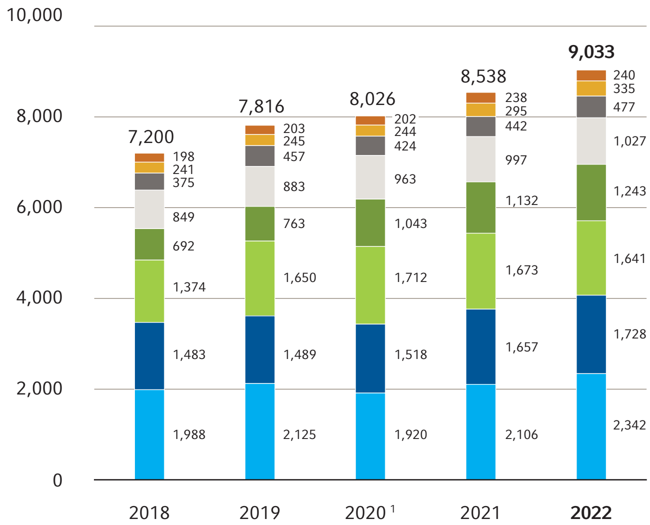
In addition, the increasingly widespread availability of new technologies – such as remote sensing by satellites – facilitates further expansion of the segment with innovative and efficient insurance products. Our team, which specialises in index-based and parametric covers, supports our customers around the world not only with reinsurance but also in the development and implementation of parametric coverage concepts. Along with our technical know-how, we draw on our growing network of insurtechs and partners and we offer solution options that also extend beyond the bounds of traditional agricultural business.

Movements in rates and conditions in agricultural business on both the primary and reinsurance side were generally commensurate with the risks in the year under review. Rates for catastrophe covers, such as for forest insurance, remained on a high level.

Altogether, the gross premium volume in the Agricultural Risks reporting category grew by 70.7% to EUR 954.0 million (EUR 559.0 million), supported by a large-volume individual treaty. The combined ratio was 105.8% (95.0%). The operating result (EBIT) slipped to EUR -30.8 million (EUR 59.5 million).

Life & Health reinsurance at a glance

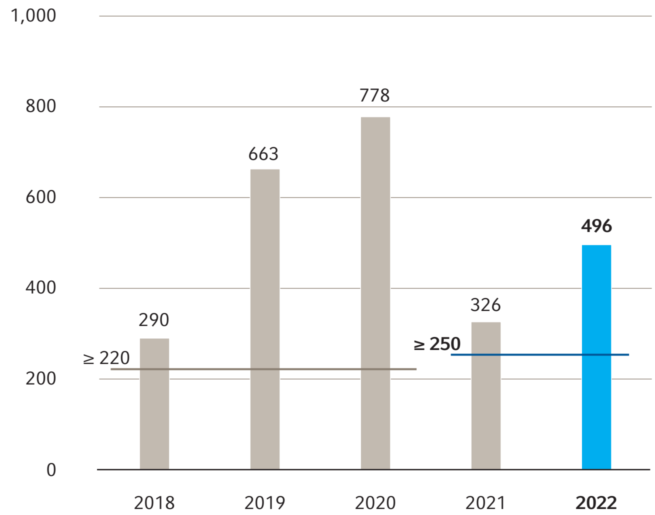
Breakdown of gross premium by markets — M 18
in EUR million



North America · United Kingdom · Asia · Australia / New Zealand · Rest of Europe · Latin America · Africa · Germany

[1] Restated pursuant to IAS 8

Value of New Business (VNB) growth[1, 2] — M 19
in EUR million

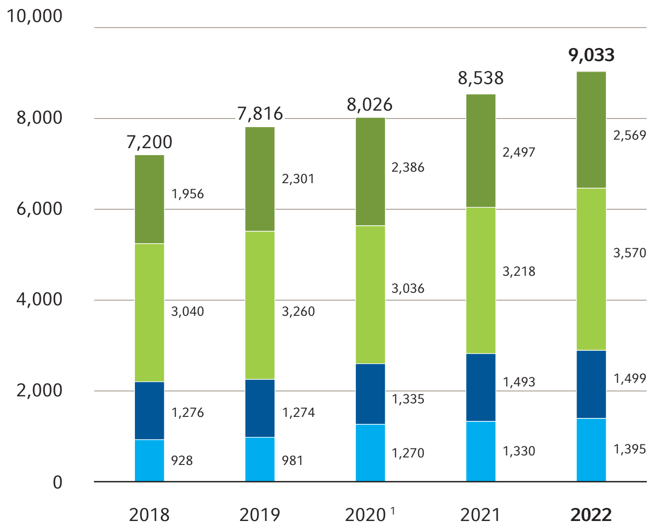


Value of New Business (VNB) · Target 2016 – 2020 · Target since 2021

[1] Based on Solvency II principles and pre-tax reporting

[2] This information has not been audited by the independent auditor

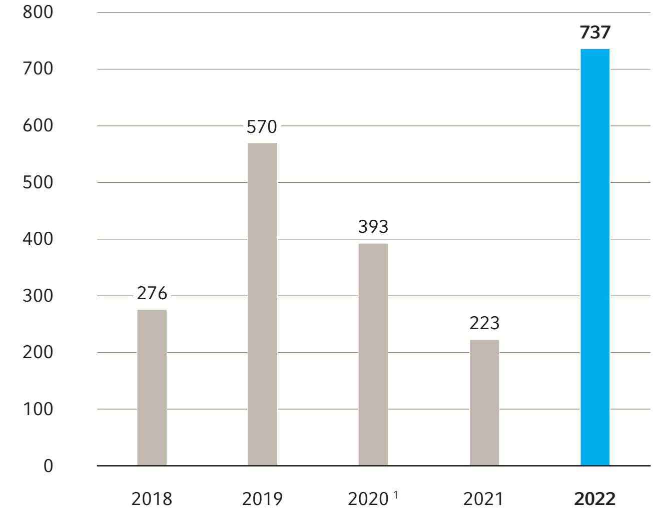
Breakdown of gross written premium by reporting categories — M 20
in EUR million



Financial Solutions · Longevity · Mortality · Morbidity

[1] Restated pursuant to IAS 8

EBIT performance — M 21
in EUR million



[1] Restated pursuant to IAS 8

Life & Health reinsurance

- Gross premium up by 5.8%; sustained customer interest particularly in longevity covers and financial solutions
- Strains from the Covid-19 pandemic substantially lower
- Operating result triples to EUR 736.9 million

Life & Health reinsurance is Hannover Re's second major business group. It contributed a 27% share of our Group gross premium in the year under review.

While the Covid-19 pandemic was an issue that continued to weigh on the life and health reinsurance market in the financial year just ended, it did so considerably less heavily than in the previous year. In many parts of the world significant improvements are evident, both in terms of the severity of disease progression and the number of deaths. This is reflected in the clear decrease in pandemic-related strains incurred by Hannover Re.

Altogether, we faced pandemic-related losses of EUR 275.8 million in the 2022 financial year (previous year: EUR 582.0 million). The bulk of these were attributable to mortality covers in the United States, the largest market for mortality insurance products.

Russia's war on Ukraine, on the other hand, had no implications for our Life & Health reinsurance business group because we do not write any significant business in either of the two countries.

The pandemic-related expenditures were opposed by positive income from our extreme mortality cover, which we have transferred to the capital market in regular tranches since 2013. In the 2022 financial year it generated income of EUR 87.0 million (EUR 43.9 million), which we recognised under the assets measured at fair value through profit or loss in the investments on the life and health reinsurance side.

In general terms, global life and health reinsurance markets remained intensely competitive in the 2022 financial year. The sharp rise in interest rates seen in many countries over the course of the year did not yet have any significant effects on the market in 2022,

When it comes to solutions for the coverage of longevity risks, stronger demand was again observed in other countries beyond the traditionally important UK market. Among other things, we were able to write our first longevity reinsurance covers in Australia. Keen interest in such products was also evident in markets such as Canada and the United States. The exacting local capital requirements placed on primary insurers and pension funds in connection with such business continue to be one of the driving factors here.

In the area of financial solutions we further grew our business in numerous markets, including China and the United States. Varying widely in their structure, our covers designed for capital and solvency relief as well as for prefinancing purposes enjoyed worldwide demand.

Digital insurance solutions and automation are playing an increasingly important role in virtually all market segments. This is true not only of joint projects conducted with primary insurers and other cedants but also of cooperation with start-ups.

Gross written premium in the Life & Health reinsurance business group climbed by 5.8% to EUR 9.0 billion (previous year: EUR 8.5 billion); at constant exchange rates the increase would have been 1.0%. The level of retained premium stood at 88.5% (88.2%). Net premium earned increased by 6.9% to EUR 8.0 billion (EUR 7.5 billion), corresponding to growth of 1.7% adjusted for exchange rate effects.

The underwriting result including interest and expenses on funds withheld and contract deposits improved to EUR -170.3 million (EUR -594.5 million). Not included here are large parts of the result in Financial Solutions business that we disclose according to the deposit accounting method in other income/expenses on account of the minimal risk transfer. Consequently, no gross premium is reported for this business.

A positive one-time effect of EUR 41 million similarly included in other income/expenses was already generated in the second quarter through the restructuring of a treaty in US Financial Solutions business.

The investment income for the Life & Health reinsurance business group fell by 1.5% to EUR 589.7 million (EUR 598.8 million). This includes the aforementioned income from our extreme mortality cover as well as a negative valuation effect of EUR 148.1 million (EUR -32.9) from a derivative linked to a reinsurance treaty in the United Kingdom.

The operating result (EBIT) tripled to EUR 736.9 million (EUR 223.3 million). The contribution made by life and health reinsurance to Group net income similarly improved substantially to EUR 588.3 million (EUR 196.6 million).

Key figures for Life & Health reinsurance M 22

in EUR million	2022	+/– previous year	2021	2020 [1]	2019	2018
Gross written premium	9,033.3	+5.8%	8,538.1	8,026.3	7,816.4	7,200.4
Net premium earned	8,035.0	+6.9%	7,519.5	7,155.2	6,931.9	6,484.8
Investment income	589.7	-1.5%	598.8	695.3	684.5	491.8
Claims and claims expenses	7,050.7	-0.7%	7,103.4	6,438.3	5,817.5	5,341.6
Change in benefit reserve	266.5	-10.8%	298.6	103.5	(10.8)	(50.8)
Commissions	1,296.0	+2.5%	1,263.8	1,204.8	1,254.8	1,263.6
Own administrative expenses	290.5	+9.5%	265.2	254.1	255.7	216.9
Other income/expenses	482.9	+10.1%	438.7	336.3	289.0	172.1
Operating result (EBIT)	736.9	+230.1%	223.3	393.0	569.9	275.9
Net income after tax	588.3	+199.2%	196.6	328.9	471.6	185.9
Earnings per share in EUR	4.88	+199.2%	1.63	2.73	3.91	1.54
Retention	88.5%		88.2%	89.8%	89.5%	90.7%
EBIT margin [2]	9.2%		3.0%	5.5%	8.2%	4.3%

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

We provide below a more detailed discussion of developments in the individual reporting categories – Financial Solutions, Longevity Solutions and Mortality and Morbidity Solutions – as well as an overview of the support that we provide as part of our Underwriting Services.

Financial Solutions

In the **Financial Solutions** reporting category, we offer our customers bespoke reinsurance solutions designed to optimise their solvency, liquidity and capital position. Our reinsurance solutions in this segment are always tailored to the customer's specific needs and hence highly diverse and individually structured. Given that the customer's primary motivation here is not exclusively to secure coverage for biometric risks, a hallmark of such solutions is that they also seek to deliver financial, regulatory or solvency relief benefits.

The United States has traditionally been an exceptionally important insurance market for our financial solutions business and in 2022 again played a considerable part in the total result. As in previous years, new business in Asia – and especially China – continued to develop favourably.

Gross premium income in the Financial Solutions reporting category climbed by 4.9% to EUR 1,395.0 million (EUR 1,329.5 million). The operating result (EBIT) increased by 55.6% to EUR 647.2 million (EUR 416.0 million). This includes an EBIT contribution of EUR 450.2 million (EUR 356.2 million) from business with a reduced risk transfer, which we recognise in other income/expenses owing to the reduced risk transfer and for which no gross premium is booked.

Longevity Solutions

In the **Longevity Solutions** reporting category, we group together all reinsurance business under which the primary risk covered for our customers is the longevity risk. We develop innovative annuity products, for example, that are tailored to the individual needs of policyholders in various life situations. The bulk of our longevity solutions 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.

The United Kingdom remains the largest market for coverage of longevity risks. In addition, growing demand continues to be evident in other countries. In this respect, it was especially gratifying to be able to write our first longevity reinsurance covers in Germany and Australia. The exacting capital requirements faced by primary insurers and pension funds in connection with such business remain a driving force behind this demand.

Overall, the market environment for longevity solutions in the core UK market continued to be intensely competitive. We were nevertheless successful in completing numerous transactions over the course of the year, especially smaller and mid-sized deals.

The gross premium for the Longevity Solutions reporting category rose by 0.4% to EUR 1,499.0 million (EUR 1,493.3 million). The operating result (EBIT) declined to EUR 142.0 million (EUR 183.5 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 covered under one reinsurance treaty. In our reporting we therefore consolidate the profit contributions of these reporting categories, but nevertheless provide below a separate overview of significant developments in the financial year just ended.

Mortality Solutions

Mortality Solutions generate the lion's share of premium income overall in our Life & Health reinsurance business group. We provide reinsurance protection here for our customers against the risk that their insureds do not live as long as anticipated and hence the actual mortality negatively diverges from the originally expected mortality.

While the Covid-19 pandemic continued to weigh on business with mortality covers, significant improvements were evident both in terms of the severity of disease progression and the number of deaths. The bulk of the pandemic-related losses under mortality covers were attributable to the United States, the largest single market. Further appreciable losses were incurred from South Africa and Latin America.

The gross premium in the Mortality Solutions reporting category grew by 10.9% to EUR 3,569.8 million (EUR 3,218.2 million).

Morbidity Solutions

Within the **Morbidity Solutions** reporting category, we cover business centred around the risk of a deteriorating 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 long-term care insurance.

Pandemic-related losses were also reported in health business, albeit on an appreciably lesser scale than under mortality covers. The underlying business developed broadly in line with expectations.

The gross premium for morbidity business grew by 2.9% to EUR 2,569.5 million (EUR 2,497.2 million).

The gross premium for our total mortality and morbidity portfolio increased by 7.4% to EUR 6,139.2 million (EUR 5,715.4 million). The operating result (EBIT) for the Mortality and Morbidity Solutions reporting category totalled EUR -52.3 million (EUR -376.2 million).

Underwriting Services

Under the heading of **Underwriting Services** we report on the activities and services that we provide for our customers above and beyond pure risk transfer. Our automated underwriting systems under the "hr | ReFlex" and "hr | Quirc" brands and the associated process automation for our customers are a major feature in this regard.

Our customers continue to take a keen interest in issues of digitalisation and innovation and we engage in an intensive exchange with numerous start-ups and primary insurers around the development of innovative, digital coverage concepts.

Our innovation platform "hr | equarium" enables customers to access a wide range of insurance-specific products and solutions. Furthermore, it opens up access for insurtechs and other start-ups to our global client network. Following the launch of hr | equarium in 2019 as an exclusive platform for our clients, we took the decision in early 2022 to make it openly accessible to all interested parties. hr | equarium is now used on a regular basis by more than 1,000 insurers from over 100 countries. Insurtechs all over the world currently offer more than 170 solutions on the platform, including in innovative areas such as cyber, telematics, telemedicine, genetics and parametrics.

Investments

- Highly satisfactory investment performance despite continued challenging market environment
- Higher income from inflation-linked bonds and real estate
- Return on investment surpasses target of more than 2.5% to reach 3.2%
- Volume of assets under own management largely stable at EUR 56.9 billion

Against the backdrop of the continued challenging state of global financial markets, we are highly satisfied with the performance of our investments.

The ordinary investment income excluding interest on funds withheld and contract deposits amounting to EUR 1,978.9 million (previous year: EUR 1,555.6 million) showed a pleasing significant improvement on the comparable period. In particular, ordinary income from the real estate sector and from fixed-income securities was appreciably better. The latter was driven primarily by sharply higher earnings from our portfolio of inflation-linked bonds that we have held for a number of years to limit inflation risks. This gave rise to a positive income contribution of EUR 458.5 million (EUR 192.6 million) in the year under review. Higher inflation expectations led to increased amortisation amounts here. Earnings from alternative investment funds were down on the previous year, although still higher than originally anticipated. The income from measurement at equity increased sharply to EUR 111.8 million (EUR 35.7 million), primarily due to special income recognised in connection with the measurement of one of our participations. Interest on funds withheld and contract deposits retreated to EUR 236.2 million (EUR 268.3 million).

Net realised gains on disposals totalled EUR 99.3 million (EUR 281.0 million) and were driven principally by realisations in the area of listed equities, alternative investments and fixed-income securities. This reflected the liquidation of our portfolio of listed equities in the first two quarters, from which we generated a positive profit contribution of EUR 94 million. As far as alternative investments are concerned, our contribution of investments to a joint venture with Münchener Rückversicherungs-Gesellschaft in the private equity sector was a particularly notable move intended to enable both companies to enjoy broader market access and further diversification in the area of alternative investment classes. This led to the disclosure of pro rata hidden reserves in an amount of EUR 558.4 million.

Opposing effects in the reporting period derived primarily from the sale of fixed-income securities as part of regrouping in our credit portfolios as well as from general portfolio maintenance. We realised net hidden losses of altogether EUR 593.5 million in this context. In the first quarter we sold some of our holdings of Russian and Ukrainian bonds. Overall, this enabled us to further boost our liquidity position as well as the return on new investments and reinvesting activities.

Impairments and depreciation totalling EUR 213.2 million (EUR 88.8 million) were taken on our investments. Of this, an amount of EUR 106.2 million (EUR 0.2 million) was attributable to fixed-income securities. These involved predominantly Russian or Ukrainian issuers or issuers from the Chinese real estate sector. Impairment losses of EUR 26.1 million (EUR 24.9 million) were recognised on alternative investment funds, together with EUR 29.5 million (EUR 24.8 million) on real estate and real estate funds. These were opposed by write-ups of EUR 19.1 million (EUR 1.1 million). Depreciation on directly held real estate increased to EUR 48.5 million (EUR 38.4 million), a reflection of our expanded exposure to this sector.

The income of EUR 87.0 million generated from our extreme mortality cover was recognised in the investments measured at fair value through profit or loss. This contrasted with a negative valuation effect of altogether EUR 148.2 million from a derivative linked to a reinsurance treaty in the United Kingdom, of which a share of EUR 25.6 million is included in the net realised gains. In total, the unrealised losses in our assets recognised at fair value through profit or loss came to EUR 2.2 million. This contrasts with unrealised gains of EUR 36.1 million in the previous year.

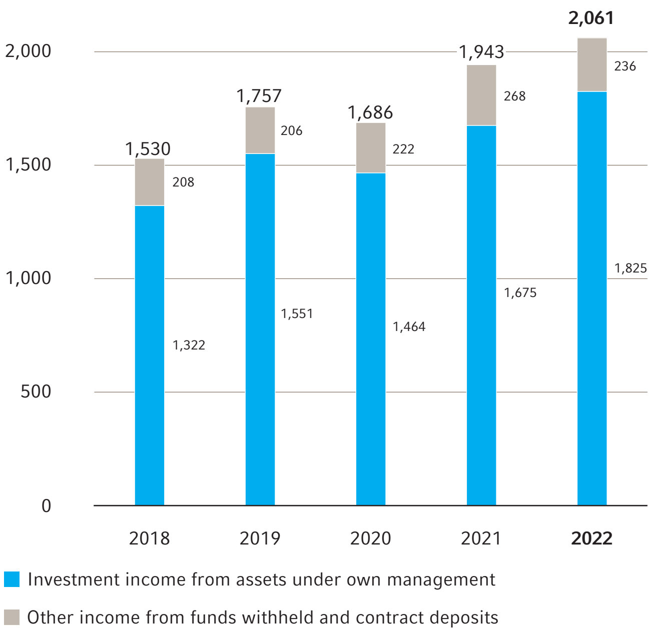
Thanks to strong ordinary income and despite lower profit contributions from realised gains and interest on funds withheld and contract deposits as well as higher impairment losses, the investment income of EUR 2,060.9 million (EUR 1,943.0 million) was higher than in the comparable period. Income from assets under own management grew by 8.9% to EUR 1,824.6 million (EUR 1,674.8 million), producing an average return (including effects from derivatives) of 3.2%. This performance comfortably beat our guidance of more than 2.5%. The main drivers here were the significantly increased income booked from our portfolio of inflation-linked bonds and the surge in income recognised from measurement at equity. These more than offset the higher impairments and lower net realised gains by a clear margin.

Investment income **M 23**

in EUR million	2022	+/– previous year	2021	2020[1]	2019	2018
Ordinary investment income[2]	1,978.9	+27.2%	1,555.6	1,240.4	1,380.8	1,321.7
Result from participations in associated companies	111.8	+212.7%	35.7	88.1	26.4	5.0
Realised gains/losses	99.3	-64.7%	281.0	329.6	273.7	127.7
Appreciation	19.1		1.1	–	–	3.6
Depreciation, amortisation, impairments[3]	213.2	+140.1%	88.8	129.4	80.6	52.7
Change in fair value of financial instruments[4]	(2.2)	-106.2%	36.1	64.0	72.9	31.2
Investment expenses	168.9	+15.7%	146.0	129.0	122.5	114.3
Net investment income from assets under own management	1,824.6	+8.9%	1,674.8	1,463.7	1,550.6	1,322.0
Net investment income from funds withheld	236.2	-11.9%	268.3	221.8	206.4	208.0
Total investment income	**2,060.9**	**+6.1%**	**1,943.0**	**1,685.5**	**1,757.1**	**1,530.0**

1 Restated pursuant to IAS 8
2 Excluding interest on funds withheld and contract deposits
3 Including depreciation/impairments on real estate
4 Portfolio at fair value through profit or loss and trading

Development of investment income **M 24**
in EUR million



1 Restated pursuant to IAS 8

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. They 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 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. The modified duration of our bond portfolio, which stood at 5.1 (5.8), was lower than at the end of the previous year. This was not, however, due to any active reduction of the maturity profile of our securities, but rather arose primarily as the mathematical consequence of larger declines in fair value on longer-maturity instruments. Through active and regular management of the currency spread in our fixed-income portfolio we also aim for 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 2022 we held 30.2% (29.1%) of our investments in euros, 42.2% (44.2%) in US dollars, 6.0% (6.5%) in pound sterling and 6.5% (6.5%) in Australian dollars.

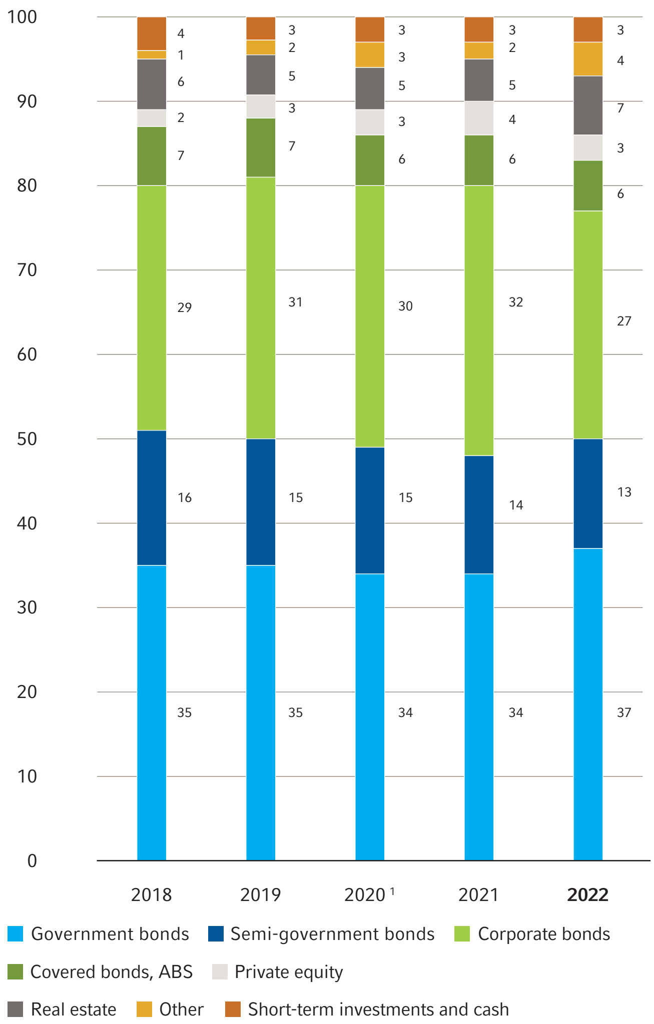
Investment portfolio **M 25**

in EUR million	2022	2021	2020	2019	2018
Funds withheld	11,538.9	11,306.5	9,958.2	11,273.8	10,864.6
Investments under own management	56,939.5	56,213.2	49,001.6	47,629.4	42,197.3
Total	**68,478.4**	**67,519.7**	**58,959.8**	**58,903.2**	**53,061.9**

Investments

Our portfolio of assets under own management was on a level comparable with the previous year at EUR 56.9 billion (31 December 2021: EUR 56.2 billion). Higher interest rates and wider credit spreads on corporate bonds had clearly negative effects on the fair values of our fixed-income securities. These factors were, however, very largely offset by the strong operating cash flow, issuance of a bond and positive effects from currency translation. The unrealised losses on our fixed-income securities totalled EUR 5.0 billion at the end of the reporting period. We had reported unrealised gains here of EUR 1.4 billion as at 31 December 2021.

Breakdown of investments under own management **M 26**
in %

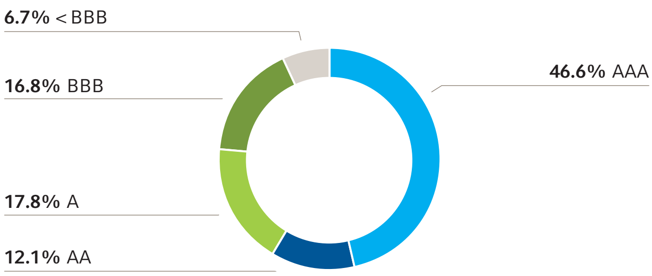


[1] Restated pursuant to IAS 8

Our investments benefited overall from the fact that we had already adopted a more cautious posture since the end of the previous year in the face of anticipated central bank moves and inflation trends and we similarly made only very moderate investments and reinvestments in instruments with a steeper risk profile during the reporting period. Aside from the liquidation of our portfolio of listed equities, we generally shifted towards a somewhat lower-risk asset allocation in the corporate bonds sector in the year under review. On real estate markets we were able to act on a small number of opportunities to strengthen our portfolio in South America and Europe. By the end of the fourth quarter we had broadened the basis for our short- and medium-term liquidity management actions through realisations in the area of fixed-income securities. The modified duration of our bond portfolio, which stood at 5.1 (5.8), was lower than at the end of the previous year. This was not, however, due to any active reduction of the maturity profile of our securities, but rather arose primarily as a consequence of larger declines in fair value on longer-maturity instruments. 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 was stable at EUR 47.3 billion (EUR 48.0 billion). Here, too, as already outlined with respect to the investment portfolio as a whole, this reflects, on the one hand, interest rate increases and wider credit spreads that reduced fair values, while on the other hand these factors were extensively offset by currency effects and cash inflows from the operating cash flow as well as issuance of a bond. The net hidden losses for available-for-sale fixed-income securities, which are included in shareholders' equity, totalled EUR 4,860.5 million – as against reserves of EUR 1,299.1 million at the end of the previous year. This reduction can be attributed primarily to the interest rate increases seen on government bonds in the course of the reporting period and the wider credit spreads 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 76.6% (74.6%) as at year-end.

Rating of fixed-income securities **M 27**



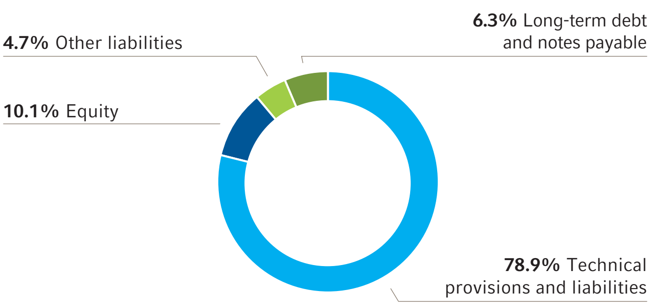
Holdings of alternative investment funds increased overall in the reporting period. As at 31 December 2022 an amount of EUR 1,981,1 million (EUR 1,747.2 million) was invested in private equity funds; a further EUR 579.9 million (EUR 556.5 million) was attributable predominantly to fund investments in high-yield bonds and loans. In addition, altogether EUR 945.5 million (EUR 805.9 million) was invested in structured real estate investments. The uncalled capital with respect to the aforementioned alternative investments totalled EUR 2,061.7 million (EUR 1,435.3 million). Our contribution of investments to a joint venture with Münchener Rückversicherungs-Gesellschaft in the private equity sector was a particularly notable move intended to enable both companies to enjoy broader market access and further diversification in the area of alternative investment classes. The share of this asset class in our investment portfolio did not change as a result of the contribution. For further explanatory remarks we would refer to section 4.3 "Major acquisitions and new formations".

At the end of the year under review we held a total amount of EUR 1.9 billion (EUR 1.8 billion) in short-term investments and cash. Funds withheld amounted to EUR 11.5 billion (EUR 11.3 billion).

Analysis of the capital structure

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 2022, broken down into percentages of the balance sheet total.

Capital structure as at 31 December 2022 **M 28**



The technical provisions and liabilities shown above, which include funds withheld/contract deposits and reinsurance payable, make up 78.9% (74.7%) 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 10.1% (15.4%) of the balance sheet total as well as the long-term debt and – especially – notes payable at altogether 4.7% (5.3%) of the balance sheet total represent our most important sources of funds.

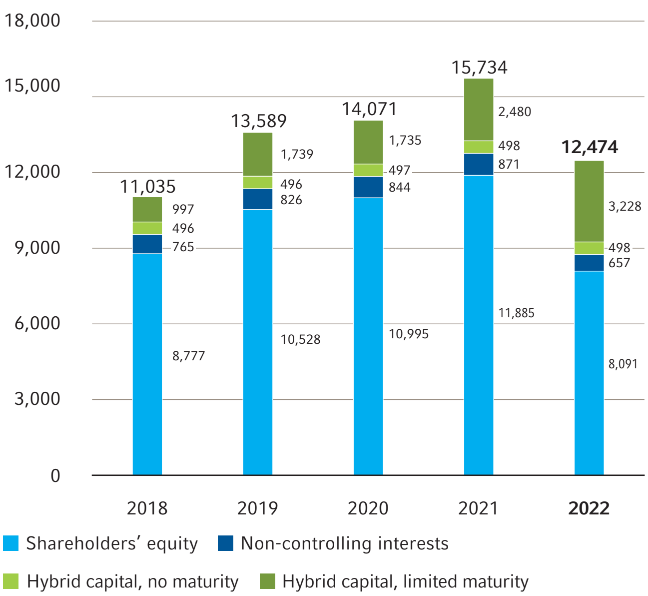
We ensure that our business is sufficiently capitalised at all times through continuous monitoring and by taking appropriate steering actions as necessary.

Management of policyholders' surplus

A key strategic objective of Hannover Re is long-term capital preservation. We have 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.

Development of policyholders' surplus **M 29**
in EUR million



The policyholders' surplus totalled EUR 12,474.0 million (EUR 15,733.6 million) as at the balance sheet date, an decrease of 20.7%. Retained earnings rose by EUR 713.4 million to EUR 9,699.4 million (EUR 8,985.8 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 down by altogether EUR 4,507.7 million. The considerable decline in this item can be attributed largely to the sharp rise in interest rates in all economic areas worldwide, In the year under review a subordinated bond in a nominal amount of EUR 750.0 million was issued.

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 an attractive 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 17 et seq. of this report.

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. From the Group perspective we manage Hannover Re’s solvency extensively using our internal capital model (cf. “Opportunity and risk report”, page 75 et seq.).

Group shareholders’ equity

Compared to the position as at 31 December 2021, Group shareholders’ equity fell in the year under review by EUR 4,008.5 million, equivalent to 31.4%, to EUR 8,747.7 million. After adjustment for non-controlling interests, it declined by EUR 3,794.0 million to EUR 8,091.0 million. The book value per share decreased accordingly by 31.9% to EUR 67.09. The changes in the shareholders’ equity were shaped chiefly by the following developments:

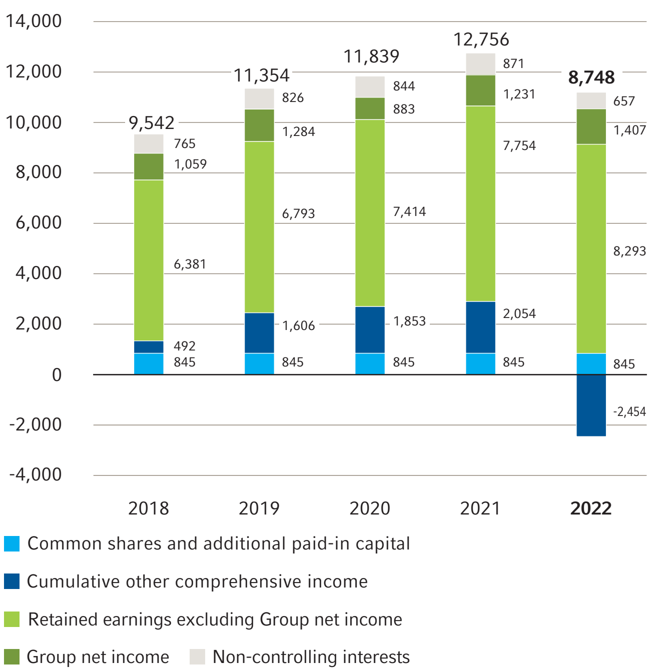
Cumulative foreign currency gains amounting to EUR 598.3 million were recorded as at the balance sheet date as a consequence of exchange rate movements of foreign currencies against the euro. Compared to the cumulative foreign currency gains of EUR 366.2 million in the previous year, this constitutes an increase of EUR 232.1 million in the foreign currency gains and losses recognised directly in equity. This increase in the currency translation reserve from the translation of the shareholders’ equity of foreign subsidiaries resulted principally from the devaluation of the euro against almost all relevant currencies, especially the US dollar.

The balance of unrealised gains and losses on investments stood at EUR -3,015.4 million, a decrease of EUR 4,783.7 million compared to the beginning of the year under review. This reflects the sharp rise in interest rates observed in our main currency areas in the course of the reporting period and the associated decline in the fair values of investments sensitive to interest rate movements. From an economic perspective, this drop in the fair values of investments is opposed by a corresponding decrease in the fair value of our technical provisions and liabilities, although this is not reflected in the balance sheet under current IFRS 4 accounting principles.

Non-controlling interests in shareholders’ equity contracted by EUR 214.5 million to EUR 656.7 million as at 31 December 2022. The bulk of this – in an amount of EUR 595.9 million (EUR 740.1 million) – is attributable to the non-controlling interests in E+S Rückversicherung AG.

The Group net income for 2022 attributable to the shareholders of Hannover Rück SE amounted to EUR 1,406.7 million (EUR 1,231.3 million). The non-controlling interest in the profit generated in the year under review totalled EUR 136.0 million (EUR 68.9 million).

Development of Group shareholders’ equity **M 30**
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 is 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 5,398.7 million (EUR 4,257.7 million) as at the balance sheet date.

Our bonds supplement our equity resources 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 seven 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 31

in EUR million	Issue date	Coupon in %	2022	2021
Hannover Finance (Luxembourg) S.A., subordinated debt, EUR 500 million; 2012/2043	20/11/2012	5.00	499.6	499.2
Hannover Rück SE, subordinated debt, EUR 500 million; 2014/undated	15/9/2014	3.375	498.2	497.5
Hannover Rück SE, senior bond, EUR 750 million; 2018/2028	18/4/2018	1.125	745.7	744.9
Hannover Rück SE, subordinated bond, EUR 750 million; 2019/2039	9/10/2019	1.125	743.0	742.0
Hannover Rück SE, subordinated bond, EUR 500 million; 2020/2040	8/7/2020	1.75	495.9	495.4
Hannover Rück SE, subordinated bond, EUR 750 million; 2021/2042	22/3/2021	1.375	743.9	743.3
Hannover Rück SE, subordinated bond, EUR 750 million; 2022/2043	14/11/2022	5.875	745.7	–
Total			**4,472.0**	**3,722.3**

Several Group companies have also taken up long-term debt – principally in the form of mortgage loans and loans from joint ventures – amounting to EUR 926.6 million (EUR 535.4 million).

For further explanatory information please see our remarks in the notes to this report, section 6.12 "Financing liabilities", page 232 et seq., and section 6.13 "Shareholders' equity and treasury shares", page 235 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 257 et seq.

Analysis of the consolidated cash flow statement

Liquidity

We generate liquidity from our operational reinsurance business, investing activities and financing measures. Through regular liquidity planning and by managing the fungibility of our investments, we 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 162 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 32**

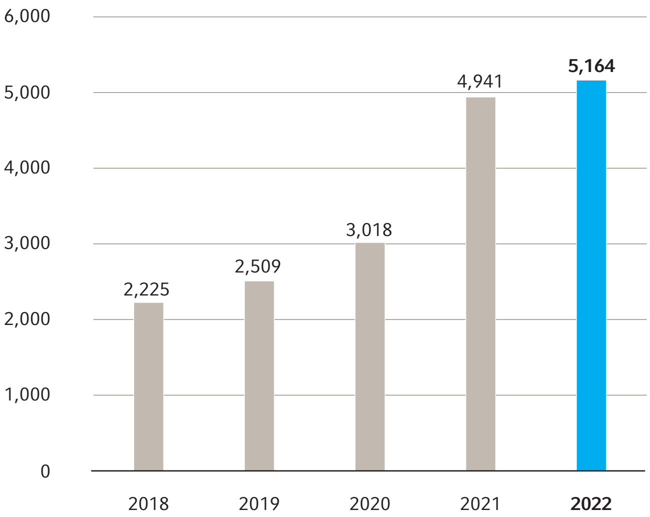
in EUR million	2022	2021
Cash flow from operating activities	5,164.4	4.940,5
Cash flow from investing activities	(5,382.8)	(5.261,1)
Cash flow from financing activities	133.3	277,5
Exchange rate differences on cash	53,2	120,1
Change in cash and cash equivalents	(31,9)	77,0
Cash and cash equivalents at the beginning of the period	1.355,1	1.278,1
Change in cash and cash equivalents according to cash flow statement	(31,9)	77,0
Cash and cash equivalents at the end of the period	**1.323,2**	**1.355,1**

Cash flow from operating activities

The cash flow from operating activities, which also includes inflows from interest received and dividend receipts, amounted to EUR 5,164.4 million in the year under review as opposed to EUR 4,940.5 million in the previous year. The increase of altogether EUR 223.9 million was due to the positive development of operational business.

Cash flow from operating activites **M 33**

in EUR million



[1] Restated pursuant to IAS 8

Cash flow from investing activities

The balance of cash inflows and outflows from operating activities and financing activities in an amount of EUR -5,382.8 million (EUR -5,261.1 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 subsection.

Cash flow from financing activities

The cash inflow from financing activities amounted on balance to EUR 133.3 million (EUR 277.5 million) in the year under review. This item includes primarily the dividends paid out in the financial year by Hannover Rück SE, E+S Rückversicherung AG and other Group companies to parties outside the Group totalling EUR 723.5 million (EUR 588.5 million) as well as the balance from the issuance and repayment of long-term debt, especially bonds, in an amount of EUR 856.5 million (EUR 865.5 million).

Overall, the cash and cash equivalents therefore decreased year-on-year by EUR 31.9 million to EUR 1,323.2 million.

For further information on our liquidity management please see page 75 et seq. of the "Opportunity and 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 Rück SE on the basis of an interactive rating process and have awarded it very good ratings. The rating agencies highlight in particular the profitability, strong competitive position, capitalisation and risk management of Hannover Rück SE.

Financial strength ratings of Hannover Rück SE **M 34**

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

Financial strength ratings of subsidiaries **M 35**

	Standard & Poor's	A.M. Best
E+S Rückversicherung AG	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 South Africa Ltd.[1]	AA-	–
Hannover Re (Ireland) Designated Activity Company	AA-	A+
Hannover Re (Bermuda) Ltd.	AA-	A+
Hannover ReTakaful B.S.C.(c)	A+	–
Glencar Insurance Company	–	A+

[1] Hannover Re South Africa Ltd. benefits from parental guarantees provided by Hannover Rück SE (the "Guarantor"). The guarantees cover all payment obligations of Hannover Re South Africa Ltd. in respect of insurance and reinsurance contracts issued. The guarantees are unconditional and continuing and shall be binding upon the Guarantor. The owners of the insurance and reinsurance contracts issued by Hannover Re South Africa Ltd. are third party beneficiaries of these guarantees.

Issue ratings of notes payable

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 notes payable **M 36**

	Standard & Poor's	A.M. Best
Hannover Rück SE subordinated bond, EUR 750 million; 2022/2043	A	–
Hannover Rück SE subordinated bond, EUR 750 million; 2021/2042	A	–
Hannover Rück SE subordinated bond, EUR 500 million; 2020/2040	A	–
Hannover Rück SE subordinated bond, EUR 750 million; 2019/2039	A	–
Hannover Rück SE senior bond, EUR 750 million; 2018/2028	AA-	–
Hannover Rück SE subordinated bond, EUR 500 million; 2014/undated	A	a+
Hannover Finance (Luxembourg) S.A. subordinated bond, EUR 500 million; 2012/2043	A	aa-

Information pursuant to § 315 and § 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. In this connection reference is made to the required disclosures pursuant to § 160 Para. 1 No. 2 Stock Corporation Act (AktG) in the notes to the consolidated financial statement.

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. This participation is indirectly allocable to HDI Haftpflichtverband der Deutschen Industrie Versicherungsverein auf Gegenseitigkeit, Hannover, which holds the majority stake in Talanx AG.

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 (AktG). Amendment of the Articles of Association is governed by §§ 179 et seq. Stock Corporation Act (AktG) in conjunction with § 18 (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 (§ 6 "Contingent capital" and § 7 "Authorised capital") as well as in §§ 71 et seq. Stock Corporation Act (AktG). In this connection the Annual General Meeting authorised the Executive Board on 6 May 2020 pursuant to § 71 Para. 1 Number 8 Stock Corporation Act (AktG) to acquire treasury shares on certain conditions for a period of five years, ending on 5 May 2025.

We describe below 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, as well as 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.

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.

Information on Hannover Rück SE

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

Hannover Re exercises the option to present a combined management report pursuant to § 315 Para. 5 of the German Commercial Code (HGB) in conjunction with § 298 Para. 2 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 numerous 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 – is submitted to the operator of the electronic Federal Gazette and can be accessed via the website of the Companies Register. This annual financial statement can also be accessed on the company's website (www.hannover-re.com).

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

Hannover Rück SE recorded a pleasing business development in the 2022 financial year. The gross premium in total business grew by 25.9% to EUR 27.8 billion (previous year: EUR 21.9 billion). The level of retained premium decreased to 65.4% (69.0%). Net premium earned climbed by 21.4% to EUR 17.9 billion (EUR 14.8 billion).

The underwriting result (before changes in the equalisation reserve) came in at EUR 31.8 million (EUR -126.9 million). An amount of EUR 548.3 million (EUR 545.7 million) was allocated to the equalisation reserve and similar provisions in the year under review.

Numerous large losses were again recorded in the 2022 financial year. Particularly notable were major losses from hurricanes in the United States and other natural disasters as well as reserves set aside for possible losses from Russia's war on Ukraine. The total net expenditure on major losses for Hannover Rück SE amounted to EUR 938.8 million (EUR 598.4 million). In addition, expenditures were incurred from losses in connection with the Covid-19 pandemic as well as late reported claims from prior years.

Ordinary investment income including deposit interest came to EUR 1,525.5 million (EUR 1,505.7 million). Ordinary income from fixed-income securities totalled EUR 626.1 million (EUR 478.5 million). Net gains of EUR 745.1 million (EUR 280.4 million) were realised on disposals. Among other things, the sale of our portfolio of listed equities in the first two quarters had a positive effect here in an amount of EUR 71.8 million (EUR 36.4 million). In the area of alternative investments, the contribution of investments to a joint venture with Münchener Rückversicherungs-Gesellschaft AG was a particularly notable development in the private equity sector. This resulted in the disclosure of pro-rata hidden reserves in an amount of EUR 1,002.4 million. Opposing effects in the year under review resulted primarily from the sale of fixed-income securities as part of regrouping moves in our credit portfolios as well as from general portfolio maintenance. In this context we realised net hidden losses of altogether EUR 443.5 million. In the first quarter we disposed of parts of our holdings of Russian and Ukrainian bonds. Overall, this enabled us to boost both our liquidity position and the return on new investments and reinvesting activities.

Write-downs of EUR 157.0 million (EUR 31.6 million) were taken on investments, for the most part on bearer debt securities held as current assets. They principally involved Russian or Ukrainian issuers or issuers in the Chinese real estate sector. We took write-downs of EUR 50.7 million (EUR 0.0 million) on deposits with ceding companies. The write-downs contrasted with write-ups of EUR 3.4 million (EUR 6.0 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 increased to EUR 1,941.0 million (EUR 1,687.4 million).

The profit on ordinary activities improved by 5.8% to EUR 820.9 million (EUR 776.0 million). The year under review closed as forecast with a profit for the year that amounted to EUR 753.0 million (EUR 701.2 million)

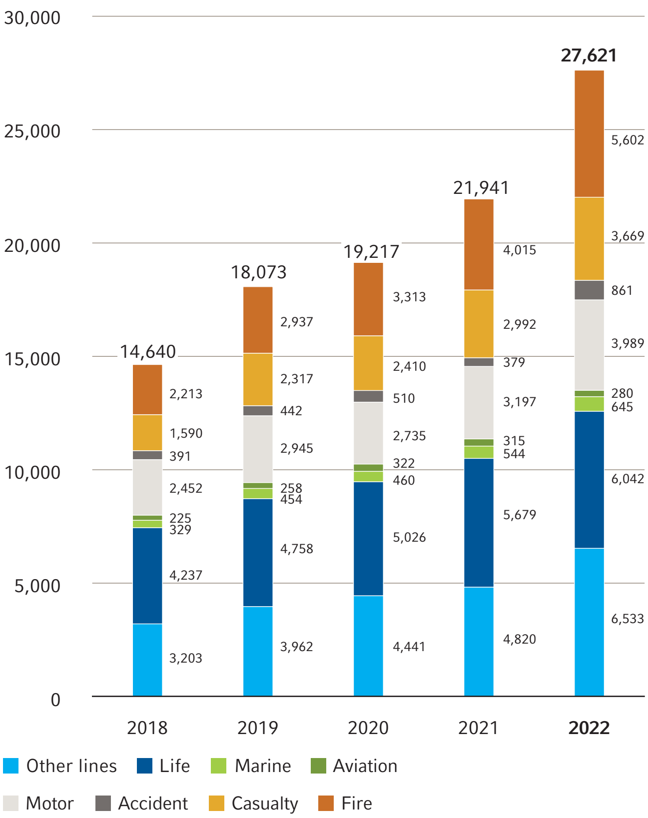
Condensed profit and loss account of Hannover Rück SE M 37

in EUR thousand	2022	2021
Earned premiums, net of retrocession	17,923,625	14,768,338
Allocated investment return transferred from the non-technical account, net of retrocession	204,342	187,951
Other technical income, net of retrocession	–	–
Claims incurred, net of retrocession	14,022,509	11,346,793
Changes in other technical provisions, net of retrocession	120,838	(103,362)
Bonuses and rebates, net of retrocession	(95)	5
Operating expenses, net of retrocession	4,193,490	3,632,733
Other technical charges, net of retrocession	1,080	262
Subtotal	**31,821**	**(126,866)**
Change in the equalisation reserve and similar provisions	(548,303)	(545,672)
Net technical result	**(516,482)**	**(672,538)**
Investment income	2,779,172	1,913,417
Investment charges	838,403	226,000
Allocated investment return transferred to the technical account	(205,849)	(197,485)
Other income	167,263	315,449
Other charges	564,803	356,833
Profit or loss on ordinary activities before tax	**820,898**	**776,010**
Taxes on profit and income and other taxes	67,947	74,801
Profit for the financial year	**752,951**	**701,209**
Profit brought forward from previous year	564,567	557,313
Allocations to other retained earnings	1,518	522
Disposable profit	**1,316,000**	**1,258,000**

Development of the individual lines of business

The following section describes the development of the various lines of business. The cooperation and exchange of business between Hannover Rück SE and E+S Rückversicherung AG was reorganised with effect from the beginning of the 2014 financial year and slightly adjusted in the 2019 financial year. Since 2014 a quota share retrocession from Hannover Rück SE to E+S Rückversicherung AG has been maintained in property and casualty reinsurance.

Hannover Rück SE: Breakdown of gross premium by individual lines of business M 38
in EUR million



Fire
Gross premium income for the fire line climbed by 39.5% to EUR 5,602.0 million (EUR 4,015.5 million). The net loss ratio increased slightly to 65.4% (65.0%). The underwriting result closed at EUR 171.8 million (EUR 152.9 million). An amount of EUR 85.8 million (EUR 85.6 million) was allocated to the equalisation reserve and similar provisions.

Liability
Gross premium in liability business rose by 22.6% to EUR 3,668.7 million (EUR 2,991.9 million). The net loss ratio decreased to 70.4% (78.8%), attributable inter alia to a reduced allocation to the IBNR reserves. The underwriting result improved appreciably to EUR 103.8 million (EUR -171.4 million). An amount of EUR 534.4 million (EUR 217.1 million) was allocated to the equalisation reserve and similar provisions.

Accident
Gross premium income for the accident line more than doubled, rising by 127.1% to EUR 860.8 million (EUR 379.1 million). The net loss ratio increased to 116.3% (68.6%). The main factor here was high pandemic-related losses in the Asia-Pacific region. The underwriting result came in at EUR -233.1 million (EUR 10.3 million). An amount of EUR 25.8 million (EUR 19.4 million) was withdrawn from the equalisation reserve and similar provisions.

Motor
Gross premium for the motor line grew by 24.8% to EUR 3.989.4 million (EUR 3,197.2 million). The loss ratio decreased slightly to 75.0% (75.4%). The underwriting result came in at EUR -55.6 million (EUR -75.9 million). An amount of EUR 64.1 million (EUR 46.3 million) was allocated to the equalisation reserve and similar provisions.

Aviation
Gross premium income fell by 11.3% to EUR 279.8 million (EUR 315.5 million). The loss ratio retreated to 43.2% (55.8%). The underwriting result amounted to EUR 84.7 million (EUR 43.4 million). An allocation of EUR 42.6 million (EUR 16.1 million) was made to the equalisation reserve and similar provisions.

Marine
The gross premium volume for the marine line grew by 18.7% to EUR 645.4 million (EUR 543.8 million). The net loss ratio decreased to 41.9% (62.9%). The underwriting result stood at EUR 143.0 million (EUR 30.3 million). An amount of EUR 34.8 million (EUR 41.6 million) was allocated to the equalisation reserve and similar provisions.

Life
The gross premium in the life line grew by 6.4% to EUR 6,041.9 million (EUR 5,678.9 million). 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 life reinsurance, we write financial solutions business as well as health and longevity risks on a worldwide basis. The losses from the Covid-19 pandemic continued to fall sharply in the year under review. This and the good performance of the underlying business had correspondingly positive effects on the result. The underwriting result in life business amounted to altogether EUR 162.9 million (EUR -64.9 million).

Other lines

The lines of health insurance, 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 homeowner'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.

Gross premium income in the other lines grew by 35.6% to EUR 6,533.1 million (EUR 4,819.5 million). The net loss ratio increased to 85.9% (69.7%). The underwriting result closed at EUR -345.6 million (EUR -51.7 million). The decline can be attributed primarily to increased large loss expenditure and a higher allocation to the IBNR reserves, After an allocation of EUR 158.4 million in the previous year, a withdrawal of EUR 187.5 million was made from the equalisation reserve and similar provisions.

Assets and financial position

Balance sheet structure of Hannover Rück SE **M 39**

in EUR thousand	2022	2021
Assets		
Intangible assets	60,263	61,356
Investments	52,053,530	45,535,383
Receivables	6,488,265	6,227,938
Other assets	717,789	622,690
Prepayments and accrued income	291,589	238,500
Total assets	**59,611,436**	**52,685,867**
Liabilities		
Subscribed capital	120,597	120,597
Capital reserve	880,608	880,608
Retained earnings	630,511	630,511
Disposable profit	1,316,000	1,258,000
Capital and reserves	**2,947,716**	**2,889,716**
Subordinated liabilities	3,750,000	3,000,000
Technical provisions	43,601,651	39,550,449
Provisions for other risks and charges	493,531	326,864
Deposits received from retrocessionaires	5,111,583	3,714,568
Other liabilities	3,706,955	3,204,212
Accruals and deferred income	–	58
Total liabilities	**59,611,436**	**52,685,867**

Our portfolio of assets under own management increased to EUR 42.4 billion (EUR 36.9 billion). The hidden losses on fixed-income securities and bond funds amounted to EUR -2,207.2 million, contrasting with hidden reserves of EUR 1,078.2 million in the previous year. This was primarily a reflection of decreases in valuations due to sharply higher interest rates and risk premiums.

Deposits with ceding companies, which are shown under the investments, increased to EUR 9.6 billion (EUR 8.7 billion).

Our capital and reserves – excluding the disposable profit – were unchanged 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 as well as the net technical provisions, including the equalisation reserve and similar provisions – increased during the year under review to EUR 49.0 billion (EUR 44.2 billion). The balance sheet total of Hannover Rück SE grew to EUR 59.6 billion (EUR 52.7 billion).

An ordinary dividend of EUR 4.50 per share plus a special dividend of EUR 1.25 per share was paid out in the year under review for the 2021 financial year. This was equivalent to EUR 693.4 million (EUR 542.7 million),

It will be proposed to the Annual General Meeting on 3 May 2023 that a dividend of EUR 5.00 per share plus a special dividend of EUR 1.00 per share should be paid for the 2022 financial year. This corresponds to a total distribution of EUR 724.0 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 risks 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, Hong Kong, India, South Korea, Malaysia, Sweden and the United Kingdom.

Outlook

In view of the interrelations between Hannover Rück SE and the Group companies and the former's large share of business within the Group, we would refer to pages 145 to 152 in the subsection "Forecast" with respect to expectations for developments affecting the macroeconomic environment, capital markets and the insurance industry as well as developments on reinsurance markets. We thus anticipate net premium earned on the level of the previous year for Hannover Rück SE, a significantly improved net underwriting result and a sharply lower profit contribution from the investments. To this extent, the profit reported for the 2023 financial year under the German Commercial Code (HGB) is expected to improve modestly on the previous year.

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 Para. 2 Sentence 6 and Sentence 4 German Commercial Code (HGB)). The combined non-financial information statement presented here has, however, been reviewed 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 non-financial information statement was drawn up in accordance with §§ 315c in conjunction with 289c to 289e German Commercial Code (HGB) as well as Article 8 of Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (hereinafter EU Taxonomy Regulation). The identification of material contents reflected the materiality definitions of the Global Reporting Initiative (GRI) and the German Commercial Code (HGB). The description of concepts is guided by the structure of the GRI Standards.

The combined non-financial information statement encompasses – unless presented separately – the disclosures for the Group and the parent company Hannover Rück SE. It contains the legally required information relating to material environmental matters, employee matters, social matters, respect for human rights and fighting corruption and bribery. Within the individual aspects, the underlying concepts and internal due diligence processes are discussed and available findings are reported. The identified material issues were allocated to the aspects (see section "Materiality analysis"). In addition, the combined non-financial information statement is to be used to report on material risks pursuant to § 289c Para. 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 as well as of the implications for non-financial matters.

Information is also included pursuant to the requirements of Article 8 of the EU Taxonomy Regulation.

Pursuant to § 315b Para. 1 Sentence 3 German Commercial Code (HGB), reference is also made to non-financial disclosures provided elsewhere in the combined management report with respect to certain aspects. References to information outside the combined management report and the consolidated and annual financial statement do not form part of the combined non-financial information statement.

For a description of the business model the reader is referred to the subsection "Business model" under "Foundations of the Group".

Strategic orientation

The Group strategy of Hannover Re was revised most recently in 2020 and is valid for the 2021–2023 strategy cycle.

In our "Striving for sustainable outperformance" strong governance, risk management, integrated compliance and corporate social responsibility constitute the foundations for our growth as a reliable global reinsurance partner. Three performance drivers – preferred business partner, innovation catalyst, earnings growth – are based on proven strengths and address the global trends affecting the insurance and reinsurance industry. Three performance enablers – empowered people, a lean operating model and effective capital management – have proven essential over the last decade for, among other things, outperforming the industry average in terms of the return on equity.

We have launched four strategic initiatives – Client Excellence, Innovation and Digitalisation, the Asia-Pacific Growth Initiative and Talent Management – that we consider especially crucial. We have worked on them since the launch of the strategy cycle in 2021 and will continue to do so. These four strategic initiatives are at the heart of the strategic programme, which encompasses altogether 25 programme items and directly supports the Group strategy. Major Group projects (known as value streams) and joint strategy contributions spanning multiple departments are also integral components of this programme. "Corporate Social Responsibility" is one of these joint strategy contributions that we are refining in the strategy cycle 2021–2023 and in which we pursue non-financial goals, among others. Associated topics are specified more closely in our Sustainability Strategy 2021–2023. This is comprised of the four action fields Transparency, Employees, Core Business and Commitment as well as underlying measures and goals. The sustainability strategy is publicly available on our website. The strategic programme is supported and monitored by the Group Strategy & Sustainability department and progress reports are provided to the Executive Board quarterly (reporting on strategic initiatives) and half-yearly (management reporting).

In the 2022 reporting year work commenced on the Group strategy for the new strategy cycle 2024–2026.

Materiality analysis and material topics

Hannover Re regularly conducts materiality analyses in order to identify material ESG (environmental, social and governance) issues, most recently in the spring of 2020 in the form of interviews/workshops with internal and external experts. The basis consisted of a list of possible topics derived from the materiality analysis conducted in 2018, dialogues with stakeholders and non-governmental organisations, media reports and the GRI Framework. All experts were encouraged to indicate other topics.

The analysis looked at two dimensions (so-called double materiality): positive/negative impacts of Hannover Re's operations on the respective topic (inside-out perspective) and positive/negative impacts of the respective topic on Hannover Re's operations (outside-in perspective). Each topic was scored on a scale of 1 to 5 in this regard. Extensive interviews were conducted with the external experts (stakeholder group: asset managers, ESG analysts, representatives of non-governmental organisations, representatives of the trade press as well as representatives of foundations and associations). All topics that received an average score of at least 3.75 were marked as material. Four workshops were held with the internal experts (stakeholder group: employees) from various market and service units to score the topics on the list. In this case, too, the materiality threshold was set at 3.75. Some topics were clustered at the workshops. As a result, 13 material topics were identified.

The materiality analysis was compiled most recently in 2020 and validated by the Executive Board in 2021 as well as the 2022 reporting year. The topic of Covid-19, which had been included in the previous year, was removed again on grounds of diminishing materiality. The materiality analysis was guided by the GRI Standards (2016), with no framework used for the 2022 validation. In 2023 it is envisaged that a materiality analysis will be conducted according to the parameters of the European Sustainability Reporting Standards (ESRS) as well as the GRI Standards 2021.

Allocation of the non-fiancial aspects to the material topics **M 40**

Non-financial aspect	Material topic	
Environmental matters	Climate change Sustainable protection ESG in insurance business ESG in asset management	Risk management
Employee matters	Attractiveness as an employer Learning and development Health and wellness of employees Diversity and equal opportunities	
Social matters	Dialogue Sustainable protection ESG in asset management	
Respect for human rights	Human rights ESG in insurance business ESG in asset management	
Fighting corruption and bribery	Compliance Good governance	

Risk Management System

In the course of its operations as a reinsurance company Hannover Re knowingly enters into many different risks. It is equipped with an adequate and effective risk management system for ongoing monitoring of these and other risks.

In the context of its risk management system Hannover Re also considers risks that arise in connection with environmental concerns, social issues or corporate governance – so-called sustainability or ESG risks. These may be associated with negative implications for the net assets, financial position and results of operations (outside-in) as well as negative implications for the ESG landscape (inside-out). Both risk perspectives can affect, among other things, the company's reputation. Sustainability risks do not constitute a risk category of their own, but can instead have implications for all risk categories and are included in the risk register under "Other risks" as the meta-risk "Sustainability and reputational risks".

Back in 2021 the Executive Board had already approved a framework valid throughout the Group for the management of sustainability and reputational risks.

For further information we would refer to the "Opportunity and risk report" in the combined Group management report.

Compliance Management System

Compliance encompasses not only compliance with statutory and regulatory requirements (legal compliance) but also fulfilment of external standards, such as those from the German Corporate Governance Code, as well as internal guidelines. At Hannover Re, compliance topics are addressed in a compliance management system. This is geared to international standards and ensures that the core tasks of a compliance function are performed:

- Examining and evaluating changes in the legal/regulatory environment and determining measures (monitoring function)
- Advising the Executive Board and the employees on compliance with laws (advisory function)
- Identifying and evaluating specific current and emerging compliance risks (identification function)
- Identifying and assessing material compliance risks (risk function)

The Executive Board is responsible for and tasked with ensuring adequate and effective compliance structures. Execution falls to the Chief Compliance Officer (CCO), who reports in a direct line to the Executive Board on material compliance issues and developments. The annual compliance report is also submitted to the Supervisory Board and its Finance and Audit Committee. The CCO is supported in his work by the Compliance department, specially designated officers and a worldwide network of local compliance officers. Monitoring procedures are conducted for the management of compliance risks. Checks can also take place on an ad hoc basis where there are grounds for suspicion. The underlying compliance risk analysis is updated annually.

The CCO works closely with Risk Management to ensure a consistent approach to operational risks, which include compliance risks. Several compliance committees also exist, comprised of members from the operational business groups as well as from the areas of Group Legal, Finance, Accounting and Investments. Among other things, the compliance committees examine reinsurance treaties with a special eye to compliance with supervisory requirements and accounting standards and they take fundamental decisions on dealing with sanctions.

Attentive and trained employees constitute a crucial component of a functioning compliance management system – both to avoid unconscious violations and to recognise and prevent deliberate violations and associated risks. Hannover Re uses various training activities to raise employee awareness of compliance-related issues. On joining the Group and throughout the entire duration of their employment, all members of staff receive compliance training. In addition, focused training activities are held on various compliance topics throughout the year for specific target groups. This is supplemented by dedicated compliance pages in the intranet containing more extensive information.

Should members of staff or indeed persons outside the company become aware of compliance violations, harmful behaviour or risks, such suspicions can be reported to the CCO or the Compliance department or, if so desired, anonymously through an online speak-up system.

For further information, we would refer to the "Opportunity and risk report" in the combined Group management report.

Environmental matters

In connection with environmental matters, special importance attaches to the active exploration of the causes and consequences of progressive climate change. Extreme weather events and natural disasters such as heatwaves and droughts, severe precipitation events and storms, as well as continuous processes such as glacier melting and rising sea levels, have far-reaching implications for society and the economy and lead to considerable economic and insured losses. What is more, further environmental concerns, such as the proper functioning of ecosystems or the water resources of ground and surface waters, are directly affected by climate change. If the earth's temperature were to continue rising unchecked, this would increase the scale of such phenomena and risks. Yet the sought-after transition to a climate-friendly, resource-saving economy is also associated with a number of social and economic impacts.

In view of these comprehensive environmental, economic and social impacts, climate change is at the heart of numerous national and international regulatory initiatives and measures. The goals of the Paris Agreement on climate change, under which the international community committed in 2015 to limit the rise in the global average temperature to well below 2 °C, preferably to 1.5 °C, compared to pre-industrial levels, are considered a key driving force here. Overall, far-reaching implications for the real economy and for the financial sector are to be anticipated in this connection.

The 1.5 °C goal was also maintained at the 2022 UN Climate Change Conference in Sharm el-Sheikh (Egypt), known as COP27. A non-binding work programme to close the emissions gap to the 1.5 °C target by 2030 is running until 2026 with the option to extend until 2030. A final cover decision reiterated the decision already taken at the 2021 Climate Change Conference in Glasgow, COP26, to phase out energy generation from coal and abolish inefficient subsidies for fossil fuels. At the same time, low-emission and renewable energy sources are to be expanded.

Impacts on operations

Climate change goes hand-in-hand with a range of impacts on Hannover Re's operations, e.g. due to an increase in the frequency and/or severity of losses (physical risks) or changing framework conditions with implications for reinsurance business and investments (transition risks). Furthermore, on the societal level an increase in environment-related lawsuits against businesses and public institutions can be observed (litigation risks) that may adversely affect the insurance industry.

The risks posed by climate change can affect numerous risk categories of the risk register and are extensively monitored through the risk management system. ESG topics are also addressed as part of the management of sustainability and reputational risks. For information on the corresponding concepts and implemented stress test mechanisms the reader is referred to the "Opportunity and risk report".

When it comes to evaluating impacts and risks, one advantage is that business in property and casualty reinsurance is normally renewed annually. This means that it is possible to adjust the premiums or risk appetite each year according to the conducted risk assessment and hence manage the exposure on a risk-oriented basis. For information on the industry-specific environment and the results of operations in property and casualty reinsurance, please see the section "Report on economic position".

Impacts of our operations

Insurance business

Fossil fuels are considered to be one of the major drivers of climate change. With a view to countering this and facilitating the transformation to a lower-carbon economy, we support among other steps the expansion of renewable energy sources. These range from wind energy (both onshore and offshore) to photovoltaic and geothermal energy. Insurance protection begins with installation of the equipment and accompanies customers through many years of operation. In addition, we support special coverages for the roll-out of new technologies, such as performance guarantees for fuel cells (that convert hydrogen or natural gas into electricity). Furthermore, our products support the development of hydrogen infrastructure worldwide and we are participating in initial large-scale projects to advance the energy transition.

At the same time, Hannover Re is consistently seeking to reduce its exposure to fossil fuels. The goal is to no longer cover any risks connected with the mining of and energy generation from power plant and thermal coal by the year 2038 in the entire portfolio of property and casualty reinsurance business. In the year under review we adopted our internal positioning for the property and casualty reinsurance sector, which fleshes out this approach in greater detail and addresses further issues (such as oil and gas). The position paper is applicable to both facultative and obligatory business.

In facultative reinsurance business, covers are written for individual risks, i.e. the treaties can be allocated to specific projects or policyholders.

Supplementary to the position paper for the property and casualty reinsurance sector, the facultative division has its own more specific ESG manual that deals with environmental concerns and specifies exclusions, among other things.

Since as long ago as April 2019 the facultative division has no longer provided reinsurance for planned new coal-fired plants or thermal coal mines. Moreover, from February 2020 onwards all new facultative business connected with thermal coal or the associated infrastructure has been excluded. Thermal coal infrastructure encompasses mines, coal-fired power plants and facilities as well as port and rail operations allocable exclusively to the coal industry. In the case of mixed groups, companies are excluded that generate more than 30% of their revenues from activities in thermal coal. As an additional step, an exit plan for existing facultative business in thermal coal was adopted in 2021. The phased plan provides for exclusions based on thresholds. As a first step, the facultative division will scale back business with thermal coal producers whose annual production volume from all mines amounts to 100 million tonnes or more as well as business with the operators of coal-fired power plants whose installed total capacity from coal power stations amounts to 25 gigawatts or more (reference date 31 December 2025). It is envisaged that these thresholds will be progressively reduced in the following years until complete exclusion of such risks.

Any expansion of existing capacities in the context of treaty renewals is already ruled out.

Complementing the measures described in relation to thermal coal, the exclusions for oil and gas were also expanded in the year under review. Since mid-2022 the facultative division is no longer taking on any new covers for project policies associated with the exploration and/or development of new (greenfield) oil and gas reserves (upstream) or for project policies that exclusively support the transportation and storage (midstream) of new (greenfield) oil and gas reserves. Since as long ago as 2020 the facultative division has no longer accepted any new individual risks for companies that hold 20% or more of their oil reserves in oil sands and it excludes oil sands extraction and processing operations. Oil sands extraction and processing encompass the extraction of bitumen from bituminous sand, refinement into synthetic crude oil, further processing of this synthetic crude into petroleum products and the associated transportation by pipeline or rail.

Furthermore, since 2021 the facultative division has no longer accepted any new risks connected with projects for the extraction of oil and gas in Arctic regions – this policy applies to both greenfield and brownfield projects. We define "Arctic regions" as the zone around the Arctic Circle which runs in a circle of latitude 66.34° north of the Equator. This includes the Arctic National Wildlife Refuge (ANWR) in the United States. In addition, no risks are written that are connected with the development of new oil and gas deposits in deep waters below 5,000 feet or deep sea mining.

The facultative division similarly declines transactions if they may entail damage to wetlands protected under the Ramsar Convention or UNESCO world cultural heritage sites.

In obligatory reinsurance, large-volume portfolios with sometimes heterogenous contents are accepted. We are engaged in talks with our customers to obtain an overview of the CO_2 intensity of the business ceded to us. We are already refraining from writing new treaties in obligatory reinsurance that are to be used exclusively for coverage of thermal coal risks. The same is true of new treaties exclusively associated with the exploration and/or development of new (greenfield) oil and gas reserves (upstream) or for project policies that exclusively support the transportation and storage (midstream) of new (greenfield) oil and gas reserves.

All underwriters on both the property and casualty and the life and health reinsurance side have taken a mandatory training programme in ESG issues in the form of Web-based training. All property and casualty underwriters additionally completed supplementary focus training covering topics such as ESG opportunities and risks, regulatory fundamentals, climate change and biodiversity and attended subsequent, specifically designed workshops.

Hannover Re joined the Net-Zero Insurance Alliance (NZIA) in 2021.

Hannover Re became a signatory to the UN Principles for Sustainable Insurance (UN PSI) in 2021.

Investments

ESG criteria are similarly applied to the assets under our own management. These are defined in writing in an internal Responsible Investment Policy, application of which is ensured by an ESG officer on the investment team.

In its investing activities Hannover Re similarly works to consistently reduce its carbon footprint. The focus here is on progressive decarbonisation of the asset portfolio. We are doing this, in the first place, by reducing the carbon footprint (Scope 1 and 2) of the investments under own management from the areas of corporate bonds, covered bonds and equities by 30% by the year 2025 compared to the base year of 2019. Our decarbonisation efforts are guided by an external "carbon risk rating" that gives us, among other things, an extensive overview of our investment portfolio's carbon footprint.

As a further step, since as far back as 2012, fixed-income securities (government and semi-government bonds, corporate bonds and covered bonds (with the exception of collateralised debt obligations (CDO))) and listed equities within the portfolio of assets under own management have been subject to half-yearly negative screening, which now takes place on an ongoing and even ad hoc basis. Only a few niche funds or asset classes, such as real estate, private equity or structured investments, cannot be analysed using this system. Similarly, before any new investments are made corresponding screening is carried out with an eye to existing ESG criteria. Issuers who do not satisfy our criteria are actively scaled back.

With an eye to environmental concerns, Hannover Re applies specific exclusion criteria to issuers that generate 25% or more of their revenues from the mining of or power generation from thermal coal or from oil sands extraction. We similarly exclude companies that generate 10% or more of their revenues from offshore extraction of oil and gas in the polar region within the Arctic Circle (66° 34' N).

In addition to application of the aforementioned exclusion criteria, the focus has increasingly turned to the best-in-class approach in place since 2019. This facilitates ongoing monitoring of the existing portfolio's sustainability quality and is used in the implementation of specific ESG portfolio measures.

As a further step, Hannover Re is increasingly adding sustainable investments to its portfolio that support the transformation towards a resource-efficient economy. These include, for example, infrastructure assets such as renewable energies or clean transportation as well as investments in dedicated impact funds and sustainable technologies. Our goal is to increase the volume by at least 10% by the end of 2023 compared to the end of 2020.

Hannover Re became a signatory to the UN Principles for Responsible Investment (UN PRI) in 2020. Our company integrates a TCFD report (TCFD = Task Force on Climate-Related Financial Disclosures) into its annual sustainability report.

Opportunities

Changing general framework conditions, increasing values and hence a greater need for protection, combined with the transition to a net zero greenhouse gas economy – inter alia in connection with the EU Action Plan for Financing Sustainable Growth and the European Green Deal –, will bring new business opportunities. Such opportunities are opening up, for example, through wider use of parametric covers on the underwriting side, growth in natural catastrophe business and expanded solutions for mitigation of/adaptation to climate-related risks. The same is true of investment opportunities in sustainable innovative technologies and economic sectors.

In the current strategy cycle we have set ourselves the goal of, among other things, increasing the facultative premium volume in the renewable energy sector by 60% by the end of 2023. Despite another rise in the premium volume in the year under review, we will probably not achieve the planned increase due to a growing risk appetite among other market players. We similarly intend to support the expansion of alternative energy sources in the upcoming strategy cycle.

Environmental matters: Selected goals **M 41**

Goal	Target indicator by 2023	Status 31.12.2022
Supporting the goals of the Paris Agreement on climate change	Definition of measures to reduce emissions, enhance transparency, increase adaptability and mitigate the impacts of climate change in the action fields	Cross-cutting goal, ongoing
Promoting the development of actuarial methods for the assessment of risks from natural perils and climate change	Active involvement in and financial sponsorship of various market initiatives and events	Ongoing, on target
Advancing a global energy transition through the reinsurance of renewable energy sources	Increase of 60% in the facultative premium volume for renewable energies	Increase on the planned scale not achieved. Goal will probably not be achieved
No new business in the insurance of individual risks in coal-fired power plants or mines for thermal coal	No underwriting of facultative new business in coal-fired power plants or mines for thermal coal	Achieved
Reducing the CO_2 load in connection with coal-fired power plants or mines for thermal coal in obligatory insurance portfolios	Phased withdrawal according to step-by-step plan – completion of the evaluation phase and beginning of the implementation phase; complete withdrawal by 2038	Internal position paper adopted, tightening of ESG criteria, on target
Asset management: reducing the CO_2 load in the asset portfolio	Goal tightened: reduction of the carbon footprint (corporate bonds, covered bonds, equities) by 30% by 2025 (base year 2019)	Ongoing, on target
Reducing greenhouse gas emissions at the Hannover location	Reduction of greenhouse gas emissions at the Hannover location by 25% per employee (base year 2019)	Valid evaluation of the figures not possible due to the pandemic
Increasing transparency around greenhouse gas emissions at the worldwide locations	Expansion of data recording for relevant environmental aspects to at least 75% of the global workforce. The assessed locations are to become 100% climate-neutral	Achieved

Employee matters

Qualified and motivated people are at the heart of a company's business activities. Growing importance is attached to sustainability-related aspects in all phases of their employment. Most notably, the demographic shift in industrial countries is leading to intensified competition for well-qualified junior staff. It is evident that members of Generations X, Y and Z are especially likely to consider not only monetary aspects when it comes to choosing their employer. Other aspects move front and centre, such as adherence to principles of responsible corporate governance, measures to realise sustainable development in the core business, a company's reputation, culture and work atmosphere, compatibility of work and family life, the availability of development and career opportunities and other additional benefits – summed up as the "total rewards". At the same time, existing trends such as mobile working and virtual/hybrid meetings gained added impetus.

Employees are part of a company and part of social structures outside that company. All measures taken strengthen Hannover Re's position on the labour market while at the same time having external implications. For this reason, we have chosen not to consider the impacts separately below.

Impacts on our operations and impacts of our operations

As a service provider in the insurance industry, Hannover Re operates in a highly specialised environment and at the same time finds itself faced with the framework conditions described above. A risk exists, for example, if vacancies cannot be filled quickly enough or candidates of the necessary quality cannot be appointed. At the same time, companies benefit directly from motivated, dedicated and high-performing employees.

A Talent Management initiative sponsored by the Chief Executive Officer was launched in 2020. The goal is to attract talented new people to the company and retain them along with talent already existing in our ranks, to optimally deploy, foster and develop them at all locations and to create a work environment that makes Hannover Re the employer of choice. In addition, the initiative envisages measures to promote global mobility, the optimisation of relevant processes and systems as well as a greater interlinking of worldwide human resources activities. The initiative covers the following aspects:

- building a Group-wide, supportive human resources IT system,
- promoting a global network within the human resources community,
- improved succession planning,
- expanding measures relating to "Learning & Development", especially leadership development, and
- realising a Diversity, Equity & Inclusion (DE & I) strategy and implementing a roadmap with corresponding measures.

For information on operational risks that can arise in connection with or independently of the activities of the workforce, the reader is referred to the "Opportunity and risk report".

For information about the requirements placed on the specialist qualifications and personal reliability (fit & proper criteria) of persons in key positions, we would refer to the Solvency and Financial Condition Report of Hannover Rück SE 2021 from page 31 onwards.

Hannover Re employed 3,519 members of staff (previous year: 3,346) Group-wide at the reference date of 31 December 2022.

Development opportunities

Hannover Re operates in a knowledge-intensive industry with a high level of specialisation. Continuous and appropriate (further) training of employees serves to assure the high quality standard of services and a positive perception of the company. At the same time, the programme of further training enables employees to continue their personal growth and it promotes life-long learning. In support of our approach to talent management, our goal is to align ongoing training activities more closely with the values, competencies and leadership fundamentals and to extend reporting to additional locations. The global leadership development programme "LEAD" launched in 2021 was expanded to the team leadership level in the year under review. A global assignment policy was also approved back in 2021 and the internal job market was expanded to all locations around the world. Both took effect in the year under review and created transparency around the internal filling of positions on the global level.

Health and wellness

The performance capability and health of our employees are essential prerequisites for sustainable development of our business. Given that they work for a service provider, our staff members do not engage in activities that expose them to particularly high risk. Nevertheless, the transformation in the world of work, the need for efficiently structured work processes and a constant pressure for change can lead to reduced productivity and physical and/or psychological disorders – and hence to direct economic impacts on the company as well as social implications for the employees concerned, their private sphere, their colleagues and the social welfare systems.

With a view to protecting the health of the workforce, the applicable employment protection legislation as well as requirements relating to ergonomic workplace design are systematically observed and reviewed worldwide. Particularly close attention was paid to this issue in connection with the redesign of workplaces as part of "New Ways of Working". Instruction in health and safety at the workplace is provided regularly. In addition, wellness among staff is actively encouraged through health promotion measures; these are in place worldwide, but are tailored to local needs in each case.

Diversity and equal opportunities

Supporting fair working conditions as well as a healthy and non-discriminatory working environment is part of Hannover Re's corporate culture. The Executive Board recognised the Core Labour Standards of the International Labour Organization (ILO) for 100% of the workforce in the year under review. Hannover Re does not tolerate discrimination or bullying in any form whatsoever and has enshrined this in a company-wide Code of Conduct. Furthermore, the right to form employee representative bodies and to engage in collective bargaining negotiations over working conditions is recognised; employees are neither advantaged not disadvantaged on account of their membership of a trade union or employee representative body.

Hannover Re and its Executive Board are committed to equal opportunities in relation to diversity criteria and on all hierarchical levels. A current focus of the measures is on supporting women in leadership positions. Of the 163 senior executives around the world, 36 are women; this is equivalent to a proportion of 22.1%. Our goal is to increase diversity on all levels of management worldwide. For the two levels of management below the Executive Board explicit targets have also been defined for this purpose, details of which can be found in the Declaration on Corporate Governance.

As part of the Talent Management initiative, a DE&I strategy was developed in 2021 that builds on our self-image and our values. We aim to "create opportunities together" while also being "somewhat different". Along with the DE&I strategy, we have drawn up an action plan with nine new focus areas for 2022. In the year under review, for example, we expanded the women's network 'Women@Hannover Re', made further progress in closing the gender pay gap and modified recruitment processes with an eye towards diversity. With a view to counteracting issues of "unconscious bias", in other words unconscious prejudices or thought patterns that influence everyday behaviour and can have potentially negative effects in daily working life, awareness-raising workshops were conducted in the year under review, especially in the context of the LEAD leadership programme. Techniques for more objective decision-making are also integrated.

Compatibility of the professional and private sphere is closely correlated with issues of diversity and equal opportunities. The Covid-19 pandemic has accelerated certain developments in the world of work that had already begun in prior years. These include, for example, greater combination of an office workspace with remote working as well as flexible working time models tailored to the employee's situation. These changes are increasingly becoming an integral component of a state-of-the-art, agile working environment and enhance the company's attractiveness on the labour market as well as the satisfaction, loyalty and performance readiness of the workforce.

Opportunities

We link all measures to the possibility of recruiting, retaining and optimally fostering the best employees on the market.

Employee matters: Selected goals **M 42**

Goal	Target indicator by 2023	Status 31.12.2022
Recruiting, identifying, developing and retaining performance-driven employees according to requirements	Conceptual design and further refinement of powerful branding and recruitment systems	On target
Cultivating and developing global mobility	Adoption of a Global Assignment Policy (GAP)	Achieved
Supporting the lifelong learning of employees around the world	Alignment of our (ongoing) training activities with the values and core competencies of Hannover Re and expanded reporting on the worldwide programme of continuing training	On target
Identifying and fostering high-potentials and assuring successors for key positions	Optimisation of Group-wide talent reviews with a focus on development planning	Achieved
Promoting the health and performance of employees around the world	Expansion of programmes to promote health and wellness by at least 10%	Under observation
Increasing diversity on all managerial levels, especially in relation to women	Gender-neutral new appointments/replacements (50/50) for all vacant leadership positions on all managerial levels worldwide	Achieved
Enhancing equal opportunities through measures to support the compatibility of career and family	Worldwide programme of mobile working	Achieved

Social matters

Access to insurance enables people to protect themselves against fundamental personal risks and against adverse changes in their environment. Such protection against threats to their livelihood is especially important in countries where social security systems are weak or not present at all. Yet it is here, in particular, that the comparatively high vulnerability of the population contrasts with what is still overall a minimal supply of insurance solutions tailored to the relevant financial, social and cultural requirements.

In addition to protecting against personal life risks, insurance solutions also offer protection for economic activities. Consequently, they form a vital basis not only for the economic development of national economies but also for a transition from an informal economy – in which the vast majority of employees and their families enjoy scarcely any social protection – to a formal economy.

Impacts on our operations

A latent reputational risk exists in connection with the material topic of "Dialogue" as a result of potentially unclear external communication. The material topic of "Sustainable protection" brings together various activities that support the transformation to a sustainable world (e. g. expansion of sustainable insurance services or the general provision of solutions for previously inadequately insured risks). The associated underwriting risks are to be considered in the risk assessment; reference is made to the "Opportunity and risk report" in the combined Group management report. Risks above and beyond this are not anticipated.

Impacts of our operations

Dialogue

The trust of stakeholders is a vital prerequisite for entrepreneurial success. With this in mind, we cultivate an active ongoing dialogue and report regularly on ESG-related topics. This is done, inter alia, through the present combined non-financial information statement as well as an annual sustainability report, into which we have integrated the United Nations Global Compact (UNGC) Progress Report since 2020.

Insurance business

In our insurance business we encourage the expansion of products in response to climate change, such as weather and energy efficiency insurances, and we also contribute to societal development in structurally deprived regions by delivering insurance solutions in areas such as microinsurance and agricultural risks. In this way, we enable people with scant financial means to protect themselves against fundamental risks such as natural disasters or crop failures. Furthermore, we are taking an active part in the development of index-based disaster finance concepts that guarantee rapid financial assistance for countries in Africa, Asia and South America in the event of natural disasters.

In life and health reinsurance we offer our worldwide customers, primary insurers, reinsurance solutions tailored to their individual needs, and we also support our primary insurance partners around the world with our expertise and power of innovation in the development and launch of new insurance products. Our offerings span life and annuity insurance products, solutions for critical illness, disability and long-term care as well as insurance products containing wellness and/or lifestyle components. Many of these solutions address special needs of end consumers or target groups that have hitherto not been adequately met by existing standardised products on account of specific requirements or challenges.

Investments

A budget for investments in dedicated impact funds was set up back in 2019. The primary objective here is to achieve appreciable improvements in the fields of food security and nutrition, education, health and well-being, ending poverty, climate action, among others, through the broadest possible coverage of the United Nations Social Development Goals (SDGs). We were invested in 22 of these specially focused funds with a volume of around EUR 33 million as at 31 December 2022. In addition, we invest through funds and direct infrastructure investments in renewables and clean transportation concepts as well as in sustainable forest and agriculture funds.

Opportunities

We see opportunities in particular in the context of the continued protection gap existing between economic and insured values and on the basis of changing requirements in the life sector. Examples in property and casualty reinsurance include greater penetration of emerging markets, new/additional solutions to protect against or mitigate the impacts of natural disasters or extreme weather events, crop insurance products, parametric covers or protecting the transportation of medicines/vaccines. In life and health reinsurance, examples similarly include the cultivation of new markets as well as innovative insurance solutions connected with changing demographics, special insurance solutions for new forms of community, service offerings for seniors, digitalisation and fitness trackers.

Social matters: Selected goals **M 43**

Goal	Target indicator by 2023	Status 31.12.2022
Further expanding insurance protection for emerging and developing countries in relation to extreme weather events and natural disasters in property and casualty reinsurance	Expansion of NatCat aggregates in emerging and developing countries to close the protection gap	Achieved
Expanding sustainable insurance solutions to mitigate the impacts of climate disasters and natural catastrophes	Discussion and review of at least five programmes and initiatives	Achieved
Expanding insurance protection for previously inadequately insured population groups in life and health reinsurance	Premium growth in developing and emerging countries	Measurable expansion in progress, on target
Supporting our primary insurance partners with the (further) development of sustainable insurance solutions in life and health reinsurance	Expanded reinsurance of longevity risks, especially outside the United Kingdom	Measurable expansion in progress, on target
Integrating ESG criteria into the underwriting policy for the facultative reinsurance department	Approval and adoption of an internal framework	Achieved
Asset management: excluding issuers that violate ESG principles	Screening of the defined portfolio, regularly	Ongoing before inclusion in the portfolio and half-yearly
Asset management: expanding investments that support the sustainable transformation	Measurable expansion by 2023	Measurable expansion in progress, on target
Signing the Principles for Responsible Investment	Signing	Achieved
Expanding corporate citizenship	Increase of 20% in the existing budget by 2023	Achieved

Respect for human rights

As long as 20 years ago, human rights were one of the four subject areas defined in the United Nations Global Compact in which companies commit to behave in a responsible manner. The requirements placed on companies in relation to human rights were fleshed out in greater detail in 2011 through the endorsement of the UN Guiding Principles on Business and Human Rights by the UN Human Rights Council. Companies are urged to implement adequate safeguards in order to avoid human rights risks within their entrepreneurial scope of influence. Hannover Re has issued a corresponding policy statement which can be viewed on the website. Statements on the Modern Slavery Act 2015 (United Kingdom) and the Modern Slavery Act 2018 (Australia) are also published there. As a signatory to the United Nations Global Compact, Hannover Re also releases an annual progress report on the Ten Principles.

Impacts on our operations

Reputational and compliance risks could materialise in connection with the non-financial aspect. In view of our business operations, no direct and/or severe risks were identified. Please see the "Opportunity and risk report" in the combined Group management report for further information.

The review of requirements arising out of the Supply Chain Due Diligence Act (LkSG), which enters into force in 2023, continued in the year under review. Developments connected with the Corporate Sustainability Due Diligence Directive (CSDDD) are also closely monitored.

Impacts of our operations

As an internationally operating reinsurer, we consider impacts in relation to potential human rights violations from the perspective of the rightsholders.

Employees

In view of the fact that our employees are highly skilled workers and we attach the utmost priority to compliance with applicable national, collective bargaining and company regulations, we do not see any risk of serious violations of human rights. That said, issues such as discrimination, equal opportunities and oppression require constant attention and monitoring. We manage these issues in the context of our human resources management structure. For further information the reader is referred to the remarks in connection with the aspect "Employee matters". We protect employee data through rigorous compliance with statutory data protection requirements.

Suppliers

Hannover Re does not have a traditional upstream or downstream supply chain of raw and auxiliary materials or produced goods as is the case with, for example, manufacturing companies. Nevertheless, we too source a broad range of goods and services. Hannover Re has adopted its own Code of Conduct for Suppliers. This encompasses compliance with legal and ethical provisions, respect for human rights including observance of the core labour standards of the International Labour Organization (ILO) and adherence to all applicable requirements in the areas of health, safety and environmental protection.

As far as human rights due diligence is concerned, we see the greatest risk in connection with the procurement of IT hardware. For this reason, we have adopted an IT Procurement Guideline that is valid Group-wide and contains consistent rules governing the purchasing of IT products throughout the organisation. All bottleneck, leverage and strategic suppliers are subject to monitoring. Recognition of the Code of Conduct for Suppliers or submission of the supplier's own more extensive code of conduct is mandatory. As of 31 December 2022 100% of core IT suppliers have committed to comply with the Code of Conduct for Suppliers or equivalent rules.

Insurance business

With regard to our activities in insurance business, we would refer the reader to the remarks made in connection with the aspect "Environmental matters". Based on our risk analysis, we identified the greatest risk of potentially detrimental impacts on human rights in the following, particularly exposed areas: large construction projects (including dams, oil and gas projects, mines and pipelines), mining operations as well as companies connected with internationally banned weapons. The facultative division's ESG manual provides for a screening process to identify and decline transactions that entail an inherent risk of severe breaches of fundamental human rights.

All underwriters on both the property and casualty and the life and health reinsurance side have taken a mandatory training programme in ESG issues in the form of Web-based training. All property and casualty underwriters additionally completed supplementary focus training covering topics such as human rights and attended subsequent, specifically designed workshops.

Investments

As far as our activities relating to assets under own management are concerned, we would refer the reader to the remarks made in connection with the aspect "Environmental matters" and the negative screening process described there. This is based inter alia on the Ten Principles of the United Nations Global Compact (UNGC); six of these Principles explicitly address the issues of human rights and labour standards. Our investment guidelines also exclude issuers involved in the development and proliferation of internationally banned weapons.

Opportunities

We do not see any particular opportunities in connection with this non-financial aspect.

Respect for human rights: Selected goals **M 44**

Goal	Target indicator by 2023	Status 31.12.2022
Living up to duties of care in matters of human rights	Definition of measures in conformity with the United Nations Guiding Principles on Business and Human Rights	Cross-cutting goal, ongoing

Fighting corruption and bribery

Corruption, as the abuse of entrusted power for personal gain, has numerous negative repercussions. On the political and administrative level, corruption influences decision-making and the execution of approved measures in favour of individuals or parts of the population. This erodes trust in the state and can become a threat to state legitimacy as well as to democratic institutions. On the economic level, corruption distorts competition and causes business transactions to become more expensive while preventing the efficient use of resources. The fight against corruption and bribery forms part of our compliance management system.

Impacts on our operations

Compliance risks may become relevant in connection with the non-financial aspect "Fighting corruption and bribery". At the same time, integrity and lawful conduct are directly correlated with a company's reputation and establish the basis for the trust placed in such company by business partners, investors, shareholders and the broader public and hence also the foundation for its success and competitiveness over the long term. In view of the business operations and implemented structures, no direct and/or severe risks were identified. For further information the reader is referred to the "Opportunity and risk report" in the combined Group management report.

Impacts of our operations

Governance and compliance

Any form of unlawful or corrupt behaviour inflicts considerable harm on society and impedes free and fair competition. Companies in the financial sector have an important role to play when it comes to prevention and execution. Hannover Re has a sophisticated governance and compliance management system and adopts the "three lines of defence" approach. For details of the implemented structures please see the "Opportunity and risk report" in the combined Group management report.

Code of Conduct

Hannover Re has adopted a company-wide Code of Conduct that is publicly accessible on the website. This was completely revised in the year under review and approved by the Executive Board and Supervisory Board.

The Code of Conduct contains directions for our employees on appropriate behaviour with respect to all topics covered by our compliance management system. Hannover Re does not tolerate active or passive bribery or corruption and we do not participate in transactions with a criminal background. We act with caution in relation to gifts and invitations and make business decisions solely on the basis of solid, objective criteria. Our Code of Conduct further addresses issues around conflicts of interest.

As a listed company, we make our employees aware at the start of their employment and subsequently at regular intervals of the need to observe rules on insider trading and, as warranted, to respect blocking periods for share trading.

Opportunities

No particular opportunities are identified in connection with this non-financial aspect.

Fighting corruption and bribary: Selected goals **M 45**

Goal	Target indicator by 2023	Status 31.12.2022
Ensuring that the organisation is compliant	Average compliance score corresponding at a minimum to the targeted maturity level	Ongoing

Disclosures under Article 8 of the EU Taxonomy Regulation

Article 8 of the EU Taxonomy Regulation ([EU] 2020/852) requires reporting entities pursuant to §289 of the German Commercial Code (HGB) to publish information on how and to what extent their activities are consistent with economic activities that qualify as environmentally sustainable under the EU Taxonomy. The Taxonomy is a central element of the EU Action Plan for Financing Sustainable Growth and is intended – as a unified classification system – to foster transparency on sustainability in the financial market.

The Delegated Act supplementing Article 8 of the EU Taxonomy Regulation ([EU] 2021/2139) currently focuses exclusively on activities that contribute to mitigating or adapting to climate change. In this context, both the investments of the Hannover Re Group and our reinsurance solutions in property and casualty business fall within the scope of consideration.

Reinsurance solutions can serve the purpose of climate change adaption if they protect against climate-related natural perils such as flood or storm damage. Such protections have always been a central theme in our business activities. The worldwide reinsurance industry increases the resilience of its customers in the face of natural catastrophes by compensating those affected. It facilitates recovery after the occurrence of damage and helps to safeguard the livelihood of people and businesses. It also ensures the continuation of major projects and the development of new technologies, thereby sustainably fostering economic growth. In this sense comprehensive reinsurance solutions support adaptation to the risks associated with climate change. In addition, our long-standing experience in risk assessment and risk management facilitates the early detection of new and emerging risks and the development of appropriate risk transfer solutions. Our investments can similarly fall under the Taxonomy if they serve the financing of Taxonomy-aligned sustainable economic activities and hence support them. As a prudent investor with a long-term horizon, we are committed to the responsible management of our investments inasmuch as we have deliberately incorporated ESG criteria into our investment policy since 2012.

In the context of its sustainability strategy Hannover Re pursues various goals with a view to fostering sustainability in both our underwriting and investment portfolio. For more detailed information on climate-related goals and measures we would refer to the subsection "Environmental matters". Stakeholders are also updated on the latest developments through the website and the annually published sustainability report.

Taxonomy key performance indicators (KPIs)

For the financial years 2021 and 2022 reinsurance undertakings are required by the Delegated Act ([EU] 2021/2139) to disclose the following KPIs.

Reinsurance business

- The proportion of Taxonomy-eligible and Taxonomy-non-eligible premiums in the entire book of property and casualty reinsurance

Investments

- The proportion of Taxonomy-eligible and Taxonomy-non-eligible investments in the total investments
- The proportion of government bonds in the total investments
- The proportion of undertakings not subject to mandatory reporting under the Directive 2014/95/EU (Non-Financial Reporting Directive – NFRD) in the total investments
- The proportion of derivatives in the total investments

Bearing in mind the FAQ published by the EU on 20 December 2021 and with an eye to consistent and comparable reporting, the definition of the denominator applicable to financial years from 2023 onwards is already used for the 2021 and 2022 financial years. Therefore, the stated figures are compared with the sum total of our investments under own management.

Taxonomy eligibility specifies what proportion of the economic activities carried out by Hannover Re is described in the Taxonomy and for which economic activities technical screening criteria have been developed. These criteria determine the substantial contribution to the set environmental objectives, prevent harm to other environmental objectives and are intended to ensure adherence to social minimum standards. The proportions of the economic activities established using the screening criteria are aligned with the Taxonomy and must be reported for the first time for the 2023 financial year. Currently, we assess the information value of the KPIs as being still too slight to incorporate them as an effective steering tool into our business decisions and product development processes.

Reinsurance business

For reinsurance business, all premiums in one of the lines of business described in the Delegated Act ([EU] 2021/2139) under Solvency II are considered to be Taxonomy-eligible if direct covers of climate-related natural perils can be established.

As part of natural catastrophe (NatCat) monitoring, all treaties with relevant covers are flagged in the internal systems. With the exception of earthquake risks, all natural perils covered by Hannover Re are considered to be climate-related (including weather-related and bush fire damage, for example). A NatCat-relevant treaty that covers other natural perils beyond earthquake thus signals the existence of a climate-relevant premium in the respective line of business. In order to verify this finding, a concrete treaty with climate-relevant covers was qualitatively documented for each identified line of business. Subject to further specifications by the legislator, all other lines of business that do not include direct climate-relevant covers or are not described in the Delegated Act ([EU] 2021/2139) are classified as Taxonomy-non-eligible.

Taxonomy-eligibility makes it possible to identify those lines of business to which the technical screening criteria must be applied from the 2023 financial year onwards in order to determine sustainability within the meaning of the Taxonomy. Overall, the alignment percentage of the premiums is expected to be significantly lower than the eligibility percentage because the latter only defines the closer scope of consideration.

Results for the 2022 financial year

Given that life and health reinsurance is explicitly excluded from consideration, the disclosures encompass only activities in property and casualty reinsurance.

Taxonomy-eligible premiums = 64.71%
(previous year: 62.51%)
The Taxonomy-eligible premiums are calculated according to the following formula: (sum of Taxonomy-eligible lines of business in GWP (gross written premiums)/GWP in property and casualty reinsurance) x 100

Taxonomy-non-eligible premiums = 35.29%
(previous year: 37.49%)
The Taxonomy-non-eligible premiums are calculated according to the following formula: (sum of not described and Taxonomy-non-eligible lines of business in GWP/GWP in property and casualty reinsurance) x 100

Investments

Investments used to finance economic activities described in the Taxonomy or linked to them are defined as Taxonomy-eligible. These investments are compared in the reporting with the investments under own management. The latter are arrived at by deducting from our total investments the cash and cash equivalents and any funds withheld/contract deposits. The funds withheld/contract deposits involve cash or securities deposits in connection with technical provisions to which Hannover Re does not have any direct access.

The investments under own management similarly serve as the point of departure for determining Taxonomy-eligibility. The Delegated Act ([EU] 2021/2139) defines under Article 7 (1) to (3) the following exclusions when calculating the KPIs.

- All exposures to central governments, central banks and supranational issuers shall be excluded from the calculation of the numerator and denominator.
- All derivatives shall be excluded from the numerator
- All exposures to undertakings not obliged by the EU to publish non-financial information under the NFRD shall be excluded from the numerator

These items are therefore out of scope for the calculation of the numerators (as well as the denominators in the case of government bonds) for the KPIs, but they are disclosed individually for classification of the results.

The European Commission has made it clear that for the purpose of evaluating an investment's Taxonomy-eligibility only KPIs published in the context of non-financial reporting may be used to screen Taxonomy-eligibility. This information is now partially available for the first time for the 2022 reporting year.

All investments with an issuer country that is not subject to EU legislation are initially exempted from the evaluation of Taxonomy-eligibility, since such investments generally do not fall under mandatory reporting pursuant to the NFRD. In the case of liquid investments with an issuer country that is subject to mandatory reporting pursuant to the NFRD, information from an external data provider is used to further determine whether the issuers are subject to mandatory reporting. In the case of substantial exposures in respect of which the data provider does not provide any information, the KPIs published in the non-financial reporting or details about whether the issuer is required to publish a non-financial statement are obtained manually. Given that Hannover Re has an internationally oriented investment horizon, the proportion of investments in issuers not subject to mandatory reporting under the NFRD is of course high.

All investments connected with the purchase and ownership of real estate are generally considered to be Taxonomy-eligible. This includes investment property, real estate funds and mortgage loans for private households. In the case of liquid investments with an issuer country that is subject to the NFRD, reference is made to the results of internal screening for a large part of the liquid investments in order to assess Taxonomy-eligibility. Immaterial items for which no data are available are conservatively disclosed as non-Taxonomy-eligible. Direct participations in the form of SPVs as well as infrastructure investments in the form of tangible assets, participations or loans are similarly allocated to the Taxonomy-eligible investments if the economic activity is known based on the internal data available to us and the Taxonomy contains assessment criteria for such activity. If this is not the case, these investments are disclosed as non-Taxonomy-e ligible. Due to inadequate data availability and the predominantly internationally oriented investment horizon, retail and private equity funds are also disclosed as non-Taxonomy-eligible until objective allocation is possible.

Results for the 2022 financial year

Material changes in KPIs compared to the previous year are due primarily to the possibility of including Taxonomy information reported by issuers for the first time. It is our assumption that with increasing data availability the KPIs will continue to change in the coming reporting periods, and we would again point to the considerable shortage of reliable data and the lack of consistency in Taxonomy reporting. This initially creates a picture of the actual Taxonomy-eligibility of our investments which is heavily restricted in its information value. Owing to the lack of regulatory clarity around the requirements for how the KPIs are to be reported for the 2022 financial year, our disclosures regarding Taxonomy-eligibility relate exclusively to the proportion of revenues generated with Taxonomy-eligible and non-Taxonomy-eligible activities of the issuer. This is expected to be more informative than would be the case with KPIs relating to the capital expenditures (CapEx). Additional disclosure of these KPIs is therefore omitted in view of the balance between costs and benefits.

Proportion of government bonds = 41.87% (previous year: 35.09%)

The proportion of government bonds is calculated according to the following formula: (government bonds / total investments) x 100

Proportion of derivatives = 1.39% (previous year: 0.70%)

The proportion of derivatives is calculated according to the following formula: (total derivatives / (total investments – government bonds)) x 100

Proportion of undertakings not subject to mandatory reporting under the NFRD = 66.15% (previous year: 73.63%)

The proportion of undertakings not subject to mandatory reporting under the NFRD is calculated according to the following formula: (investments in undertakings not subject to mandatory reporting under the NFRD / (total investments – government bonds)) x 100

Taxonomy-eligible investments = 11.73% (previous year: 7.55%)

The Taxonomy-eligible investments are calculated according to the following formula: (Taxonomy-eligible investments / (total investments – government bonds)) x 100

Taxonomy-non-eligible investments = 20.73% (previous year: 18.12%)

The Taxonomy-non-eligible investments are calculated according to the following formula: (non-Taxonomy-eligible investments / (total investments – government bonds)) x 100

Opportunity and risk report

Risk report

- Hannover Re's capital resources over the course of the year are in excess of the defined strategic threshold. The capital position is reviewed on an ongoing basis against the backdrop of possible changes in the risk profile.
- Our risk management system constantly monitors newly added and changing risks and is able to respond flexibly to changes in internal and external factors.

Strategy implementation

Robust governance and strong risk management, integrated compliance and corporate social responsibility establish the foundation for our business operations. This is enshrined in our company strategy.

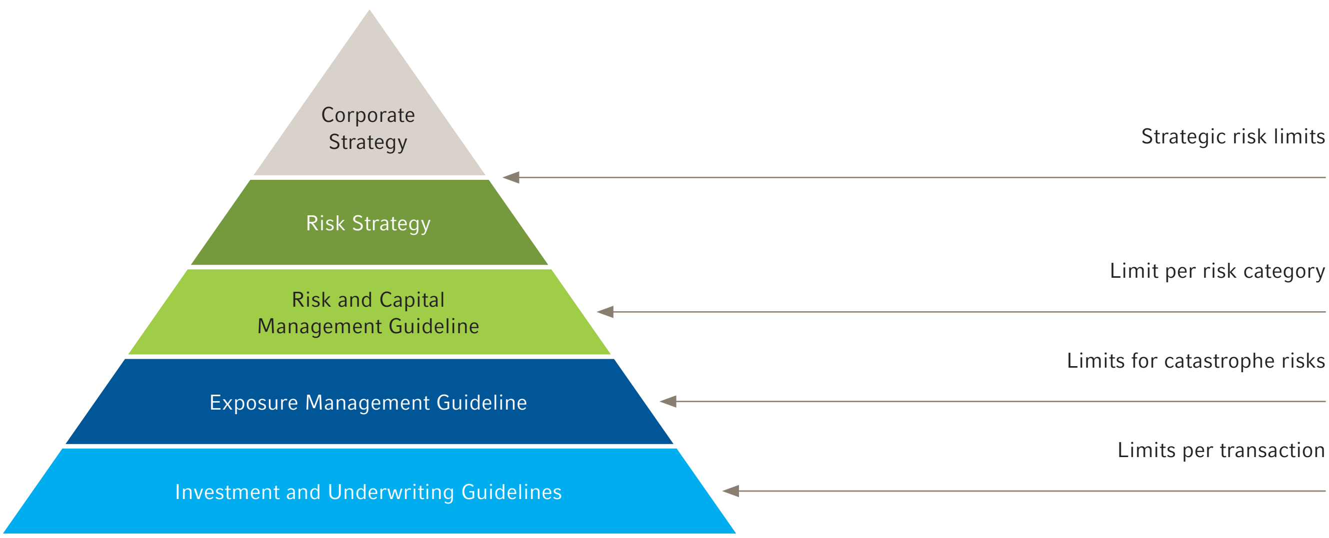
The risk strategy is the core element in our handling of opportunities and risks. It specifies more closely the goals of risk management and documents our understanding of risk. We have defined eight overriding principles within the risk strategy:

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

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 at least 90% p.a. Our solvency ratio must amount to at least 180%; however, 200% is already considered to be a threshold, and countermeasures would be triggered if the solvency ratio were to fall below this level. Adherence to the regulatory solvency ratio of 100% is therefore also ensured.

Risk management through multiple levels of limits **M 46**



Currently, the solvency ratio (unaudited by the independent auditor) stands at 252%, i.e. above the threshold. Solvency capital requirements are monitored using our internal capital model and the Executive Board is informed quarterly about adherence to the key thresholds as part of regular risk reporting as well as on an ad hoc basis in the case of major events or changes. The necessary equity resources are determined according to the requirements of our economic capital model – which also cover the regulatory parameters – and the expectations of rating agencies for our target rating.

Major external factors influencing risk management

This subsection describes external factors that were particularly relevant to risk management in 2022.

Geopolitical risks

The Russian invasion of Ukraine in February 2022 and the ensuing war has far-reaching consequences in Europe and worldwide. Further escalation of the conflict beyond the territory of Ukraine cannot be excluded and would have potentially considerable and far-reaching consequences for the geopolitical order. Fear of Russian aggression has prompted Sweden and Finland to seek NATO membership and thus set aside their long-standing policy of neutrality. Escalation of the conflict – whether due to the nature of the weapons deployed or the involvement of further parties in the conflict – is an obvious and ever-present danger.

Multiple Western countries have additionally imposed sanctions on Russia, which have similarly been implemented by Hannover Re to the extent that it is affected by them. The impact on trade relations has been extensive. The conflict in Ukraine and its repercussions have, among other effects, driven up prices for energy and raw materials and hence inflation – especially in Europe. Governments in the European Union have taken various actions to alleviate the economic impacts of higher energy costs and to control prices and volumes.

Tensions around the Taiwan Strait persist, as was evident on multiple occasions in 2022. Additionally, clashes have occurred in recent years along the border between India and China. Escalation of such situations remain possible, and could have far-reaching consequences.

Risks from armed conflicts are generally excluded in reinsurance treaties but may be covered under special arrangements such as for marine risks. Political risk and political violence covers, among others, are available for other risks from violent conflicts and their consequences. The risk situation for these policies is therefore elevated. Risks stemming from economic tensions can have disruptive effects on supply chains.

Until recently, China pursued a strict zero-Covid policy, which was relaxed at the end of 2022. This caused infection rates to rise across the entire country. China also gradually eased its border restrictions, thereby increasingly facilitating the resumption of travel. While the zero-Covid policy was in force, Covid-related constraints impacted the Chinese economy and its infrastructure, leading to supply shortages affecting various goods and materials. The effects of these bottlenecks have been gradually alleviated as the economy opens up again, which should also be accompanied by a drop in inflation over the medium term.

Trade relations between the United States and China have come under additional strain. Further reciprocal measures restricting trade between the world's two largest economies could have extensive repercussions on global trade.

In Iran, moves to reactivate the Joint Comprehensive Plan of Action (JCPOA), or Iran nuclear deal, concluded between Iran and the Western powers have not produced any appreciable results. The eruption of widespread protests against the Iranian government following the death of a young woman in police custody destroyed any chance of reviving the agreement and triggered a wave of condemnation from abroad. These tensions cover the latent risk of a more widespread conflict in the Middle East.

The repercussions of Brexit are still being felt in the United Kingdom. The changes at 10 Downing Street in 2022 were not conducive to the institutional stability that would have facilitated a renegotiation of the Northern Ireland Protocol with the EU. A solution to this question is seen by both sides as key to a stable relationship post-Brexit. An agreement that satisfies all parties is seen as vital to resolving the currently dormant discussions around the equivalence of financial services. Another potential sticking point for equivalence is the expected changes under the UK solvency regime, which would probably lead to a divergence (albeit a minimal one) from the EU Solvency II standard. Hannover Re's business relations with UK cedants have not, however, been adversely affected by Brexit. Hannover Re's branch in London has acquired the status of a third-country branch and is thus able to continue its operations.

Natural catastrophe risks and climate change: In 2022 Hannover Re was again impacted by natural catastrophe events in various parts of the world (Europe, Australia, the United States). Particularly noteworthy in the year under review were winter storm Ylenia/Zeynep in Central Europe, the heavy rain and flooding event in February and March in Australia and, most strikingly, Hurricane Ian in the US.

Natural disasters should be viewed as inextricably linked to climate change. The associated impacts present a major challenge for risk management. We use both external and internal risk models to model the impacts of catastrophic events. The monitoring of risks resulting from natural perils is rounded off with stress tests as well as scenario and sensitivity analyses. Further specifics are provided in the separate section "Climate change".

Capital market environment: Our investments performed highly satisfactorily overall in the reporting period despite numerous geopolitical and economic challenges. Most significantly, the war in Ukraine and the Covid-19 pandemic – the effects of which are still being felt – as well as the in part associated sharp surge in inflation are currently confronting the world economy with special challenges. Our investments benefited on the whole from the fact that we had already adopted a rather prudent positioning at the turn of the previous year in view of anticipated central bank moves and inflation trends.

The general level of interest rates is an important external factor influencing the return that can be generated on our investments. The monetary policy pursued by central banks has significant implications in this regard. The meteoric rise in inflation prompted the US Federal Reserve, the ECB and many other central banks to emphatically tighten their monetary policy by hiking short-term rates and reducing or entirely stopping bond purchases. Along with inflation fears, growing levels of public debt in many countries also had an adverse effect. In our main currency areas this initially led to a very marked rise in interest rates across all maturities. Furthermore, appreciable increases in risk premiums were observed on bonds issued by developing countries and lower-quality issuers, particularly from the second quarter onwards. Both these and the interest rate levels relativised somewhat towards year-end as anticipated. Nevertheless, the valuation reserves for our fixed-income securities consequently fell into clearly negative territory. These declines were, however, partially offset by the large proportion that we hold in foreign currencies and the marked strengthening of some currencies – especially the US dollar – against the euro. In addition, higher interest rates have substantially positive implications for new investments and reinvesting activities.

Equity markets posted their weakest performance in recent years through to the third quarter, only recouping some of these losses in the fourth quarter. Through timely liquidation of our positions in the first six months, we were nevertheless able to generate a positive profit contribution here of EUR 94 million.

Inflation continues to be a dominant issue. Even without the war in Ukraine, catch-up effects from the pandemic would come up against tight labour markets and could, as is already evident in the US, set in motion a wage-price spiral. Higher energy costs and disrupted supply chains – especially in Europe – are further contributory factors. In the latter case, China's important – but difficult to evaluate – role against the backdrop of its Covid-19 policy also needs to be kept in mind. The topics of energy, raw materials and protectionism will also inject added tension into the future of the existing globalisation trend and its trade flows. High inflation thus remains a major concern – albeit one which we are countering with income from our portfolio of inflation-linked bonds. These made a very pleasing contribution to our ordinary investment income with a positive amortisation amount of EUR 458.5 million and serve primarily to mitigate the effects of claims inflation.

We continue to have exposure to the private equity market. Fair value changes here tend to be less influenced by general market conditions and more by company-specific evaluations. The risks are therefore primarily associated with the business model and profitability and to a lesser extent with the interest rate component in the consideration of cash flow forecasts. We also view the need to take higher write-downs in the year under review on isolated assets not solely as evidence of a generally elevated risk in the market, but rather in the context of the risk profile specific to this asset class and set of company characteristics. By contributing large parts of our private equity portfolio to a joint venture with Münchener Rückversicherungs-Gesellschaft, we are able not only to further diversify our existing portfolio but also to secure expanded market access to broader spreading of future investments.

The significance of real estate risks remains high for our company owing to our consistent participation in this sector. We spread these risks through broadly diversified investments in high-quality markets around the world, with each investment decision being preceded by extensive analyses of the relevant property, manager and market. The current market environment is increasingly seeing sharply higher refinancing rates and an appreciable slowdown in transaction activity, which can have knock-on effects on real estate valuations. We are keeping a close eye on this for our existing real estate portfolio, but also believe that the present correction potentially offers targeted buying opportunities.

As part of our liquidity management we have defined asset holdings that have proven to be highly liquid – even in times of financial stress such as the 2008 financial crisis. They consist primarily of unrestricted German, UK and US government bonds and are intended to ensure our ability to pay even if there is a coincidence of assumed extreme events. The holdings of this liquid asset reserve stood at EUR 9.1 billion (previous year: EUR 6.7 billion) as at the balance sheet date. In addition, we manage the liquidity of the portfolio by verifying the status of the instruments contained therein on each trading day. When reinvesting in fixed-income securities in the last quarter of the reporting period, we increasingly invested in instruments with short- and long-term maturities while maintaining the average remaining maturity. By expanding the holding of short-term securities we further strengthened our liquidity base. Overall, these measures enable us to reduce the liquidity risk.

As far as our investments are concerned, we anticipate continuing elevated volatility on global capital markets in the immediate future, although we also see this as an opportunity and believe that we are appropriately prepared with our current investment posture. For further information, please see the "Investments" section of the management report on page 44 et seq. Geopolitical tensions and armed conflict, as currently seen in Ukraine, pose corresponding risks to the prevailing political balance of power in Europe. Adverse impacts on financial markets are possible. Resulting increases in energy prices may push inflation even higher.

Inflation on the underwriting side: The higher rates of inflation worldwide have the potential to affect multiple factors in our business activities, including for example the insured values and their premium calculation, the loss reserves, the large loss budget, the investments (as described in the previous section) and the management expenses. We have developed measures to deal with inflation in all these respects. It should be borne in mind here that the general rise in consumer prices needs to be differentiated from the claims and cost inflation that is relevant to our company. The Hannover Re-specific claims inflation index is a blend of different regions and currencies and dependent on the line of business. Mention should be made here of wages and salaries for liability business, construction costs for property insurance including natural perils and medical expenses for life and health insurance. Inflation is considered in our reserving process. Essentially, this process is based on average past inflation rates; if there are indications of a future rise in inflation we review the need to apply loadings. This is especially important in long-tail lines because multiple underwriting years can be affected at the same time. We monitor inflation drivers over the entire course of the business and reduce them by, among other things, making appropriate allowance in the premium calculation and by means of index clauses and sliding-scale commissions.

We also use the inflation-linked securities referred to in the previous subsection to hedge inflation risks. Overall, the property and casualty reinsurance segment is affected more heavily than life and health reinsurance.

In the course of the year we observed sharply negative run-offs of certain large losses from prior years, which we attribute partly to the rise in inflation.

Regulatory developments: The European Parliament and Council are negotiating the final legislative texts on the basis of the European Commission's proposals for the overhaul of the Solvency II, as well as a new directive for the recovery and resolution of insurance and reinsurance undertakings. The Commission's proposals include, among other aspects, new macroprudential supervisory powers as well as changes to yield curves and revisions to the calculation of the risk margin. Depending on the final outcome of the ongoing legislative process, these proposals could have considerable implications for the European (re)insurance industry.

Numerous regulatory developments relating to sustainability occurred in 2022 on the international, European and national level. In the EU these are linked to the European Green Deal strategy pursued by the European Commission. The European Commission thereby renewed the high-level goals for sustainable finance, which were first set out in the Commission's 2018 action plan. Most significant for Hannover Re are the Taxonomy Directive and the Corporate Sustainability Reporting Directive (CSRD).

In the course of 2022, EIOPA carried out another internal model comparative study, in which Hannover Re participated. Aspects such as the parameters and results of the market risk models were compared. The EIOPA studies and their findings are intended to harmonise regulatory approaches in the EU and hence refine the supervision of internal models above and beyond the existing tools. This poses, among other issues, a systemic risk that approaches specific to particular undertakings may be too heavily restricted.

Digital technologies are of pivotal importance for processes in the financial services industry as a whole and especially for (re)insurers. The EU has developed the Digital Operational Resilience Act (DORA) as a new framework for ensuring the resilience of digital services in critical scenarios. Hannover Re must adjust many internal processes in connection with the review of external IT service providers in order to implement the requirements.

Growing protectionism is leading to additional restrictions on market access in many parts of the world. This trend makes it more challenging to close existing and emerging protection gaps, such as in the aftermath of catastrophic events.

Corporate taxes: The EU Member States have reached agreement in principle to implement the minimum taxation component, known as Pillar 2, of the OECD reform of international taxation on the EU level. The profits of large multinational and domestic groups or companies with a combined annual turnover of at least EUR 750 million will be taxed at a minimum rate of 15%. The new rules will reduce the risk of tax base erosion and profit shifting and ensure that the largest multinational groups pay the agreed global minimum rate of corporate tax. Measures: The global minimum tax will enter into force on 1 January 2024. Political discussions are still ongoing about a transitional period in which certain safe harbour arrangements may apply. This will have considerable implications for the reporting obligations of HR SE and all other Group companies. Transposition will be governed by a German implementing act setting out the definitive legal basis for this project.

Covid-19 pandemic and biometric risks: After almost three years of operational and financial experience with the pandemic and its effects, we now have a solid basis to assess potential further developments and impacts on our company.

We continue to evaluate our financial strength and profitability on a regular basis using stress tests and sensitivity analyses, and take measures as needed to reduce risks or strengthen our capital resources. This is true not only regarding of Covid-19 but also with respect to potential future pandemics. We are also monitoring the possible long-term effects of Covid-19 infections and their implications for reinsurance products. Building adequate reserves for ongoing losses from Covid-19 has been incorporated into regular processes.

Contrary to the overall positive run-off in many lines of our property and casualty reinsurance, we incurred significant losses in the 2022 financial year from Covid-19 in Asia in the business lines accident and short-term health.

In life and health, we continuously monitor the development of our mortality portfolio (especially in the United States) as well as of our worldwide morbidity business, particularly with an eye to the impacts of the Covid-19 pandemic. It is to be anticipated that losses from the Covid-19 pandemic will continue to diminish in most markets in 2023. We are closely tracking the latest dynamic developments in China and build reserves where necessary.

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 the 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 valuation principles and also constitutes the basis for calculating the own funds under Solvency II. Hannover Re's internal capital model reflects the 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 categories we have identified a number of risk factors for which we define probability distributions. 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 publicly 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. The Hannover Re Group 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 99.5%. This corresponds to the requirements of 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 (Solvency ratio). It remains the case that the limit and threshold are clearly exceeded.

Own funds and required risk capital M 47

in EUR million	31.12.2022[1]	31.12.2021
Available economic capital	18,164.0	17,464.1
Eligible own funds (Solvency II)	17,514.0	16,783.7
Solvency capital requirement/ required risk capital at the confidence level 99.5%	6,952.3	6,904.2
Excess capital (Solvency II)	10,561.7	9,879.5
Solvency ratio (Solvency II)	251.9%	243.1%

[1] The available economic capital is based on the Solvency II reporting as at 31 December 2022. The relevant Solvency II audit procedures conducted by the independent auditor have still to be completed. Solvency capital requirement and non-eligible minority interests (and thereby the eligible own funds) have not been audited by the independent auditor.

The eligible own funds of the Hannover Re Group for regulatory purposes are lower than the available economic capital because non-controlling interests are in part treated as non-eligible under Solvency II. The available economic capital, the eligible own funds and the required risk capital include the volatility adjustment, i. e. the add-on to the risk-free yield curve envisaged in the Solvency II supervisory regime.

Apart from the Hannover Re Group, the legal entity Hannover Rück SE is also subject to regulatory capital requirements. The solvency ratio of Hannover Rück SE is typically 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.

We strive for a rating from the rating agencies most relevant to our industry that facilitates and secures our access to all reinsurance business worldwide. Hannover Re is analysed by the rating agencies Standard & Poor's (S & P) and A.M. Best as part of an interactive rating process. The current financial strength is assessed as "AA-" (Very Strong, stable outlook) by Standard & Poor's and "A+" (Superior, stable outlook) by A.M. Best. In this context both Standard & Poor's and A.M. Best consider Hannover Re's risk management to be a very important aspect in the evaluation of financial strength and rate it as very good. Hannover Re's internal capital model was also subjected to appraisal by Standard & Poor's. 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 capital requirements.

Against the backdrop of the planned growth of our business in property and casualty reinsurance and selected areas of life and health reinsurance, we continuously track the impacts on our capitalisation and rating. In order to safeguard an adequate level of capitalisation and our rating, we initiate measures promptly based on forecasts. Possible measures include, among others, adjusting the structure and scope of our retrocessions, adjusting the amount of debt capital and managing business growth through risk budgets.

Organisation and processes of risk management

Hannover Re has set up Group-wide risk management functions to safeguard an efficient and effective risk management system. The individual elements of the risk management function are closely interlinked and the roles, tasks and reporting channels are clearly defined and documented. We have implemented the three lines of defence model. The first line of risk steering rests with market and market-supporting departments 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 functions are responsible for process-integrated 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.

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 and risk culture. In addition, risk management requirements are formulated in guidelines that are discussed and published throughout the organisation.

Key elements of our risk management system

Our Risk and Capital Management Guideline, including our risk strategy and 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, execution, verification, adjustment 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.

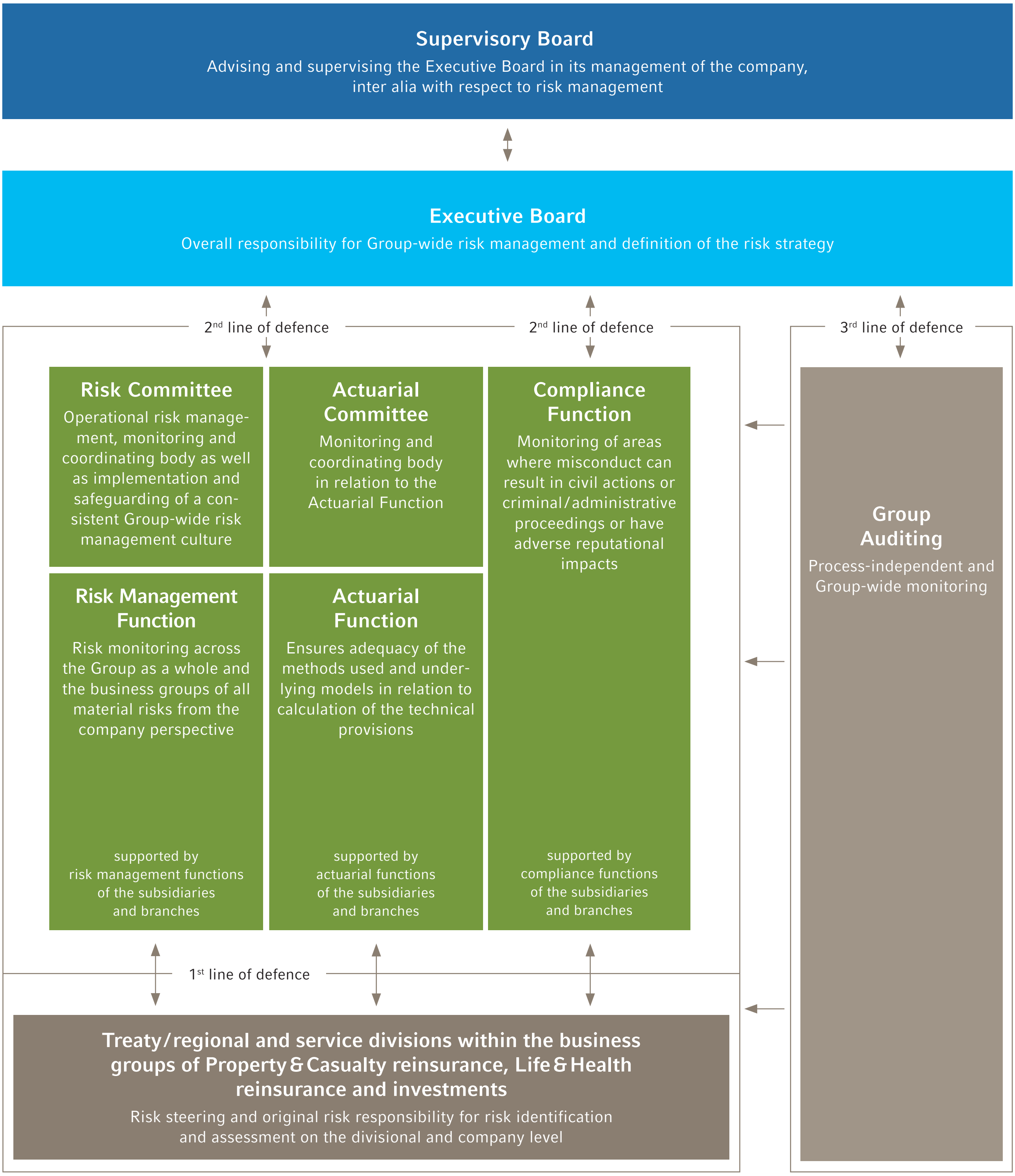
Our Guideline describes, among other aspects, the major tasks, rights and responsibilities, organisational frameworks and the risk control process. The rules, which are derived from the corporate strategy and the risk strategy, additionally take into account the regulatory requirements for risk management as well as international standards and developments relating to appropriate corporate governance.

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. Individual risks and the risk position as a whole are measured using our internal capital model. A central system of limits and thresholds is in place to monitor material risks. This system incorporates the limits and thresholds derived from the corporate strategy. Adherence 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. Risks are identified through, among other things, interviews and scenario analyses as well as in the evaluation of new products and large transactions. External insights from associations and working groups are incorporated into the process. Risk identification is important for ensuring that our risk management consistently remains up-to-date.


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
Compliance Function
Monitoring of areas where misconduct can result in civil actions or criminal/administrative proceedings or have adverse reputational impacts
Group Auditing
Process-independent and Group-wide monitoring
Risk Management Function
Risk monitoring across the Group as a whole and the business groups of all material risks from the company perspective
Actuarial Function
Ensures adequacy of the methods used and underlying models in relation to calculation of the technical provisions
supported by risk management functions of the subsidiaries and branches
supported by actuarial functions of the subsidiaries and branches
supported by compliance functions of the subsidiaries and branches
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

Risk analysis and assessment

In principle, every risk that is identified and considered material is quantitatively assessed. Only types of risks for which quantitative risk measurement is currently impossible or difficult are primarily assessed qualitatively. This encompasses strategic risks, reputational risks – which may be related to sustainability – and emerging risks. Qualitative assessment can take the form of, for example, expert evaluations. Quantitative assessment of risks and the overall risk position is performed using Hannover Re's internal capital model. The model makes allowance for risk concentration and diversification.

Risk steering

The steering of all risks is the task of the operational business units on the divisional and company level. The identified and analysed risks are thereby either consciously accepted, avoided, increased or minimised. The risk/reward ratio is factored into the division's decision. Risk steering is assisted by the standards specified in the central and local underwriting and investment guidelines, including the 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 risk monitoring major task is the assessment of whether risk-steering measures were carried out and whether the planned effect of the measures suffices.

Risk communication and risk culture

Risk management is firmly integrated into our operational processes. It is assisted by transparent risk communication and dealing openly with risks as part of our risk culture. Risk communication takes place, for example, through internal and external risk reports, in the context of committee and project work, through information on current risk complexes in the intranet and by way of training activities for staff.

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 responsabilities, 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 in relation to accounting. The risk management system is rounded off with process-integrated procedures and rules, such as those of the internal control system.

Internal control system

The internal control system (ICS) serves, among other purposes, 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. The guideline defines concepts, stipulates responsibilities and provides a guide for the description of controls. The ICS consists of systematically structured organisational and technical measures and controls within the company. 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.

Financial reporting 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 errors in the annual and consolidated financial statements at an early stage.

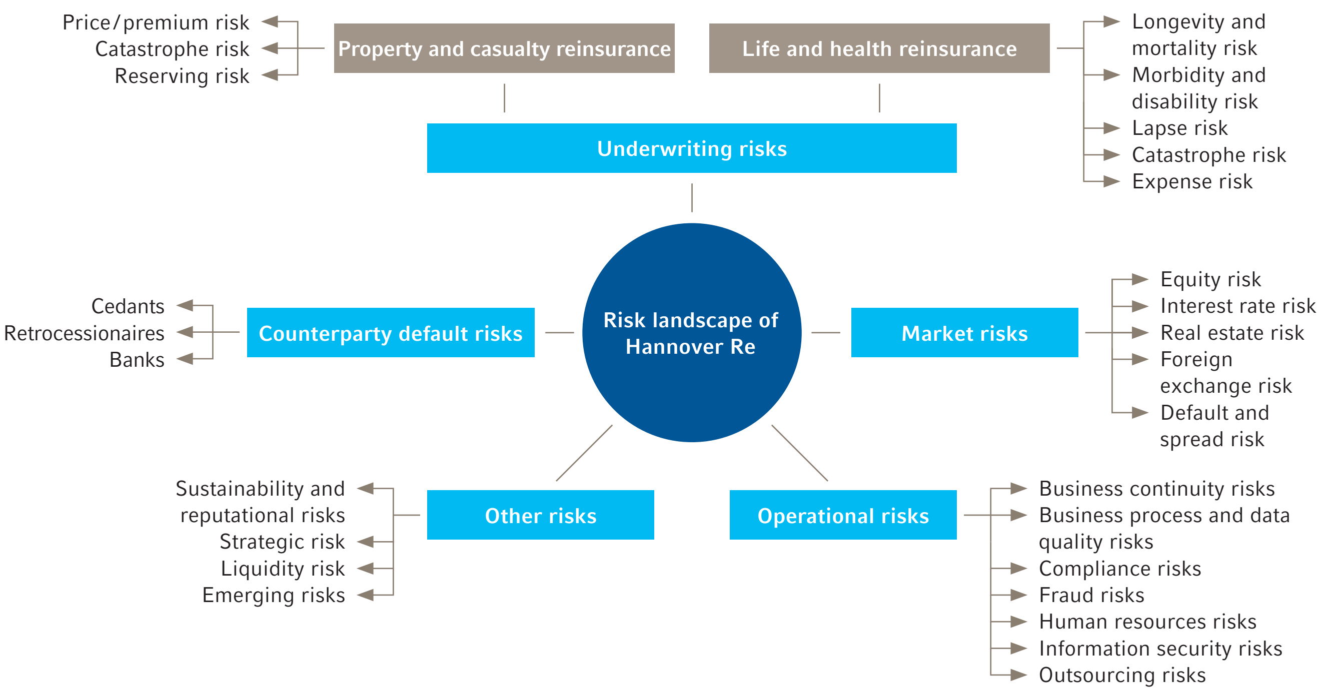
We use a central IT solution with standardised accounting and consolidation processes, posting rules and interfaces for data delivery in order to draw up the consolidated financial statement. Access rights for the reporting systems are assigned through an approval process. All components of the accounting-related 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 management 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; content-based and system-side checks have therefore been implemented for system access.

Risk landscape of Hannover Re

In the context of its business operations the Hannover Re Group is confronted with a broad variety of risks. These risks are deliberately accepted, steered and monitored as appropriate to the actions taken 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. In this context, crucial importance attaches to our risk management in order to ensure that, among other considerations, risks to the reinsurance portfolio remain calculable and even exceptional major losses do not have an unduly adverse impact on the result.

Risk landscape of Hannover Re M 49



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
- sustainability and reputational risks, liquidity risks, strategic risks and emerging risks.

Sustainability risks

The handling of sustainability risks has come into increasing focus in recent years, above all against the backdrop of climate change. Instead of sustainability risks, reference is often made to risks associated with environmental, social and governance (ESG) issues.

We make a fundamental distinction here between risks and impacts to which a company is exposed (outside-in perspective) as well as risks and impacts that a company causes through its business operations (inside-out perspective).

Sustainability risks corresponding to the outside-in perspective are financial risks due to the potential financial repercussions of environmental, social and governance (ESG) issues on Hannover Re. These financial risks encompass market, underwriting, counterparty default and operational risks and are integrated into the risk management processes for such risks.

The inside-out perspective refers to situations in which the activities of Hannover Re would be harmful to the environment or social norms or would reflect a failure of governance. Reputational risks form the bridge between the outside-in and inside-out perspective. Due to a – perceived or real – external impact of the company, a reputational risk arises for the company from the inside-out perspective. As a general principle, we integrate sustainability risks (outside-in) into our regular risk management processes. According to the inside-out perspective, reputational risks relate to transgressions against environmental and social concerns; governance failings are defined as a failure to comply with internal guidelines, codes of conduct and other internal policies.

Currently, 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 mortality risks within the underwriting risks of life and health reinsurance.

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

Internal risk assessment

In this subsection we compare the available economic capital with the required risk capital.

Hannover Re calculates economic equity as the difference between the market-consistent value of assets and the market-consistent value of 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 increased by the volatility adjustment. 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 minor. 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 value. Other adjustments largely relate to 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 18,164.0 million as of 31 December 2022, compared to EUR 17,461.1 million as of 31 December 2021. In life and health reinsurance we recorded strong, positive new business growth above target. Assumption changes and experience variances from business written in prior years had only a minor opposite effect. For our property and casualty business we experienced large losses above the budgeted level as well as negative effects from actuarial assumption changes. The very positive new business and reserve releases, in part connected with provisions for Covid-19 losses, virtually offset this development.

All in all, the changes in the market environment had a slightly adverse impact on Hannover Re's economic capital. The negative effects, primarily due to the widening of credit spreads and the rise in interest rates, were only partially offset by positive movements in exchange rates.

In the fourth quarter Hannover Re issued a new hybrid bond with a volume of EUR 750 million, resulting in a further increase in the available economic capital.

Reconciliation (economic capital/shareholders' equity) [1] **M 50**

in EUR million	31.12.2022 [1]	31.12.2021
Shareholders' equity including minorities	8,747.7	12,756.2
Adjustments for assets under own management	211.1	626.6
Adjustments for technical provisions [2]	8,906.9	3,364.7
Adjustments due to tax effects and other	(2,317.4)	(1,591.5)
Economic equity	**15,548.3**	**15,156.0**
Hybrid capital	3,383.3	3,029.7
Foreseeable dividends	(767.6)	(721.6)
Available economic capital	**18,164.0**	**17,464.1**

[1] The figures are based on the Solvency II reporting as at 31 December 2022. The relevant Solvency II audit procedures conducted by the independent auditor have still to be completed.
[2] Adjustments for technical provisions in life & health and property & casualty reinsurance including risk margin.

The required risk capital of the Hannover Re Group at the confidence level of 99.5% rose only slightly over the course of the year. This was driven principally by the larger business volumes, which led to an increase in the underwriting risks in property and casualty reinsurance and in the market risks. The weaker Euro against the US dollar also contributes to a higher risk. On the other hand, the significantly higher interest rate level results in an appreciable decrease in the SCR.

The increase in the market risk is a reflection first and foremost of new investments and higher fair value measurement in the area of private equity and real estate. Wider spreads and larger volumes of fixed-income securities are further factors driving the risks.

The underwriting risks in property and casualty reinsurance increased primarily as a consequence of higher premium and reserve volumes. The enlarged volumes are driven by the business growth, the large loss expenditure and accompanying higher reserves as well as the stronger US dollar.

The underwriting risks in life and health reinsurance decreased primarily due to the sharp rise in interest rates. The reduction is particularly marked for the longevity risk, but also applies to the mortality and morbidity risk. The fall in counterparty default risks can be attributed principally to a smaller volume of receivables due from retrocessionaires.

The changes in the operational risk are attributable above all to updated expert assessments regarding the impact of individual scenarios.

The decrease in the diversification effect can be attributed to changes in the composition of the underwriting and market risks. The loss-mitigating effect from taxes remains largely stable.

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. Generally, 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 at the confidence level of 99.5%[1] M 51

in EUR million	31.12.2022	31.12.2021
Underwriting risk property and casualty reinsurance	5,664.2	5,473.5
Underwriting risk life and health reinsurance	2,509.9	3,329.7
Market risk	5,175.6	4,874.8
Counterparty default risk	434.7	468.0
Operational risk	620.8	626.9
Diversification	(4,862.4)	(5,238.5)
Tax effects	(2,590.5)	(2,630.2)
Required risk capital of the Hannover Re Group	**6,952.3**	**6,904.2**

[1] This information has not been audited by the independent auditor.

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

Climate change

Climate change, defined as naturally occurring or human-caused climatic changes and the associated effects, is already influencing our lives today.

Climate change poses a significant macroeconomic risk and has wide-ranging implications for the (re)insurance industry in common with many other sectors.

In 2015, with a view to combating climate change, the international community reached agreement on ambitious goals to protect the climate at the UN Climate Change Conference in Paris. Signed by 195 countries, the Paris Agreement seeks to limit the rise in the global average temperature to well below 2 °C, preferably to 1.5 °C, compared to pre-industrial levels. The path to achieving the Paris climate goal depends on a fundamental shift in the economic system and in human habits.

The consequences of climate change affect all areas of our business, not only in property & casualty and life & health reinsurance but also in our investing activities. At the same time, the implications of climate change represent the most significant sustainability risk for our company and are therefore closely analysed, monitored and controlled. The focus of climate change risk analysis is currently on changes in the frequency and severity of natural catastrophes (physical risks). In addition, we analyse investments (including transition risk), biometric factors and liability contracts in relation to risks from climate change (litigation risk). The climate-related dislocation of infectious diseases and their vectors to global zones where they were previously unknown also poses a risk for life and health reinsurance.

Physical risks affect us as a risk carrier primarily in property and casualty reinsurance, but also indirectly in life and health reinsurance. Changes in climate and weather events can, for example, cause higher and more frequent losses in property and casualty reinsurance as well as elevated numbers of deaths among the insured groups of persons, which in turn is associated with significant financial risks. Many forecasts in this connection are subject to uncertainty, especially if they refer to periods further in the future. In order to assess the possible consequences, we have developed scenarios designed to enable us to evaluate the physical, transitional and liability implications of climate change for all our business activities and initiate appropriate measures for steering the business. Various natural catastrophe scenarios are modelled, such as floods, regional droughts and tropical cyclones. Our interdisciplinary team for natural hazard modelling takes account of the insights gained in pricing for reinsurance solutions and in risk management. In addition, we conduct internal studies and explore the issue in international working groups so as to assess the risks posed by climate change. Currently, we primarily look at two scenarios (rise in temperature of 2 °C or 4 °C), under which we focus on the windstorm, flood and wildfire perils in the context of physical risks. The results of the analyses are presented to the Risk Committee and included in the annual Own Risk and Solvency Assessment (ORSA).

The economic transformation and the transition to a world largely free of greenhouse gas emissions also entails (transition) risks. For example, shares or bonds issued by companies could – gradually or abruptly – drop in value due to the failure of adopting the issuer's business model to the changing climate ("stranded assets"). Companies may even fail to repay their obligations to Hannover Re.

In addition, ESG risks – in common with compliance risks that are generally associated with laws and regulations relating to environmental law or ESG standards – are subject to scrutiny under every New Products Process (NPP). Our Risk & Capital Management Guideline, which contains supplementary work instructions and definitions regarding climate change and other ESG issues, is applicable throughout the Group. Various committees and organisations similarly develop and discuss climate-related strategic goals and operational measures. Our membership of the Net-Zero Insurance Alliance should be mentioned in this context.

It is our expectation that over the long term (>50 years) climate change will be material for all risk categories. Within the next five years we anticipate material impacts only on our P & C natural catastrophe business. However, the annual renewal of reinsurance treaties also facilitates quick response.

Climate change can result in shifts that are reflected in stronger demand for reinsurance products to protect against natural catastrophes and in new business opportunities. Hannover Re offers a wide range of products that help customers to protect themselves against increased losses and damage (both in terms of frequency and severity) from natural disasters. What is more, changes in temperature extremes around the world can lead to higher rates of mortality, which in turn may trigger stronger demand for our products in life and health reinsurance.

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. Furthermore it is important to utilize the available risk budgets based on 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, too.

For risk management purposes 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). Particularly 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 52**

in EUR million	31.12.2022	31.12.2021
Premium risk (including catastrophe risk)	4,119.8	3,910.9
Reserve risk	3,273.8	3,225.8
Diversification	(1,729.4)	(1,663.2)
Underwriting risk property and casualty	**5,664.2**	**5,473.5**

[1] Required risk capital with a confidence level of 99.5%; information not audited by the independent auditor

A large 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 five of our largest natural hazards scenarios:

Required risk capital[1] for five major natural hazards scenarios **M 53**

in EUR million	2022	2021
Hurricane US	2,273	2,355
Earthquake US West Coast	1,625	1,784
Winter storm Europe	1,017	1,148
Earthquake Japan	1,219	1,477
Earthquake Chile	1,361	1,388

[1] Required risk capital with a confidence level of 99.5% on an aggregate annual loss basis; information not audited by the independent auditor

The reserve risk, i.e. the risk of under-reserving of incurred or foreseeable losses, 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 for reported claims as well as reserve for losses that have already occurred but have not yet been reported to us. Liability claims have a major influence on the latter reserve. Reserves are calculated on a differentiated basis according to lines and regions. The gross reserves for property and casualty reinsurance totalled EUR 41,007 million, with own reserves accounting for 51.4% of this amount. The remaining 48.6% represents the reserves posted by ceding companies.

In calculating the reserves, we use actuarial methods based on run-off triangles. Run-off triangles show the changes in the reserve over time due to paid claims and in the recalculation of the reserves to be established at each balance sheet date. Their adequacy is monitored by the actuarial departments.

Our own actuarial calculations regarding the adequacy of the reserves are also subject to annual quality assurance reviews in the form of an external analysis. For further remarks on the reserve risk please see our comments in section 6.7 "Technical provisions" on page 220 et seq.

Asbestos- and pollution-related claims account for only a small share – 0.3% at the reporting date – of the Hannover Re Group's loss reserves. It is particularly difficult to reliably estimate future loss payments for such claims. 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. The survival ratio at the reporting date was 24.3 years (previous year: 26.5 years).

The reserving process first considers average inflation rates of the past. The need to apply loadings is explored using scenario-based analyses for inflation rates anticipated in the future. The claims inflation index encompasses various rates of price increases depending on the region and line of business. When it comes to the liability line, for example, wages and salaries as well as medical costs play a more important role, whereas in the property line construction costs are a more relevant factor. The effects of inflation are mitigated in various ways, including through the agreement of index clauses and sliding-scale commissions.

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 help to provide partial protection for 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 experience of our own specialist departments. 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 catastophes after retrocessions **M 54**

Aggregate annual loss in EUR million	2022	2021
	Effect on forecast net income	
Hurricane US		
100-year loss	(1,378)	(1,452)
250-year loss	(1,859)	(1,959)
Earthquake US West Coast		
100-year loss	(758)	(839)
250-year loss	(1,385)	(1,615)
Winter storm Europe		
100-year loss	(614)	(667)
250-year loss	(874)	(1,009)
Earthquake Japan		
100-year loss	(645)	(758)
250-year loss	(966)	(1,203)
Earthquake Chile		
100-year loss	(513)	(493)
250-year loss	(1,180)	(1,277)

As part of this process for managing risks connected with natural catastrophes, the Executive Board defines the risk appetite and the limit for natural perils once a year on the basis of the risk strategy.

Risk management considers numerous scenarios and extreme scenarios, determines their effect on portfolio and performance data, evaluates them in relation to the planned figures and identifies alternative courses of action.

For the purposes of risk limitation, maximum amounts are also stipulated for various extreme loss scenarios and return periods; the limits set take into account the profitability of the business in question. 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.

Net expenditure on major losses in the year under review amounted to EUR 1,705.7 million (EUR 1,250.2 million); the major loss budget for 2022 totalled EUR 1,400 million. Our company incurred the following catastrophe losses and major claims in the 2022 financial year:

Catastrophe losses and major claims[1] in 2022 **M 55**

in EUR million	Date	Gross	Net
Hurricane "Ian", Cuba, USA	27–29 September 2022	1,265.9	321.9
War Ukraine/Russia	Since February 2022	343.3	330.9
Rain/Flood, Australia	21 February–3 March 2022	304.2	232.6
Storm "Qiara", France	19–23 June 2022	141.0	102.7
6 Man-made losses		123.9	118.0
Storm "Ylenia/Zeynep", Europe	16–19 February 2022	121.9	106.6
Tornados and Hail, USA	9–12 May 2022	98.6	58.2
Winter storm "Elliott", USA	21–28 December 2022	67.3	67.3
Flood, South Africa	8–15 April 2022	61.1	60.9
Storm, France	2–6 June 2022	52.8	25.8
Typhoon "Hinnamnor", Japan, South Korea	4–6 September 2022	49.2	49.2
Storm, Canada	21 May 2022	29.6	18.0
Typhoon "Nanmadol", Japan	18/19 September 2022	27.3	20.3
2 Credit losses		26.5	26.5
Hurricane "Fiona", USA, Puerto Rico, Caribbean	18–22 September 2022	25.9	20.0
Hail, France	25–27 June 2022	25.3	18.4
Storm, USA	12–19 May 2022	23.8	11.6
Storm/Hail, USA	10–15 April 2022	23.4	10.1
Flood, South Korea	7–10 August 2022	22.8	22.6
Storm, USA	4–7 June 2022	21.6	11.9
Earthquake, Fukushima, Japan	16 March 2022	21.0	21.0
1 Marine loss		16.6	14.5
Tornados/Hail, USA	27–31 May 2022	14.3	10.4
1 Aviation loss		13.8	10.8
Storm, USA	9–16 June 2022	11.6	7.1
Flood, Australia, Tasmania	5/6 March 2022	11.4	8.4
Total		**2,944.1**	**1,705.7**

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 quotation process to ensure the quality of our portfolios that considers the claims expectancy including anticipated rate of inflation, anticipated costs and cost of capital (volatility).

In addition, Hannover Re's regional and treaty departments prepare regular reports on the progress of their respective renewals. They report on, among other things, significant changes in conditions, risks (e.g. in relation to the premium level) and also on emerging market opportunities as well as the strategy pursued in order to accomplish targets. The development of the combined ratio in property and casualty reinsurance in 2022 and prior years is shown in the table below:

Combined and catastrophe loss ratio **M 56**

in %	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Combined ratio (property and casualty reinsurance)	99.8	97.7	101.6	98.2	96.5	99.8	93.7	94.4	94.7	94.9
Thereof catastrophe losses[1]	7.9	7.5	11.2	7.5	7.9	12.3	7.8	7.1	6.1	8.4

[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

For further information on the run-off of the loss reserves please see our explanatory remarks in the subsection "Run-off of the net loss reserve in the property and casualty reinsurance segment" on page 221 et seq.

Underwriting risks in life and health reinsurance

All risks directly connected with the life or health 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 insured portfolio such as those recorded in recent years in connection with the Covid-19 pandemic.

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 because the contracts are normally taken out for different regions, age groups and individuals. Morbidity risks are also playing an increasingly significant role. 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 57**

in EUR million	31.12.2022	31.12.2021
Mortality risk[2]	1,791.5	2,116.3
Longevity risk	1,448.4	2,505.9
Morbidity and disability risk	1,369.9	1,671.6
Lapse risk	379.6	353.7
Expense risk	158.0	163.2
Diversification	(2,637.5)	(3,481.0)
Underwriting risk life and health	**2,509.9**	**3,329.7**

[1] Required risk capital with a confidence level of 99.5%; information not audited by the independent auditor
[2] Mortality risk including catastrophe risk

The monitoring of the risk exposure is complemented by regular stress tests performed with regard to selected underlying underwriting risk factors. The impact (in % of the available economic capital) is within the following ranges:

Sensitivities of the underwriting risks (impact corridors in % of the available economic capital) M 58

	2022	2021
Mortality +5% (excluding annuity business)	-6 to -4	-8 to -5
Morbidity +5%	-4 to -2	-4 to -2
Mortality -5% (annuity business only)	-3 to -1	-5 to -2
Lapse rate +10%	-2 to 0	-2 to 0
Costs +10%	-1 to 0	-1 to 0

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 at the subsidiary level. 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 had initiated rate adjustments for the portfolio concerned in 2018. For the majority of the underlying business, these rate adjustments have been successfully implemented or the cedant has recaptured the business. We are currently engaged in arbitration procedures with a small number of individual cedants in respect of the implemented rate increases.

Rate increases for further selected treaties were initiated in the course of 2021. Here, too, we anticipate that arbitration proceedings may ensue in individual cases.

Based on the information currently available to us, we take a favourable view of our legal position for the remaining proceedings.

The losses from the Covid-19 pandemic for this portfolio were lower in the financial year just ended than in the prior year. We are monitoring the further development of the underlying mortality, especially as the Covid-19 pandemic unfolds, 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.

We monitor developments in the worldwide morbidity portfolio on an ongoing basis.

The impacts of Covid-19 on our morbidity portfolio in life and health reinsurance have been limited to date. We continuously track the potential implications of the Covid-19 pandemic for our worldwide life and health reinsurance business, among other things with an eye to the dynamic developments currently seen in China.

It is to be anticipated that the strains from the Covid-19 pandemic will continue to decline in most markets in 2023. Special protection covers have been taken out to limit the mortality risk.

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, spread and default 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 59**

in EUR million	31.12.2022	31.12.2021
Default and spread risk	3,027.1	2,818.9
Interest rate risk	1,004.1	1,082.2
Foreign exchange risk	1,774.9	1,593.4
Equity risk[2]	2,021.9	2,048.3
Real estate risk	946.5	755.4
Diversification	(3,598.9)	(3,423.4)
Market risk	**5,175.6**	**4,874.8**

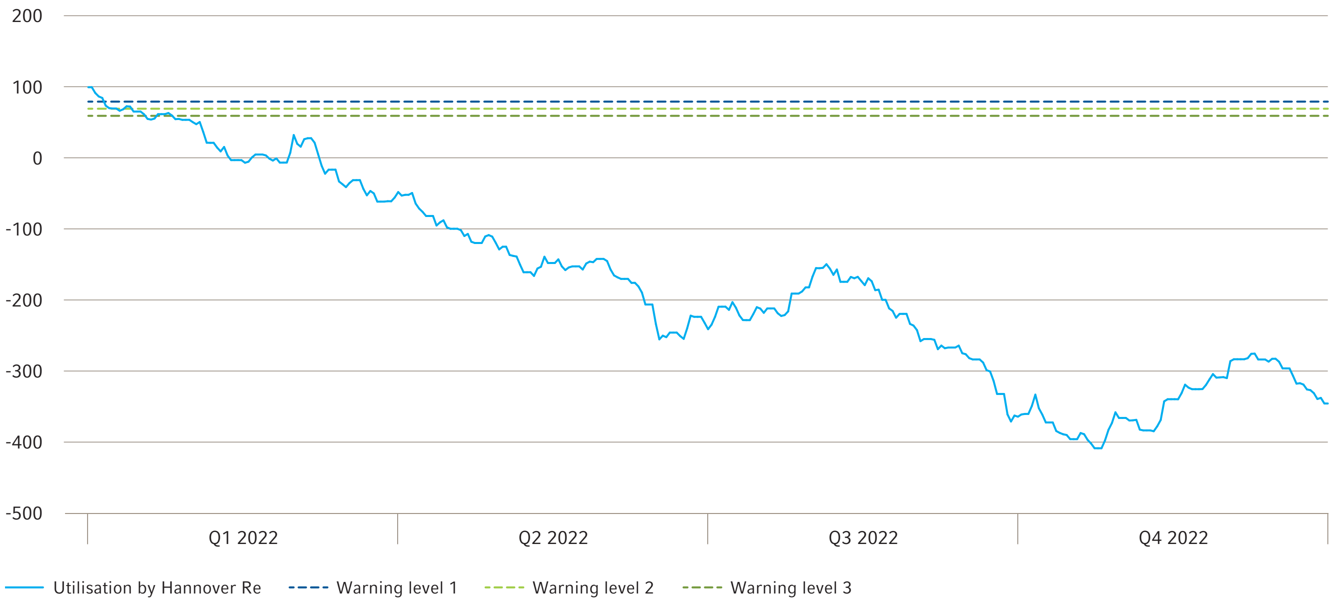
[1] Required risk capital with a confidence level of 99.5%; information not audited by the independent auditor
[2] Including private equity

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 markets were again highly volatile over the course of the year under review. In contrast to the previous years, which had seen continued declines in the rate level, rates moved sharply higher in the year under review across all maturities in our main currency areas. Furthermore, appreciable increases in risk premiums were observed for bonds issued by developing countries and lower-quality issuers, most notably from the second quarter onwards. Overall, however, a marked decrease in the hidden reserves for fixed-income securities was booked over the year as a whole.

The predefined discussion and analysis mechanisms upon triggering of the escalation levels of the early-warning system were activated in the course of the year under review on account of interest rate and spread volatility as well as central bank moves in response to inflationary tendencies. In accordance with our guidelines, the Investment Committee therefore regularly discussed the potential implications for our invested asset classes and the current portfolio composition in each case. Thanks to the broad diversification and conservative posture of our investments, there was no need to modify the strategic orientation of our portfolios towards a more defensive investment strategy during the reporting period. What is more, we had already adopted a rather prudent positioning around the turn of the previous year in anticipation of central bank moves and inflation trends.

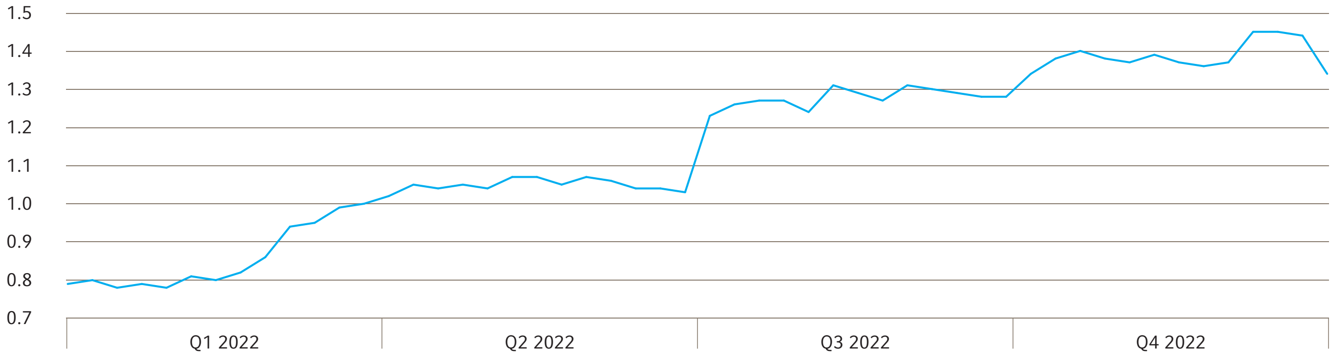
Utilisation of the trigger system M 60
in %



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. It is based on historical time series of relevant market parameters (equity prices, yield curves, spread curves and exchange rates). Against the backdrop of a very turbulent capital market and interest rate environment, volatilities – especially of fixed-income assets – again reached a high level at times 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 1.3% (0.8%) as at the end of the reporting period.

Value at Risk[1] for the investment portfolio of the Hannover Re Group M 61

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 62

in EUR million	Scenario	Portfolio change on a fair value basis	Change in equity before tax
Equity securities and private equity	Share prices -10%	-199.6	-199.6
	Share prices -20%	-399.2	-399.2
	Share prices +10%	+199.6	+199.6
	Share prices +20%	+399.2	+399.2
Fixed-income securities	Yield increase +50 basis points	-1,187.9	-1,153.0
	Yield increase +100 basis points	-2,311.9	-2,243.5
	Yield decrease -50 basis points	+1,255.3	+1,219.0
	Yield decrease -100 basis points	+2,585.8	+2,511.8
Real estate	Real estate market values -10%	-381.5	-159.8
	Real estate market values +10%	+381.5	+94.6

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 subsection 6.1 "Investments under own management" of the notes on page 198 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 was, however, very slight because we acted on market opportunities early in the year under review for extensive sales of equity funds in what was already our minimal portfolio of equities and equity funds. Our equity allocation thus stands at just 0.0% (0.5%). 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 subsection 6.1 "Investments under own management" of the notes entitled" on page 198 et seq.

The portfolio of fixed-income securities is exposed to an 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 subsection 6.1 "Investments under own management" of the notes on page 198 et seq.

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 have grown in importance for our portfolio in recent years 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 and to hedge inflation risks from the life reinsurance business written by our Australian branch. 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.

Since 2019 we have entered into term repurchase agreements as a supplementary liquidity management tool. The holdings exchanged in this context are fully collateralised.

Insurance derivatives connected with the technical account are also recognised under the investments due to IFRS financial reporting requirements. For a more detailed presentation of the underlying underwriting risks we would refer to the subsection "Derivative financial instruments in connection with reinsurance" in subsection 8.1 "Derivative financial instruments and financial guarantees" of the notes.

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 63**

Rating classes	Government bonds		Securities issued by semi-governmental entities[2]		Corporate bonds		Covered bonds/ asset-backed securities	
	in %	in EUR million	in %	in EUR million	in %	in EUR million	in %	in EUR million
AAA	75.1	15,828.6	53.8	4,066.5	0.3	51.9	59.1	2,110.1
AA	10.3	2,164.0	22.8	1,725.7	9.2	1,385.0	12.7	452.2
A	9.8	2,064.1	8.2	616.8	35.1	5,302.5	12.7	452.2
BBB	3.5	747.5	1.4	108.8	43.8	6,607.4	13.2	470.8
< BBB	1.3	283.3	13.7	1,035.0	11.6	1,749.3	2.4	85.5
Total	**100.0**	**21,087.6**	**100.0**	**7,552.8**	**100.0**	**15,096.0**	**100.0**	**3,570.8**

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 5,673.8 million of the corporate bonds held by our company were issued by entities in the financial sector. Of this amount, EUR 4,517.1 million was attributable to banks. The vast majority of these bank bonds (72.8%) 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 unwillingness or inability to pay of counterparties and the associated default on payment. Counterparty default risks exist with respect to cedants, retrocessionaires and in connection with short-term deposits at banks. We address credit risks from fixed-income investments in the preceding section under market risks.

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 64**

in EUR million	31.12.2022	31.12.2021
Counterparty default risk	434.7	468.0

1 Required risk capital with a confidence level of 99.5%; information not audited by the independent auditor

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 measures, by reviewing 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. The Security Committee decides on measures where necessary to secure receivables that appear to be at risk of default. This process is supported by a 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. Overall, retrocessions conserve our capital, stabilise and optimise our results and enable us to act on market opportunities across a broader front, e.g. following a major loss event. A close and regular dialogue with our retrocessionaires gives us a reliable overview of the market and puts 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 65

in %	2022	2021	2020	2019	2018
Hannover Re Group	90.0	89.5	90.1	90.0	90.7
Property and casualty reinsurance	90.6	90.1	90.3	90.3	90.7
Life and health reinsurance	88.5	88.2	89.8	89.5	90.7

Alongside traditional retrocessions in property and casualty reinsurance we also transfer risks to the capital market. Any counterparty default risks associated with investors in a capital market transfer are collateralised via LOCs or a trust account (e.g. using cash) in favour of Hannover Re.

77.9% (61.4%) 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 860.2 million (10.3%) of our accounts receivable from reinsurance business totalling EUR 8,340.5 million were older than 90 days as at the balance sheet date.

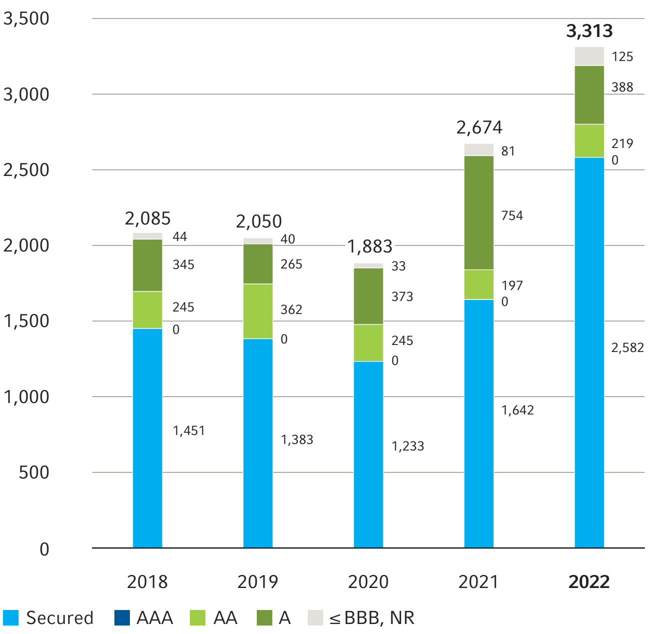
The average default rate over the past four years was 0.2%.

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 3,313.4 million (EUR 2,674.1 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 66

in EUR million



The volume 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.

Counterparty default risks, among other risks, are also relevant to our investments and in life and health reinsurance 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.

As the parent company, Hannover Re provides a guarantee to clients for a 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 risk means the risk related to business operations and due to inadequate processes, human errors, system failures or external events. Within the overall framework of operational risks, we pay particularly close attention to business continuity risks, business process and data quality risks, compliance risks, fraud risks, human resources risks, information security risks and outsourcing risks.

Management of operational risks

In contrast to underwriting risks (e.g. the reserving 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. With the aid of half-yearly Group-wide self-assessments, in which all relevant corporate operations are actively involved, we determine the maturity level of our risk management system for operational risks and define action fields for improvements. The assessment is carried out by evaluating the maturity level of the corporate governance, the risk management function and the respective risk identification, analysis, evaluation, steering, monitoring and reporting. The assessment of the maturity level 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 take the findings as a basis for specifying the parameters for the stochastic model. In this context, experts across all disciplines establish assumptions for the loss frequency and losses in joint workshops. In addition, internal loss events and near-losses are systematically recorded and examined with an eye to possible measures for improving the control system. The internal data are enhanced with insights gained from external events, which either become known through public channels or were reported through a loss data consortium of which we are a member.

Regular quarterly risk reporting to the Risk Committee and the Executive Board takes place with regard to all operational risks. In the context of the reporting, risks are also evaluated on the basis of risk indicators.

Required risk capital[1] for operational risks — **M 67**

in EUR million	31.12.2022	31.12.2021
Operational risk	620.8	626.9

1 Required risk capital with a confidence level of 99.5%; information not audited by the independent auditor

Unlike market, counterparty default and underwriting risks, operational risks are categorised as non-financial risks. We discuss below the subcategories of operational risks. Risks connected with ESG issues can occur in particular in the subcategories of business continuity, compliance, human resources, information security and outsourcing.

Business continuity risks

Business continuity risks arise from natural or man-made hazards that threaten or disrupt business operations. The risk also includes the continuity of IT infrastructure and services. Our Business Continuity Management (BCM) system reduces the risk through preventive measures, such as an emergency power supply, alternative infrastructures and contingency plans that are regularly tested. A special organisational and operational structure has been set up to deal reactively with a crisis event. This has proven itself, inter alia in connection with the Covid-19 pandemic, and there were no material impacts on our business operations.

Overall, our focus in BCM is on the following five scenarios:

- Non-availability/shortage of personnel, e.g. as a consequence of a pandemic
- Loss of the workplace environment
- Failure of local/central IT, e.g. as a result of a cyber attack
- Failure of external infrastructures/service providers
- Security events (life and limb of employees at risk)

Business process and data quality risks

Business process risks are associated with the risk of inadequate or failed 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 very critical success factor, especially in risk management, because for example the validity of the internal model is largely based on the data provided. As part of our data quality management, we have defined extensive automatic routines that continuously determine data quality in central systems.

Compliance risks

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.

In conformity with a risk-based approach, sanctions screening software is used on the relevant parts of the Hannover Re Group's portfolio as well as on loss advices to filter out individuals who are subject to sanctions. 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. With regard to Russia, a submission requirement and an in-depth review were introduced due to the current situation in order to take into account the increased scope of sanctions. New business with Russian cedants is currently excluded.

We report on our compliance management system as part of our combined non-financial information statement on page 59 et seq. For further information on compliance-related topics, including for example lawsuits, contingent liabilities and commitments, please see section 8.6 "Lawsuits" on page 256 and section 8.7 "Contingent liabilities and commitments" on page 257 et seq.

Fraud risks

Fraud risks refer to the risk that results from intentional violations of laws or rules from own employees and/or from third parties in order to gain an advantage. 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. Should an instance of fraud nevertheless occur, established escalation processes to involve all relevant functions are in place and a risk-specific analysis (e.g. forensic investigation) is conducted including determination of appropriate measures.

Human resources risks

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 personnel development and leadership activities. These measures are supported by ongoing talent management and regular employee surveys.

Hannover Re has at its disposal different indicators for the early detection and monitoring of material risks. In view of the increased global competition for talent, a crucial indicator is the continuous monitoring of the internal tunrover rate compared to the industry benchmark. In this regard, the talent management initiative supports the implementation and maintenance of the goals we have set.

Information security risks

Information security risks arise, inter alia, out of the risk of inadequate confidentiality, integrity or availability of information as well as impacts from or on other assets such as systems, processes, buildings/premises or persons. 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/ransomware are material to the Hannover Re Group. Given the broad spectrum of such risks, a diverse range of technical 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 aware of such security risks through practically oriented tools provided online in the intranet, by way of training opportunities and through targeted information.

Outsourcing risks

Outsourcing risks can result from the outsourcing of functions, services and/or organisational units to third parties. They also include intra-group outsourcings. Mandatory rules have been put in place to limit this risk; among other things, they stipulate that a risk analysis and partner assessment are to be performed prior to outsourcing. In the context of these analyses a check is carried out to determine, inter alia, which specific risks are associated with the outsourcing and what risk management measures need to be taken. The results of the analyses are subject to regular review.

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 distribution channel risk forms an integral part of management of the outsourcing risk.

Cyber attacks and loss of sensitive data

Cyber attacks and the loss of sensitive information can be associated with considerable financial losses and also reputational risks. In our highly networked world it has therefore become increasingly important in recent years to protect information and defend against cyber attacks.

With a view to protecting against these risks, Hannover Re has implemented an Information Security Management System (ISMS) that is closely aligned with international standards – principally ISO 27001 – and harmonised with other management systems such as data protection or outsourcing management. The ISMS successfully ensured in recent years that there were no significant security incidents. The central document is the "Information Security Policy", which is valid for all locations worldwide. Together with specific guidelines and standards, it regulates all technical and organisational measures including those relating to the confidentiality, integrity and availability of information assets. Consideration is given to all types of digital and physical information assets.

The Executive Board bears overall responsibility for information security. It is supported by the Risk Committee. The Information Risk & Security Committee (IRSC) is a sub-committee of the Risk Committee and is comprised of the Head of Risk Management, the Chief Information Security Officer (CISO) and the Head of IT. The IRSC evaluates and monitors the corresponding risks and steers any conflicts of interest in relation to information and IT security. It acts – in common with the risk management function and the CRO – independently of any instructions. The full Executive Board is provided with information at least annually by way of an information security report and also within the year if necessary. The Risk Committee receives information on a quarterly basis.

The CISO, as the main process owner, is responsible for the planning, implementation and ongoing development of the ISMS as well as for coordinating the corresponding tasks within the Hannover Re Group. He is supported by local contacts and additionally bears responsibility Group-wide for the definition and monitoring of controls. The CISO cooperates closely with Information Risk Management (IRM), the central Compliance function and the Data Protection Officer. Both the CISO and the other specified functions form part of the second line of defence. Furthermore, every single member of staff is responsible for adhering to the relevant guidelines and instructions. To this end, all employees undergo regular training in information security topics as well as awareness-raising during the year, e. g. through phishing simulations.

When it comes to a transfer of knowledge in connection with cyber risks (cyber resilience), we participate in various cooperative projects undertaken by our industry and engage in a regular dialogue with, among others, the Bundesverband der IT-Anwender e. V. in the context of the Cyber Security Competence Center.

Cyber risks in underwriting practice

Hannover Re offers reinsurance protection for cyber risks. The risks stemming from the cyber portfolio are monitored and managed using, among other things, the internal model. The management approach also encompasses cyber exposures from insurance contracts that do not primarily cover this risk (silent cyber risk), although these diminished in importance last year due to the more widespread implementation of exclusions. In addition, part of the risk is ceded through an external protection cover.

The issues of information security and cyber security as well as the associated risks in underwriting practice are also addressed by our working group on emerging risks, which supports monitoring across the various departments.

Other risks

Under other risks we include emerging risks, strategic risks, sustainability and reputational risks as well as liquidity risks.

Management of other risks

Other risks are managed primarily using qualitative methods and on the basis of risk indicators. Risk management monitors and reduces the other risks through mitigation measures such as company-wide working groups and guidelines. 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.

Within the risk management processes we also take into account the impacts on operational and reputational risks of aspects of environmental management, employee matters, social concerns, 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).

Emerging risks

Emerging risks are risks that are in the process of forming or may shortly become relevant due to current developments. Emerging risks evolve gradually from weak signals to unmistakable tendencies. They can directly impact our treaty portfolio in both property & casualty and life & health reinsurance and influence our investments. A further hallmark is that their risk content cannot be reliably assessed, especially with respect to our treaty portfolio.

Early detection and subsequent evaluation of risks are crucially important when it comes to emerging risks. For this reason, we deploy Hannover Re's internal, interdepartmental and multi-line expert working group on "Emerging Risks & Scientific Affairs" and we ensure its linkage to risk management. The analyses performed by this working group are used Group-wide in order to initiate any necessary measures. The working group is currently exploring around 20 megatrends so as facilitate the identification and adequate evaluation of not only existing but also emerging risks. Megatrends are defined as developments with a trend cycle of at least 30 years. They are not presently associated with direct impacts on operations, but may potentially evolve in this direction. Megatrends are considered in connection with emerging risks and resulting opportunities. Thus, for example, the megatrend towards a decline in biodiversity can be viewed in conjunction with emerging risks associated with scarcity of resources, air pollution, genetically modified organisms or food security and availability – but also goes hand-in-hand with a need for innovative (insurance) solutions and services. Action on climate change means new or refined technologies, such as renewable energies or hydrogen concepts and their various possible applications, for which insurance coverages are needed.

Another observed trend is urbanisation. The steady increase in urbanisation means the growth and change of cities. Those leaving the countryside and moving to the city are mostly young, hence altering both rural and urban age distributions. Correlated trends such as the ageing society and new types of mobility, increasingly against a backdrop of sustainability, are throwing up major questions. The significance of these trends and the speed of change are compelling the insurance industry to plan which role it wants to play in helping to shape the future. In this context it is important to consider both business opportunities and risks. Given that all this is affected by climate change, people's property – especially when value concentrations form in future megacities – will have to be insured against natural perils. In a worst-case scenario, this could mean that certain regions and risks become uninsurable if adequate urban planning – taking account of natural hazards – is neglected in the spread of large cities around the world. Urbanisation not only means new buildings, technologies and lifestyles that have to be insured; rather, living close together also has implications for people's physical and mental well-being, which is relevant to our portfolio of life and health insurance.

Hannover Re publishes summary position papers on various emerging risks which can be accessed on our website. In the year under review the papers on supply chain risks, technological risks, fracking, pollution and the risk posed by terrorism, among others, were updated.

Hannover Re, represented by members of staff from Risk Management and other units, is a member of the Chief Risk Officer (CRO) Forum and a constant participant in the CRO Forum's Emerging Risk Initiative, which continuously tracks and analyses various emerging risks, publishes information on megatrends and associated risks and conducts corresponding impact analyses. The megatrends considered include "Ageing and health", "Economic instability", "Environment and climate". "ESG issues", "Changes in the geopolitical landscape", "Technological developments and their influence on society" as well as "Demographic and social change". New topics added in the year under review were "Climate engineering" and "Space risk associated with a low earth orbit".

The publications are publicly accessible on the CRO Forum website. An exploration of the carbon intensity of insured portfolios ("Carbon footprinting methodology for underwriting portfolios") is also available there.

Strategic risks

Strategic risks derive from a possible imbalance between the corporate strategy of the Hannover Re Group and the constantly changing general business environment, for example with respect to evolving regulatory requirements. 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. The process for the management of strategic risks continues to be assessed annually as part of the monitoring of business process risks.

Sustainability and reputational risks

Reputational risks refer to the risk that the trust put in our company by clients, shareholders, employees or the public at large may be damaged. This risk has the potential to significantly 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 mitigation, 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.

Above and beyond the general influence that sustainability risks have on a number of other risk categories (outside-in perspective), we also see a correlation between reputational and ESG risks (inside-out perspective). Risk Management and the Group Sustainability & Strategy team work together closely to identify ESG and reputational risks. This applies both to the assessment of ESG risks and to the monitoring of media reports, the analysis of NGO activities and the dialogue cultivated with relevant stakeholder groups.

Liquidity risks

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 financial resources 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 9.1 billion (EUR 6.7 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. When reinvesting in fixed-income securities in the last quarter of the reporting period, we increasingly invested in instruments with short- and long-term maturities while maintaining the average remaining maturity. By expanding the holding of short-term securities we further strengthened our liquidity base. These measures enable us to reduce our liquidity risk.

Opportunity report

Speed is one of the qualities used to measure successful adaptability. Hannover Re's ambition is to offer quick and effective solutions that keep us one step ahead of the competition. 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.

The focus of Hannover Re's business opportunity management is on various market-specific innovations in the Life & Health and Property & Casualty reinsurance business groups (see the Forecast on page 145 et seq.).

Trends affecting these business groups 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. Business opportunities that promise access to innovative technologies and enhance our appeal in the eyes of customers are specifically pinpointed. With this in mind, Hannover Re cultivates business-related partnerships with outside accelerators, incubators, company builders, start-ups and research institutes in order to boost our competitiveness in the insurtech sector and the field of digital solutions. Various competence centres have been set up in the Hannover Re Group to evaluate the strategic and technical significance of innovative new digital technologies and the goals pursued by these innovation units have been put on a strategic footing. The interplay between these units is based on a dedicated approach that enhances the activities with specific expertise and efficiency.

In-house accelerator units covering the areas of business (in each of the P & C and L & H business groups), technology and parametrics explore the specifics of their respective fields and maintain a close dialogue with one another. The tasks performed by these organisational units include, among others, global scaling of existing regional products and solutions, developing new sector- and customer-specific digital assets as well as providing systematic support for insurtechs as they build their digital business models. An intensive exchange and targeted collaboration with the market departments are crucially important here in order to build on existing networks and expertise. In this way, we strive to identify business opportunities at an early stage and provide the appropriate customers with innovative solutions.

This broad spectrum of tasks is geared to the clearly defined goals of generating new profitable premium potential for the Group, optimising risk assessment through the use of innovative tools, cultivating new strategic partnerships and acquiring new capabilities in the fields of digitalisation and data analytics.

Strengthening resilience in the face of natural perils

Insurance is increasingly used as a tool in development cooperation to strengthen the resilience of vulnerable population groups in the face of extreme weather events. One example of this is the new Global Shield against Climate Risks announced at the COP 27 climate conference, which is intended to compensate losses and damage caused by global warming on an insurance basis. The growing frequency and severity of natural disasters are causing considerable social and economic costs. The heightened risk is primarily due to economic development and population growth, a greater concentration of assets in exposed regions, and increasingly also to climate change. The gap between insured and economic losses is particularly large in emerging and developing countries. Against this backdrop, Hannover Re is continuously stepping up its involvement – particularly when it comes to protecting against climate-related natural disasters – through cooperation with both the public sector and private enterprise so as to further limit the associated protection gap in affected countries. By way of example, this is achieved in selected exposed countries in the context of the trilateral agreement between the Insurance Development Forum, the Federal Ministry for Economic Cooperation and Development and the United Nations Development Programme. Hannover Re is currently engaged in projects for the development of insurance protection in Colombia and Argentina, among others. In addition, we make substantial capacity available to the Natural Disaster Fund (NDF). We participate in regional risk pools against natural perils – such as in Morocco – as well as a number of other programmes with a bearing on reinsurance. The goal is to effectively reach as many people as possible within vulnerable population groups. Through the NDF, for example, more than 30 million people have already been provided with direct or indirect protection.

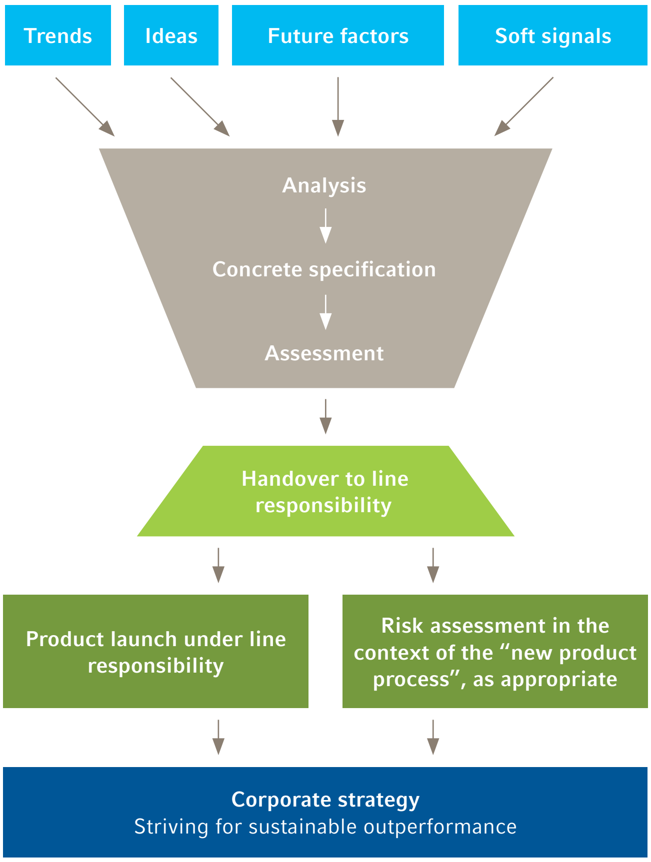
The dynamic networking of the members of staff active in the field of innovation at Hannover Re gives rise to close links with other projects, working groups and bodies, such as with the working group on "Emerging Risks und Scientific Affairs" in regard to emerging risks and opportunities (see page 102 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. Analyses are compiled here exploring how Hannover Re can counter megatrends such as climate change, digitalisation or shifting demographics with novel (re)insurance products or capital investments. In the year under review, for example, issues such as “Socioeconomic inequality”, “Raw materials supply” and “Obesity” were analysed by the working group.

Cyber insurance

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 globally stored data and the extent of system dependencies are 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 approach to risk and business opportunity management, we are also tackling the question of what new insurance products can be developed in order to protect against the relevant risks. The constant refinement of our systemic analyses for the assessment of cyber risks forms the basis for developing new (re)insurance solutions. We aim to bring transparency to the customer’s cyber risks and we seek to cover the need for risk-mitigating measures by offering suitable solutions. To this extent, we also see an opportunity to generate additional reinsurance premium in this line of business.

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 68**



Overall assessment by the Executive Board

Based on our currently available insights arrived at 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 sustainable and profitable growth.

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

Our own evaluation of the manageability of existing risks is confirmed by various financial indicators as well as by external assessments of rating agencies. 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. 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. We have a sufficient capital cushion to be able both to absorb risks and act on lucrative business opportunities that may present themselves. Similarly, our very good financial strength ratings (see page 52) also testify to our financial stability. The quality of our Enterprise Risk Management (ERM), for example, is assessed by Standard & Poor's as a key factor in the rating process. Special consideration is given to our established risk management culture, which promotes the development of appropriate risk monitoring systems and supports strategic risk management. The rating encompasses in particular the areas of risk culture, risk controls, emerging risk management, risk models and strategic risk management. 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 subsection "Financial position" on page 57 et seq. In addition, the risk trigger mechanism and internal monitoring system are reviewed annually by the independent auditor in relation to the financial reporting. The Group-wide risk management system is also a regular part of the audits conducted by the internal audit function.

Enterprise management

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

This subsection is a part 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).

Hannover Re's objective continues to be to consolidate its position as one of the leading, most profitable reinsurance groups operating worldwide. In aspiring towards this goal, it is particularly important to observe and fulfil the principles of good and sustainable corporate governance. 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 and are guided by them in 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 are reviewed and revised regularly, most recently in May 2021. We cultivate integrity at all times in our dealings with business partners, staff, shareholders and other stakeholder groups and we support the principles of value-based and transparent enterprise management and supervision formulated 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 defines current best practices for corporate governance and is intended to make the German system of corporate governance transparent and comprehensible. It seeks to foster the trust of international and national investors, customers, employees and the general public in the management and supervision of German listed 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. Supplementary to the present declaration, the Declarations of Conformity pursuant to § 161 Stock Corporation Act (AktG) regarding compliance with the German Corporate Governance Code for recent years are published on our website (https://www.hannover-re.com/200801/declaration-of-conformity).

The positive attitude of Hannover Rück SE towards the Code was borne out in the year under review by the fact that the company fulfils all requirements.

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

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 and Consumer Protection or to explain which recommendations of the Code were/are not applied and why this is the case.

The Executive Board and Supervisory Board therefore declare pursuant to § 161 Stock Corporation Act (AktG) that Hannover Rück SE is in conformity with all recommendations of the German Corporate Governance Code contained in the version of the Code adopted on 28 April 2022 (announced on 27 June 2022) and also intends to remain in conformity with these recommendations in the future.

Hannover, 2 November 2022

Executive Board, Supervisory Board

Remuneration

Remuneration of the Executive Board

The applicable system of remuneration for the members of the Executive Board of Hannover Rück SE was adopted by the Supervisory Board at its meeting on 4 August 2020. It was presented to the Annual General Meeting on 5 May 2021 and adopted by a majority of 85.54%. The remuneration system was developed by the Supervisory Board with the support of an independent consultant and is in conformity with the requirements of the Stock Corporation Act (AktG) as well as the recommendations of the German Corporate Governance Code (DCGK) as amended on 16 December 2019 (published in the Federal Gazette on 20 March 2020) and in the version adopted on 28 April 2022 (announced on 27 June 2022).

The agenda and the invitation to the Annual General Meeting 2022, which endorsed and adopted the remuneration report pursuant to § 162 Stock Corporation Act (AktG) on the 2021 financial year, can be viewed on the company's website, https://www.hannover-re.com/1671472/invitation-agenda.pdf

The remuneration report 2022 can be found on page 114 et seq. and at https://www.hannover-re.com/remuneration-report-2022.

Remuneration of the Supervisory Board

The system of remuneration for the members of the Supervisory Board is geared to the legal requirements and reflects the recommendations and suggestions of the German Corporate Governance Code. It is governed by § 14 of the company's Articles of Association, https://www.hannover-re.com/34118/statute-hannover-ruck-se.pdf.

The remuneration of the members of the Supervisory Board is balanced overall and commensurate with the responsibility and tasks of the Supervisory Board members and the position of the company, with consideration also given to the remuneration arrangements of comparable listed companies. The remuneration arrangements as well as the remuneration system are regularly reviewed by the Supervisory Board with an eye to their adequacy, in which regard the advice of external consultants may also be sought. The Annual General Meeting considers the remuneration of the Supervisory Board members at least every four years and if changes to the remuneration arrangements are proposed. The Annual General Meeting can confirm the existing system of remuneration for the Supervisory Board or adopt a resolution to amend it.

The individual remuneration of the members of the Supervisory Board for the 2022 financial year is itemised on page 140 et seq.

Remuneration of senior executives below the Executive Board

The structure and system underlying the remuneration scheme for senior executives below the Executive Board (management levels 2 and 3) and for the domestic key function holders belonging as a matter of principle to the ranks of senior executives are specified in greater detail on pages 143 et seq.

Information on share-based payment is provided in the subsection of the notes "Share-based payment" on page 253 et seq. and in the remuneration report with respect to the members of the Executive Board.

Further enterprise management principles of Hannover Re

In addition to the Corporate Governance principles, Hannover Rück SE has adopted its own 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 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.

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 conceivable risks that from the current standpoint could potentially jeopardise the company's profitability and continued existence. Further details in this regard may be obtained from the risk report contained in the present Annual Report on pages 75 et seq.

Adequacy and effectiveness of the internal control system and risk management system

A detailed description of the main elements of the internal control system (ICS) and risk management system (RMS) is provided in the "Opportunity and risk report". The adequacy and effectiveness of the ICS and RMS are examined and evaluated at Hannover Re primarily through

- regular review of the controls installed in processes by the responsible process owners in the context of an annual control self-assessment,
- more in-depth scrutiny of the controls in the area of information security by the CISO,
- evaluation of the controls in the area of operational risks annually in the SOAR (Self-Assessment Operational Risks),
- systematic risk identification, analysis, assessment, steering and monitoring, including risk reporting,
- a continuous cycle of plan, do, check and improve in risk management,
- annual evaluation of the ICS and RMS as part of the system of governance by the System of Governance Assessment Committee (SoGAC),
- independent evaluation of the adequacy and effectiveness of implemented measures incl. compliance-related controls as part of the continuous implementation of compliance monitoring procedures and
- regular audits carried out by Group Auditing in relation to the ICS and RMS.

In the context of the extensive measures referred to above, the Executive Board was not made aware of any facts or circumstances in the reporting period that on the whole argue against the adequacy and effectiveness of the ICS and RMS.

Sustainability of enterprise management

In the year under review it was again evident that ESG issues continued to take on greater strategic and regulatory significance. The associated risks and opportunities go hand-in-hand with increasing expectations placed on the role of corporate governance and on the management of sustainability risks. Requirements derive from, among other things, the G20/OECD Principles of Corporate Governance, Solvency II, the Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards, the BaFin Guidance Notice on Dealing with Sustainability Risks, the German Corporate Governance Code (DCGK) as well as the recommendations made by the Task Force on Climate-related Financial Disclosures (TCFD). It is envisaged that corporate governance will assume a prominent role in shaping ESG topics and integrate them into enterprise management.

The Executive Board is responsible for the underlying strategies, the implementation of corresponding structures and provision of appropriate resources as well as the definition of responsibilities in the organisational guidelines. The Supervisory Board is tasked with providing advice and oversight for the Executive Board in its leadership of the company, inter alia with an eye to the handling of sustainability risks.

The Executive Board had already adopted an ESG governance structure in the previous year with a view to strengthening governance as it relates to ESG-relevant issues. Core elements are the newly created "Sustainability Function" and the "ESG Management Team". The tasks of the sustainability function, which is assigned to the Chief Executive Officer's scope of responsibility, include inter alia central coordination of all ESG activities, identifying, analysing and evaluating ESG topics, leading ESG projects, advising the specialist units on ESG issues, presenting proposals for long-term ESG goals to the Executive Board, regular reporting to the Executive Board and coordinating an annual ESG programme. The ESG management team is composed of high-calibre participants from a range of different departments. The ESG management team ensures coordinated dovetailing with the Group strategy and serves as the interface to local units as well as the central point of contact for fulfilment of ESG-related regulatory requirements.

The Executive Board was provided with quarterly reports in the year under review. In addition, the Supervisory Board received training in ESG issues at its August 2022 meeting. In view of the special significance of sustainability issues and ESG risks, close cooperation also took place with Group Risk Management. The Risk Committee of the Executive Board is given updates at its meetings on ESG-related regulatory developments and reputational risks. For more extensive information on risk management and the integration of ESG topics, we would refer to the "Opportunity and risk report" from page 75 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. Further details of the compliance management system are provided in the combined non-financial information statement contained in this Annual Report on pages 59 et seq. The results of our compliance activities are documented annually in the compliance report, which is submitted to the Finance and Audit Committee of the Supervisory Board and the full Supervisory Board. In this regard, please see the Report of the Supervisory Board on pages 273 et seq.

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 supervise the company and the Group as a whole. In accordance with § 13 of the Articles of Association and 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 (including period of membership) is set out on page 8 et seq. and pages 278 respectively.

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. Members of the Executive Board are first appointed for at most three years.

The Rules of Procedure of the Supervisory Board (https://www.hannover-re.com/1535197/rules-of-procedure-for-the-supervisory-board-of-hannover-rueck-se.pdf) 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 a sufficient number of independent members on the shareholder side shall belong to the Supervisory Board. Currently, at least three of the six shareholder representatives are independent as defined by 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 is the first term of office to be counted for this purpose. 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. The Supervisory Board's report provides information about the attendance of individual Supervisory Board members at the meetings. No more than two former members of the company's Executive Board may belong to the Supervisory Board.

The Supervisory Board decides in individual cases whether external advice should also be sought as a decision-making aid. A regular self-assessment is intended to survey the general efficiency of its working approach and assure it on a lasting basis.

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 (further details of the names of the members and background information on the individual committee members can be found on page 278 of this report). They prepare matters within their scope of competence for discussion and adoption of a resolution by the full Supervisory Board. Moreover, the committees are also assigned their own authority to adopt resolutions. The number of meetings of the committees in the period under review as well as the attendance of the committee members are discussed in greater detail in the Report of the Supervisory Board on page 273.

The Finance and Audit Committee was made up of Dr Ursula Lipowsky (Chairwoman since 1 April 2022), Mr. Torsten Leue and Mr. Herbert Haas (Chairman until 31 March 2022). Dr. Lipowsky can certainly be considered independent within the meaning of the German Corporate Governance Code. As can be seen from the competency profile at the end of the diversity concept, Dr. Lipowsky and Mr. Haas were nominated as financial experts pursuant to §100 Para. 5 Stock Corporation Act (AktG), with Dr. Lipowsky having the necessary expertise particularly in accounting matters and Mr. Haas in particular when it comes to the auditing of financial statements. The 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, the fee agreement and the quality of auditing. The agendas and 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.

Mr. Torsten Leue (Chairman), Mr. Herbert Haas and Dr. Erhard Schipporeit came together in the period under review as the Standing Committee. The body 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. A systematic approach is taken in this regard and a list of potential candidates with their associated development periods is maintained, regularly updated and discussed by the committee in light of the diversity targets. This routinely constitutes an item for reporting and deliberation in the committee meetings and it is explored in detail – also in connection with the Executive Board's strategic objectives in the area of talent management.

The Nomination Committee – Mr. Torsten Leue (Chairman), Mr. Herbert Haas and Dr. Andrea Pollak – 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 in the year under review, please see the explanatory remarks provided in the Report of the Supervisory Board on pages 273 et seq.

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

Five members of the Supervisory Board of Hannover Rück SE were women in the year under review. One woman has chaired the Finance and Audit Committee since 1 April 2022 and one continues to serve as a member of its Nomination Committee. The proportion of women serving on the Supervisory Board was therefore 56% in 2022. The proportion is thus in excess of 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. In addition, for the period from 1 July 2022 to 30 June 2027 the target for the proportion of women serving on the Supervisory Board of Hannover Rück SE was raised to 44% or four women. The current proportion therefore remains above target.

On the level of the Executive Board, the goal has hitherto been to appoint another woman as a member of the company's Executive Board by the year 2024. In the year under review the target for the proportion of women on the Executive Board of Hannover Rück SE was raised to 29% or two women by 30 June 2027. In 2022 one woman served on the body, which has altogether seven members.

The target for the two levels of senior management below the Executive Board was 18% (corresponding to 16 women), again to be reached by 30 June 2022. From 1 July 2022 to 30 June 2027 a target of 25% (corresponding to 26 women) applies to the levels of senior management below the Executive Board.

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)

I. Implementation of the diversity concept in the 2022 financial year

Diversity on the Supervisory Board and Executive Board continued to be a major focus in the 2022 financial year. Since the end of the Annual General Meeting on 8 May 2019 altogether five women have belonged to the Supervisory Board. It remains the case that female members of the Supervisory Board sit on two of the three Supervisory Board committees. One woman serves on the Finance and Audit Committee and one is a member of the Nomination Committee.

Furthermore, the Supervisory Board considers it important that an adequate number of Supervisory Board members are independent as defined by the German Corporate Governance Code (DCGK). In its own assessment, the Supervisory Board currently meets the target set by the Code because Dr.

Lipowsky, Dr. Ollmann and Dr. Pollak are independent within the meaning of Code Recommendation C.6. Dr. Schipporeit similarly largely fulfils the independence criteria according to the Code, but in view of the fact that he was first appointed on 3 May 2007 he has already belonged to the body for longer than twelve years.

The diversity of the Executive Board with respect to female members remained unchanged in 2022.

The age diversity on the Executive Board ranged from 52 to 62 in the 2022 financial year. On the Supervisory Board the age range was from 49 to 73.

II. Diversity concept for the composition of the Executive Board and Supervisory Board

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 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, insurance practice and accounting, the topics of internationality, taxation, M&A, human resources, risk management, IT/digitalisation, compliance and ESG have been taken into account on a voluntary basis. The competency profile of the Supervisory Board is now also published in a skills matrix (see the overview on page 113). 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. Moreover, special attention is to be paid to the integrity, character, commitment, professionalism and independence of individuals put forward for election. In accordance with the Rules of Procedure for 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 three independent members as defined by the German Corporate Governance Code (DCGK). Employee representatives on the Supervisory Board are disregarded in this context.

In order to ensure that the relevant selection criteria are met, the Supervisory Board defined a requirements and competency 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 at least 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.

In selecting members of the Executive Board the goal is to ensure that the members have the skills and experience needed to properly perform their tasks. The Supervisory Board considers diversity in the composition of the Executive Board. The target for the proportion of women on the Executive Board of Hannover Rück SE was set at 29% or two women by 30 June 2027. The age limit for the Executive Board is set at 65. The members of the Executive Board are appointed by the Supervisory Board for a term of at most five years. Members of the Executive Board are initially appointed for no more than three years.

Overview of qualifications of the members of the Supervisory Board of Hannover Rück SE – 2022 **M 69**

		Members of the Supervisory Board								
		Leue	Haas[1]	Ardalan	Heitmüller	Hundes-hagen	Dr. Lipowsky[2]	Dr. Ollmann	Dr. Pollak[3]	Dr. Schippo-reit
Length of service	**Member since**	2018	2002	2019	2012	2019	2018	2019	2011	2007
Personal fitness		√	√	√	√	√	√	√	√	√
Diversity	**Gender**	Male	Male	Female	Female	Female	Female	Male	Female	Male
	Year of birth	1966	1954	1972	1968	1973	1958	1958	1959	1949
	Citizenship	German	German	German/ British	German	German	German	German	Austrian	German
	Qualification	Trained banker; business adminis-tration graduate	Business adminis-tration graduate	Marketing and communi-cations specialist	Financial account-ant	Graduate in law	Fully qualified in law	Business adminis-tration graduate	Business adminis-tration and commerce graduate	Business adminis-tration graduate
Expertise/professional competence[4]										
Investing		√	√				√	√	√	√
Underwriting		√	√		√	√	√	√		
Accounting/annual auditing		√	√	√	√	√	√	√	√	√
Internationality		√	√	√	√	√	√	√	√	√
M&A		√	√				√	√	√	√
Risk management		√	√		√		√	√	√	√
Compliance		√	√	√	√	√	√	√	√	√
Personnel		√	√	√	√	√	√	√	√	√
IT/digitalisation		√	√	√	√	√	√		√	√
ESG (Environmental, Social, Governance)		√	√	√			√		√	√

[1] Has expert knowledge in the field of annual auditing pursuant to § 100 Para. 5 Stock Corporation Act (AktG) ("financial expert").
[2] Has expert knowledge in the field of accounting pursuant to § 100 Para. 5 Stock Corporation Act (AktG) ("financial expert").
[3] Expert in the field of ESG (Environmental, Social, Governance).
[4] Evaluation based on annual self-assessment (2022). On a rating scale from A to E √ corresponds to an evaluation of at least B ("sound knowledge" or "good knowledge

Information on share-based payment is provided in subsection 8.3 of the notes "Share-based payment", page 253 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 Declaration of Conformity pursuant to § 161 Stock Corporation Act (AktG) regarding compliance with the German Corporate Governance Code and the associated reports of recent years are published on our website (www.hannover-re.com/200801/declaration-of-conformity).

Remuneration report

The remuneration report describes the structure and system of the remuneration for the Executive Board and Supervisory Board and provides detailed information about the individual remuneration and other benefits of present and former members of the Executive Board and Supervisory Board of Hannover Rück SE that are granted and owing to them for their work in the 2022 financial year.

The report was drawn up by the Executive Board and Supervisory Board of the company in conformity with the requirements of § 162 Stock Corporation Act (AktG), fulfils the recommendations and suggestions of the German Corporate Governance Code (DCGK) as amended on 16 December 2019 and takes account of relevant regulatory provisions.

The remuneration report was subjected to an audit, both formally and in terms of its content, by PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft that went above and beyond the requirements of § 162 Stock Corporation Act (AktG). The remuneration report and the report of the independent auditor on the audit of the remuneration report can be accessed on the website of Hannover Rück SE (https://www.hannover-re.com/286045/2023-annual-general-meeting). Report on the remuneration system: https://www.hannover-re.com/1849339/remuneration-report-and-system

Remuneration of the Executive Board

Overview of the remuneration system

The current remuneration system for the Executive Board has been in effect since 1 January 2021. It is in conformity with legal and regulatory requirements and the recommendations of the German Corporate Governance Code (DCGK) and was approved by the Annual General Meeting on 5 May 2021 with a majority of 85.54%.

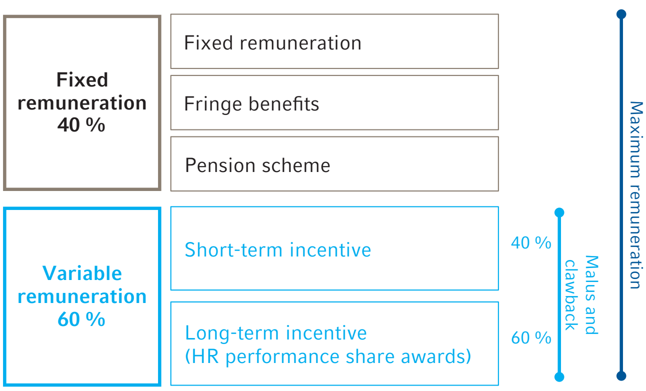
The remuneration system is submitted to the Annual General Meeting for approval if any material changes are made to the remuneration system, and at least every four years.

In view of the General Meeting's approval with a majority of 85.54%, there was no reason to question or modify the remuneration system, its implementation or the nature of the reporting. Points made in discussions with investors prompted us to present in more detail the application of the remuneration system in the 2022 financial year in relation to variable remuneration. In addition to the multi-year variable remuneration components paid out in 2022, we also show the current status of payments due in the coming years from multi-year variable remuneration.

The remuneration system is transparently and comprehensibly structured overall and responds to the expectations of our investors and other key stakeholders. The remuneration consists of fixed (non-performance-based) and variable (performance-based) components. The considerable relevance of the variable remuneration and the reinforcement of the concept of "pay-for-performance" are front and centre in this regard. The variable remuneration is based on financial and non-financial performance criteria that are derived from the Hannover Re Group strategy and can be influenced by the Executive Board. The measurement of performance also takes account of sustainability criteria that promote sustainable and long-term growth in the value of the company. In addition, the remuneration of the Executive Board is closely aligned with the interests of our investors through a strong share correlation based on the use of a Performance Share Plan and relative measurement of the Hannover Re share's performance in comparison with our peers. Malus und clawback provisions make it possible to reduce or claw back variable remuneration components in the event of serious compliance violations.

The major elements of the remuneration system are summarised in the following overview:

Structure of the remuneration system **M 70**



HR = Hannover Re

Basic principles underlying the remuneration of the Executive Board

The strategy of the Hannover Re Group is geared to sustainable outperformance in the interests of the Group's stakeholders (in particular investors, clients and employees). In remunerating the Executive Board our focus is therefore on the principles of continuity, financial strength and profitability. With a rigorous underwriting policy, partnership-based customer relationships, a lean operating model and our highly efficient risk and capital management, we aim to preserve our outstanding position as one of the world's leading and most profitable reinsurance groups on an enduring basis and be the market leader in terms of profitability, earnings growth and cost efficiency. In our "Striving for sustainable outperformance", governance, risk management, compliance and corporate social responsibility constitute the foundations for our growth as a trusted global reinsurance partner.

Risk management and corporate social responsibility are defined more closely in specific strategies derived from the Group strategy. For further information about the risk management system we would refer to the "Opportunity and risk report" from page 75 et seq. For further information on corporate social responsibility and the compliance management system, please see the non-financial information statement from page 59 et seq. We report on the basic principles of our corporate governance from page 107 et seq.

The remuneration of the Executive Board makes a substantial contribution to the advancement of our Group strategy and the long-term and sustainable development of the Hannover Re Group. The remuneration ensures a transparent, performance-related incentive, strongly focused on the company's long-term success, which in particular depends on financial and non-financial performance criteria derived from the Group strategy and on the performance of the Hannover Rück SE share, including in comparison with our peers. An excessive risk appetite is thereby discouraged.

The members of the Executive Board are remunerated in light of the company's position and according to their performance and their scope of activity and responsibility. The requirements of the Stock Corporation Act (AktG), the provisions of Article 275 of Delegated Regulation (EU) 2015/35 with amendments by Delegated Regulation (EU) 2016/2283 and of the Insurance Supervision Act in conjunction with the Regulation on the Supervisory Law Requirements for Remuneration Schemes in the Insurance Sector (VersVergV) as well as the recommendations for the remuneration of the management board contained in Section G of the German Corporate Governance Code (DCGK) establish the regulatory framework.

In determining the remuneration for the Executive Board of Hannover Re, the Supervisory Board followed the guidelines set out below:

Guiding principles for the Executive Board remuneration of Hannover Re M 71

Promoting the corporate strategy	• Performance criteria derived from the corporate strategy
Long-termism and sustainability	• Variable remuneration largely share-based with a multi-year orientation • Sustainability targets (ESG) integrated into the measurement of variable remuneration
Pay-for-performance	• Bulk of target direct remuneration comprised of variable remuneration components • Adequate and ambitious defined performance criteria • Variable remuneration can fluctuate between zero and a cap
Adequacy of remuneration	• Remuneration of Executive Board members commensurate with the tasks and performance of the respective Board member and the position of the company • Allowance for internal and external remuneration ratios • Caps on the individual variable remuneration components and total remuneration
Linkage to shareholder interests	• Harmonisation of the interests of the Executive Board with those of our shareholders • Malus and clawback provisions apply to entire variable remuneration • Relative performance measurement creates incentives for long-term outperformance of our competitors on the capital market
Allowance for market practice and regulatory compliance	• Allowance for current market practice of relevant peers in the Board remuneration • Ensuring conformity with legal and regulatory requirements relevant to Hannover Re
Transparency	• Ex-post disclosure of target values and target attainment • Ex-post disclosure of the individual premium/deduction per Board member

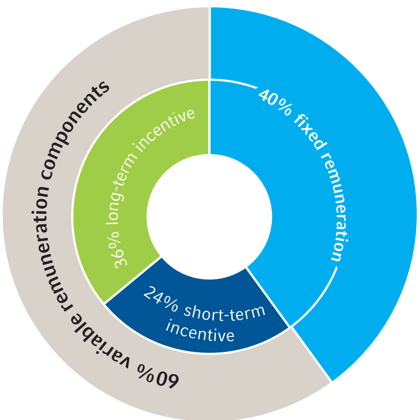
Remuneration structure

The idea of "pay for performance" and the long-term orientation are paramount concepts central to the remuneration system for the Executive Board of Hannover Re.

In order to reinforce the concept of pay-for-performance, the target direct remuneration (sum of fixed remuneration and target amounts of the variable remuneration components in the event of 100% target attainment) is comprised of 40% fixed remuneration and 60% variable remuneration components. The variable remuneration consists of a short-term incentive (STI) and a long-term incentive (LTI) with a performance period of four years.

The remuneration structure is geared to the sustainable and long-term development of the Hannover Re Group. The STI accounts for 40% of the variable remuneration components and thus contributes 24% to the target direct remuneration. The LTI, which accounts for a 60% share of the variable remuneration components, represents 36% of the target direct remuneration.

Structure of the target direct remuneration M 72



Review of the appropriateness of the Executive Board remuneration

The remuneration of the members of the Executive Board is determined by the Supervisory Board on the basis of the remuneration system in accordance with the recommendations of the Standing Committee. When determining the remuneration of the members of the Executive Board, the Supervisory Board considers the responsibility and tasks of the individual members of the Executive Board, their individual performance, the economic situation and the success and future prospects of the company.

The customary nature of the remuneration in comparison to other similar companies (horizontal comparison) and in terms of the amount of remuneration as well as the remuneration structure within the company (vertical comparison) was reviewed by the Supervisory Board at its meeting on 2 November 2022. Companies listed on the DAX and MDAX (with the exception of Hannover Re) as at 1 September 2022 were used on a combined basis as a peer group for the horizontal comparison of remuneration. The vertical comparison is based on the remuneration of the Executive Board relative to the remuneration of the total workforce of Hannover Re in Germany. Both the status quo and the development over time of the remuneration ratios were taken into consideration. As a further indication, the target direct remuneration of the Executive Board was also subjected to a horizontal comparison with an individual benchmark group comprised of relevant peers. This benchmark group is also used in the multi-year variable remuneration to measure the relative Total Shareholder Return. The Supervisory Board availed itself of the option to engage an external remuneration consultant – independent of the Executive Board and the company – for the review of the appropriateness of the Executive Board remuneration.

Determination of target remuneration

Every member of the Executive Board is given a contractual commitment to customary target remuneration. This is aligned with their scope of responsibility and with their expertise and experience that are relevant to the role.

The fixed and variable remuneration components are balanced. The fixed component has a sufficiently large share in the target total remuneration that the company is able to apply a flexible bonus policy, including the possibility of not paying any variable remuneration at all. This means that members of the Executive Board have no incentive to enter into excessively high risks in the interest of higher bonus payments.

The following tables show the target remuneration for each member of the Executive Board for the 2022 financial year. The target remuneration encompasses the remuneration commitment for the financial year that is granted in the event of 100% target attainment.

Target remuneration in the event of 100% target attainment

	Jean-Jacques Henchoz (Chief Executive Officer) since 1 April 2019			Sven Althoff (Board member with divisional responsibility/ Coordinator of the Property & Casualty reinsurance business group) since 1 August 2014		
	2022		2021	2022		2021
	in EUR thousand	in %	in EUR thousand	in EUR thousand	in %	in EUR thousand
Basic remuneration	840.0	26.9	840.0	520.0	39.5	520.0
Fringe benefits/non cash benefits [1]	14.2	0.5	14.5	16.8	1.3	16.5
Other [2]	1,000.0	32.1	130.0			
Fixed remuneration components	**1,854.2**		**984.5**	**536.8**		**536.5**
One-year variable remuneration (STI)	504.0	16.2	504.0	312.0	23.7	312.0
Multi-year variable remuneration (LTI) (performance share awards 2022/2021)	756.0	24.3	756.0	468.0	35.5	468.0
Variable remuneration components	**1,260.0**		**1,260.0**	**780.0**		**780.0**
Total target remuneration	**3,114.2**	**100.0**	**2,244.5**	**1,316.8**	**100.0**	**1,316.5**
Service cost [3]	151.9		215.0	76.5		288.7

	Claude Chèvre (Board member with divisional responsibility) since 1 November 2011			Clemens Jungsthöfel [4] (Chief Financial Officer) since 1 September 2020		
	2022		2021	2022		2021
	in EUR thousand	in %	in EUR thousand	in EUR thousand	in %	in EUR thousand
Basic remuneration	520.0	39.5	520.0	430.0	39.7	400.0
Fringe benefits/non cash benefits [1]	16.0	1.2	15.4	9.0	0.8	8.4
Fixed remuneration components	**536.0**		**535.4**	**439.0**		**408.4**
One-year variable remuneration (STI)	312.0	23.7	312.0	258.0	23.8	240.0
Multi-year variable remuneration (LTI) (performance share awards 2022/2021)	468.0	35.6	468.0	387.0	35.7	360.0
Variable remuneration components	**780.0**		**780.0**	**645.0**		**600.0**
Total target remuneration	**1,316.0**	**100.0**	**1,315.4**	**1,084.0**	**100.0**	**1,008.4**
Service cost [3]	106.6		148.7	84.5		103.2

[1] Costs for company car for business and personal use, insurance premiums and non-cash benefits are carried in the amounts calculated for tax purposes. The figures for the previous year were adjusted for the sake of comparability. The non-cash benefit associated with insurance premiums is now included.

[2] The Supervisory Board gave Jean-Jacques Henchoz a contractual commitment to compensate the forfeiture of benefits from his previous employer in instalments. The compensatory payment in 2022 is the final instalment under this agreement and was also dependent upon reappointment effective 1 April 2022.

[3] For details of the service cost see the table "Pension commitments".

[4] Clemens Jungsthöfel were contractually granted target remuneration by the Supervisory Board with effect from July 2022 as follows: basic remuneration = EUR 460 thousand, STI = EUR 276 thousand, LTI = EUR 414 thousand.

	Dr. Klaus Miller (Board member with divisional responsibility) since 1 September 2010			Dr. Michael Pickel (Board member with divisional responsibility) since 1 January 2000		
	2022		2021	2022		2021
	in EUR thousand	in %	in EUR thousand	in EUR thousand	in %	in EUR thousand
Basic remuneration	520.0	39.9	520.0	520.0	39.6	520.0
Fringe benefits/non cash benefits[1]	1.0	0.1	1.1	14.8	1.1	7.4
Fixed remuneration components	**521.0**		**521.1**	**534.8**		**527.4**
One-year variable remuneration (STI)	312.0	24.0	312.0	312.0	23.7	312.0
Multi-year variable remuneration (LTI) (performance share awards 2022/2021)	468.0	36.0	468.0	468.0	35.6	468.0
Variable remuneration components	**780.0**		**780.0**	**780.0**		**780.0**
Total target remuneration	**1,301.0**	**100.0**	**1,301.1**	**1,314.8**	**100.0**	**1,307.4**
Service cost[2]	89.3		136.1	190.1		203.9

	Silke Sehm[3] (Board member with divisional responsibility) since 6 March 2019		
	2022		2021
	in EUR thousand	in %	in EUR thousand
Basic remuneration	430.0	39.6	400.0
Fringe benefits/non cash benefits[1]	11.0	1.0	10.8
Fixed remuneration components	**441.0**		**410.8**
One-year variable remuneration (STI)	258.0	23.8	240.0
Multi-year variable remuneration (LTI) (performance share awards 2022/2021)	387.0	35.6	360.0
Variable remuneration components	**645.0**		**600.0**
Total target remuneration	**1,086.0**	**100.0**	**1,010.8**
Service cost[2]	138.6		188.7

[1] Costs for company car for business and personal use, insurance premiums and non-cash benefits are carried in the amounts calculated for tax purposes. The figures for the previous year were adjusted for the sake of comparability. The non-cash benefit associated with insurance premiums is now included.
[2] For details of the service cost see the table "Pension commitments".
[3] Silke Sehm were contractually granted target remuneration by the Supervisory Board with effect from July 2022 as follows: basic remuneration = EUR 460 thousand, STI = EUR 276 thousand, LTI = EUR 414 thousand.

Pay ratios

In the year under review the target total remuneration of the Chief Executive Officer (excluding compensatory payment for the forfeiture of benefits from the previous employer) was 23 times the target total remuneration of the average of all company employees (excluding the Executive Board). The target total remuneration of the average of all members of the Executive Board was 15 times the target total remuneration of the average of all employees (excluding the Executive Board). The target total remuneration of the average of all employees refers to the workforce of Hannover Re in Germany; it encompasses the personal expense (excluding expense for Executive Board remuneration) for wages and salaries and the variable salaries upon 100% target attainment on a full-time equivalent basis.

Adherence to maximum remuneration

The Supervisory Board has determined an upper limit for each member of the Executive Board based on the amount for the total of fixed remuneration, fringe benefits, STI and LTI as well as pension service cost ("maximum remuneration") in accordance with § 87a Para. 1 Sentence 2 No. 1 Stock Corporation Act (AktG). The maximum remuneration limits all payments that result from the commitment for a financial year, irrespective of the date of receipt. The maximum remuneration is EUR 5,000,000 for the Chief Executive Officer and EUR 3,000,000 for all other members of the Executive Board.

It is only possible to report definitively on adherence to the maximum remuneration for the 2022 financial year after the LTI tranche awarded for 2022 has been paid out, which will occur in 2027. Should the payment made from the LTI lead to the maximum remuneration being exceeded, the amount paid out will be reduced accordingly so as to ensure adherence to the maximum remuneration.

Application of the remuneration system in the 2022 financial year

The following table provides an overview of the components of Hannover Re's remuneration system in the 2022 financial year and the associated targets:

Remuneration components and associated goals M 74

	Remuneration component/ Remuneration condition	Measurement basis/parameter	Goals
Fixed remuneration components	Fixed remuneration	The fixed remuneration is paid in cash in twelve equal monthly instalments.	• Attracting and retaining the most suitable Board members • Remunerating the scope of responsibility, expertise and experience of the individual Board members
	Fringe benefits	Vehicle for business and personal use, accident, luggage and D&O insurance in an appropriate amount	• Granting customary fringe benefits and pension schemes to attract and retain the most suitable Board members
	Pension scheme	Defined contribution commitment: annual funding contribution amounting to 25% of the defined measurement basis Dr. Pickel: continuation of a defined benefit commitment (legacy commitment): commitment to a pension calculated as a percentage of the pensionable fixed annual remuneration	
Variable remuneration components	Short-term incentive (STI)	**Target bonus model** Performance criteria: • Hannover Re Group RoE of the 2022 financial year • Individual performance criteria of the 2022 financial year (financial and non-financial, including ESG targets) Cap: 200% of the STI target amount	• Incentivising attainment or outperformance of the annual corporate and business group targets and remuneration of the individual contribution to the result and to sustainability
	Long-term incentive (LTI)	**Performance Share Plan ("Hannover Re Performance Shares")** Four-year performance period LTI allocation value is dependent on the determined target attainment for: • Hannover Re Group RoE of the 2022 financial year • Individual performance criteria of the 2022 financial year Performance criteria: • Performance of the Hannover Re share (plus dividends) • Relative Total Shareholder Return (TSR) compared to relevant peers: Munich Re, Swiss Re, Everest Re, Reinsurance Group of America, SCOR) Cap: 400% of the LTI target amount (max. 200% LTI allocation value + max. 200% measured by the relative TSR)	• Recognising the performance in the 2022 financial year • Incentivising the creation of long-term shareholder value • Motivating outperformance of peers
	Subsequent adjustment of the target values/benchmark parameters for annual and multi-year bonus is excluded.		
Further provisions	Maximum remuneration	Chief Executive Officer: EUR 5,000,000 Other Board members: EUR 3,000,000	• Limiting the total remuneration promised for a financial year • Fulfilment of regulatory standards of the Stock Corporation Act (AktG)
	Malus and clawback	Option of the Supervisory Board to partially or fully withhold ("malus") or claim back ("clawback") the variable remuneration in the event of gross misconduct or an incorrect consolidated financial statement In addition, reduction or elimination of the variable remuneration is possible if required by the regulator	• Strengthening the position of the Supervisory Board in the event of severe compliance violations

Fixed remuneration components

Fixed remuneration

The fixed remuneration is paid out in cash in twelve equal monthly instalments. It is aligned in particular with the scope of tasks and professional experience of the respective member of the Executive Board.

Fringe benefits

The members of the Executive Board additionally receive certain non-performance-based fringe benefits in the customary scope; these are reviewed at regular intervals. A vehicle is made available for company and personal use for the duration of the Board appointment. The member of the Executive Board is responsible for paying tax on the pecuniary advantage associated with personal use of the company car. In addition, the company grants the members of its Executive Board an appropriate amount of insurance protection under group policies (accident, luggage and D & O insurance).

If a new member of the Executive Board forfeits a bonus from their previous employer, sign-on or recruitment bonuses are paid in exceptional cases. Compensation for forfeited variable remuneration components from the previous employer is normally granted in multiple instalments and linked to payment conditions.

Retirement provision

With the exception of Dr. Pickel, whose annual pension is based on a final salary commitment, the members of the Executive Board have defined contribution commitments. Further information in this regard is provided in the subsection "Benefits on leaving the company".

Variable remuneration components

The variable remuneration components consist of a short-term incentive (STI), which is assessed on the basis of the respective financial year, and a long-term incentive (LTI) with a performance period of four years.

The performance criteria for measuring and evaluating target attainment are derived from Hannover Re's corporate strategy. To this end, the variable remuneration components are structured in such a way as to promote the long-term development of the Hannover Re Group. The following overview shows the close linkage between the performance criteria and other aspects of the variable remuneration and the corporate strategy and explains how the variable remuneration promotes Hannover Re's sustainable development.

The company does not, as a matter of principle, grant the members of the Executive Board any guaranteed variable remuneration.

Variable remuneration components M 75

Remuneration component	Performance criterion/aspect	Strategy relevance/Promotion of long-term development
Short-term incentive (STI)	Group RoE	• RoE: one of Hannover Re's strategic KPIs • Target value consistent with the target set for attainment of sustainable value creation
	Individual premium/deduction	• Allowance for the individual contribution made by Board members and the results of the areas under their responsibility • Implementation of sustainability targets in Board remuneration
Long-term incentive (LTI)	Allocation value depending on STI target attainment	• Higher incentivising for target attainment in the STI • Strengthening of the pay-for-performance concept
	Share performance	• Linkage of share performance and Board remuneration • Harmonisation of the interests of the Board and those of shareholders
	Four-year performance period	• Orientation towards long-term success and assuring the long-term development of Hannover Re
	Relative TSR	• Incentivising long-term outperformance of relevant peers on the capital market (2022: Munich Re, Swiss Re, Everest Re, Reinsurance Group of America, SCOR)

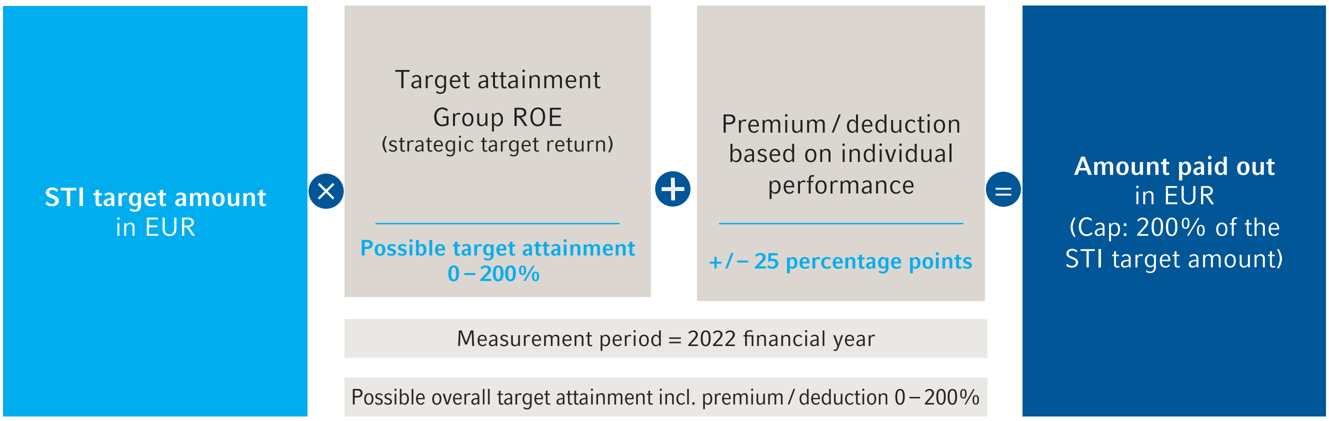
Short-Term Incentive (STI)

Fundamentals

The STI is geared to Hannover Re's commercial success in the relevant financial year. In addition to the financial performance criterion of the return on equity (RoE) generated by the Hannover Re Group pursuant to the consolidated financial statement of Hannover Rück SE ("Group RoE"), an individual premium or deduction is considered in the determination of the amount paid out which comprises both financial and non-financial performance criteria, in particular sustainability targets, and makes allowance for the respective divisional responsibilities of the individual members of the Executive Board in addition to the overall responsibility of the Executive Board. In this way, the STI addresses the goal of a high and stable return on equity for the Hannover Re Group, promotes action on Board- or division-specific focus topics and integrates the interests of our clients, employees and other key stakeholders.

The basis for payment of the STI consists of the contractually defined STI target amount, which is based on overall target attainment of 100%. The overall target attainment (including the individual premium or deduction) can reach values between 0% and 200% of the STI target amount. The amount that can be paid out under the STI is thus limited to 200% of the target amount.

Calculation of the short-term incentive (STI) M 76



Financial performance criterion

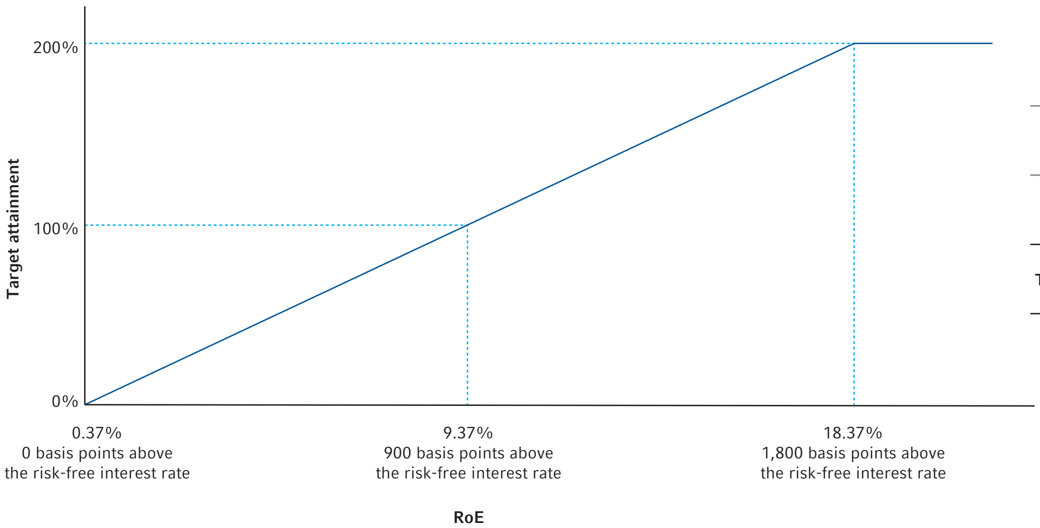
The determinative financial performance criterion for the STI is – with a weighting of 100% – the Group RoE for the financial year in comparison with a strategic target return, which is established on the basis of the risk-free interest rate on a 5-year average plus an ambitious spread. The risk-free interest rate is the average market rate over the past five years for ten-year German government bonds, with the average being calculated on the basis of the respective interest rate at year-end. The Group RoE is one of the key performance indicators in Hannover Re's management system and as such is also implemented in the remuneration of the Executive Board. Hannover Re pursues the goal of generating a high return on equity. The Group's focus here is on sustainable value enhancement. The use of the Group RoE as a determinative performance criterion for the STI creates incentives for accomplishment of this goal.

The target value for the Group-RoE as well as the target corridor with upper and lower thresholds are in each case defined in advance by the Supervisory Board for the coming financial year. In this context, the target value is aligned with the strategic target return of the Hannover Re Group at the time when it was determined.

For the 2022 financial year the Supervisory Board defined a target value (100% target attainment) of 900 basis points above the risk-free interest rate for the Group RoE. This is consistent with the company's strategic target of generating sustainable value creation through a return on equity of at least 900 basis points above the risk-free interest rate. The lower threshold was defined as the risk-free interest rate without a spread, while the upper threshold was set at 1,800 basis points above the risk-free interest rate.

The risk-free interest rate on ten-year German government bonds over a 5-year average amounted to 0.37% as at the end of 2022. For the 2022 financial year the target Group RoE therefore stands at 937 basis points. In the 2022 financial year, a Group RoE of 14.1% (1,410 basis points) was generated. This corresponds to target attainment of the performance criterion Group RoE of 150.5%.

Target attainment Group RoE in the 2022 financial year **M 77**



Group RoE	14.1%
Risk-free interest rate	0.37%
Target RoE	9.37%
Target attainment	**150.5%**

At its meeting on 2 November 2022, the Supervisory Board raised the Group RoE target (strategic target return) for the 2023 financial year from 900 to 1,000 basis points above the risk-free interest rate to allow for the expected increase in the RoE ratio due to the transition to the new IFRS 17 accounting standard.

Individual premium or deduction

By applying an individual premium or deduction to target attainment of the performance criterion Group RoE, the Supervisory Board can consider – in addition to the financial success of the Hannover Re Group – the individual contribution made by the member of the Executive Board and, as appropriate, the division under their responsibility to the result as well as the attainment of sustainability targets in the context of the STI. The amount of the premium or deduction, which can range from -25 percentage points to +25 percentage points, is determined by the Supervisory Board at its reasonable discretion. The criteria and indicators for determination of the individual premium or deduction are in each case defined in advance by the Supervisory Board for the coming financial year and communicated to the members of the Executive Board.

For the 2022 financial year, the Supervisory Board determined for the individual members of the Executive Board the following criteria and indicators as well as – on this basis – the following individual premiums and deductions subsequent to the financial year:

Individual targets and target attainment of the member of the Executive Board

	Individual contribution to the result		
Member of the Executive Board	Performance	Dividend continuity/ distribution	Strategic target
Jean-Jacques Henchoz	Covered by performance criterion Group RoE	Dividend continuity of Hannover Rück SE	Successful launch of strategy cycle 2021 – 2023; Implementation of the strategic initiatives
Sven Althoff	IVC [2] Property & Casualty reinsurance	Dividend continuity of Hannover Rück SE	Successful launch of strategy cycle 2021 – 2023 with concentrations on ongoing development of P & C [3] strategy, implementation of strategic initiative Client Excellence
Claude Chèvre	IVC [2] Life & Health reinsurance	Dividend continuity of Hannover Rück SE	Successful launch of strategy cycle 2021 – 2023 with concentrations on implementation of strategic initiative APAC [5] L & H [6], Client Excellence, innovation & digital strategy
Clemens Jungsthöfel	Covered by performance criterion Group RoE	Dividend continuity of Hannover Rück SE	Successful launch of strategy cycle 2021 – 2023 with concentrations on implementation of IFRS 17, future organisational setup in CFO scope of responsibility, investments
Dr. Klaus Miller	IVC [2] Life & Health reinsurance	Dividend continuity of Hannover Rück SE	Successful launch of strategy cycle 2021 – 2023 with concentration on expansion of Financial Solutions business, inforce management
Dr. Michael Pickel	IVC [2] Property & Casualty reinsurance	Dividend continuity of Hannover Rück SE	Successful launch of strategy cycle 2021 – 2023 with concentration on implementation of strategic initiative APAC [5] P & C [3] and innovation and digital strategy
Silke Sehm	IVC [2] Property & Casualty reinsurance	Dividend continuity of Hannover Rück SE	Successful launch of strategy cycle 2021 – 2023 with concentration on implementation of strategic initiatives Client Excellence and innovation und digital strategy

[1] OHC (Organisational Health Check) = Employee survey that measures the health of an organisation and hence provides an indicator of how an organisation aligns itself, optimally executes its plans and innovates in order to achieve its targets on a lasting basis
[2] IVC (Intrinsic Value Creation) = A tool of value-based enterprise management used to measure the attainment of long-term targets on the level of the Group, the business groups and the operational units
[3] P & C = Property & Casualty reinsurance
[4] ESG = Environmental, Social and Governance
[5] APAC = Asia-Pacific region
[6] L & H = Life & Health reinsurance

M 78

Sustainability		
Leadership/Commitment (OHC[1])	Contribution to the sustainability strategy	**Individual premium/deduction in %**
Change in OHC score 2020/2021; relative improvement of the OHC[1] score in certain focus areas	Ongoing development of the HR sustainability strategy; Implementation of catalogue of measures	0% points
Change in OHC score 2020/2021; relative improvement of the OHC[1] score in certain focus areas	Promoting sustainability in the action fields "ESG[4] in insurance business" and "Sustainable protection"	0% points
Change in OHC score 2020/2021; relative improvement of the OHC[1] score in certain focus areas	Promoting sustainability in the action fields "ESG[4] in insurance business" and "Sustainable protection"	+5% points
Change in OHC score 2020/2021; relative improvement of the OHC[1] score in certain focus areas	Promoting sustainability in the action field "ESG[4] in asset management"	+15% points
Change in OHC score 2020/2021; relative improvement of the OHC[1] score in certain focus areas	Promoting sustainability in the action fields "ESG[4] in insurance business" and "Sustainable protection"	+7.5% points
Change in OHC score 2020/2021; relative improvement of the OHC[1] score in certain focus areas	Promoting sustainability in the action fields "ESG[4] in insurance business" and "Sustainable protection"	0% points
Change in OHC score 2020/2021; relative improvement of the OHC[1] score in certain focus areas	Promoting sustainability in the action fields "ESG[4] in insurance business" and "Sustainable protection"	+5% points

Overall target attainment and amount paid out under the STI 2022

The following table shows the overall target attainment as well as the resulting amount paid out to each member of the Executive Board for the STI 2022:

Overall target attainment and amount paid out under STI 2022 M 79

Member of the Executive Board	Target amount in EUR thousand	Target attainment Group RoE	Individual premium/ deduction	Overall target attainment	Amount paid out in EUR thousand
Jean-Jacques Henchoz	504	150.5%	0.0%	150.5%	758.5
Sven Althoff	312	150.5%	0.0%	150.5%	469.6
Claude Chèvre	312	150.5%	5.0%	155.5%	485.2
Clemens Jungsthöfel	258	150.5%	15.0%	165.5%	427.0
Dr. Klaus Miller	312	150.5%	7.5%	158.0%	493.0
Dr. Michael Pickel	312	150.5%	0.0%	150.5%	469.6
Silke Sehm	258	150.5%	5.0%	155.5%	401.2
Total	**2,268**				**3,504.1**

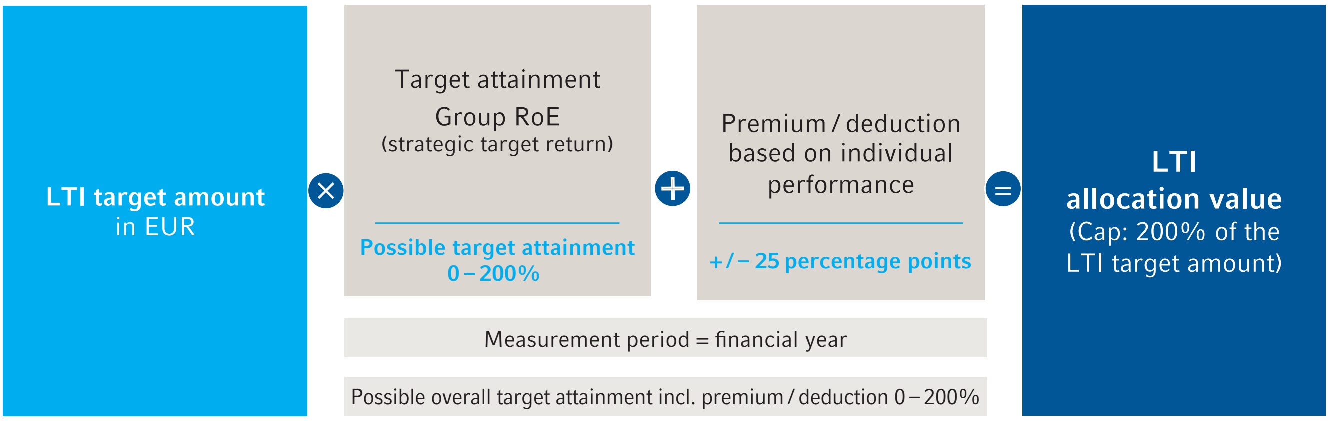
Long-Term Incentive (LTI)

Fundamentals

The LTI plays a key role in aligning the interests of the Executive Board with those of our shareholders. Through relative measurement of the Hannover Re share performance incentives are created for long-term outperformance of our competitors on the capital market.

The LTI is structured in the form of a performance share plan and thereby incentivises increases in the value of the Hannover Re share in the interests of our investors. The amount of the LTI allocation value is based on the contractually agreed LTI target amount (target attainment 100%) and depends on the target attainment for the financial performance criterion Group RoE determined in the context of the STI for the respective financial year as well as the individual premium or deduction defined by the Supervisory Board for the financial year (overall target attainment).

Calculation of the long-term incentive (LTI) allocation value M 80



The overall target attainment of the STI 2022 is the basis for allocation of the LTI tranche 2022 in the 2023 financial year (Hannover Re performance share awards). The number of allocated Hannover Re performance shares is determined from the LTI allocation value as well as the average Hannover Re share price over a period extending from 15 trading days before to 15 trading days after the meeting of the Supervisory Board that approves the consolidated financial statement. The Hannover Re performance shares have a total term of four years ("performance period"). The LTI tranche 2022 will be paid out in the 2027 calendar year following the four-year performance period.

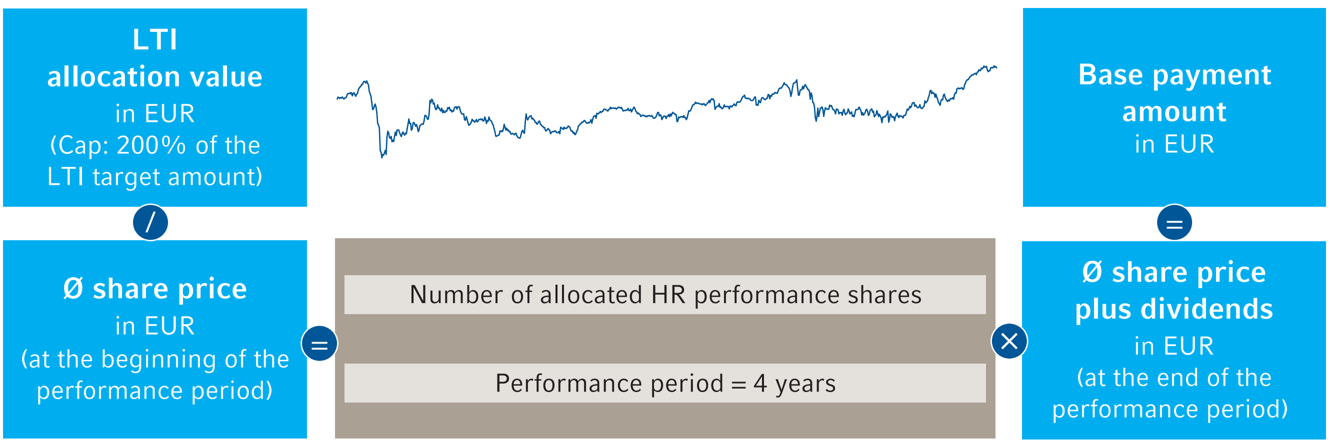
The following table presents the most important aspects of the allocation of the LTI tranche 2022.

LTI 2022 allocation **M 81**

Member of the Executive Board	Target amount in EUR thousand	Overall target attainment of the STI 2021	Allocation amount in EUR thousand
Jean-Jacques Henchoz	756.0	150.5%	1,137.8
Sven Althoff	468.0	150.5%	704.3
Claude Chèvre	468.0	155.5%	727.7
Clemens Jungsthöfel	387.0	165.5%	640.5
Dr. Klaus Miller	468.0	158.0%	739.4
Dr. Michael Pickel	468.0	150.5%	704.3
Silke Sehm	387.0	155.5%	601.8
Total	**3,402.0**		**5,255.8**

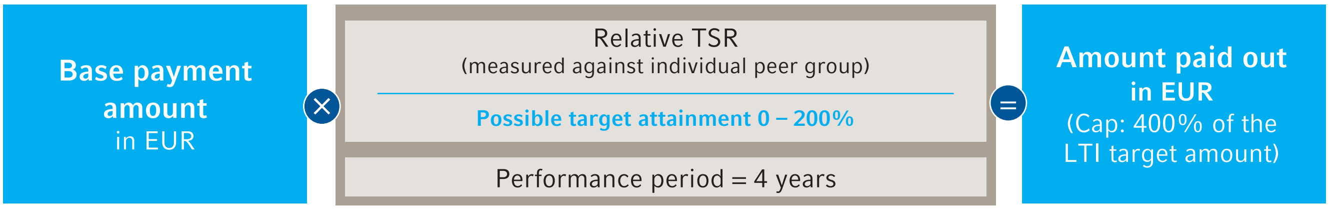
At the end of the four-year performance period the base payment amount is initially calculated on the basis of the Hannover Re share price performance. This base amount is determined from the allocated number of Hannover Re performance shares (LTI tranche 2022) and the average share price of Hannover Rück SE over a period extending from 15 trading days before to 15 trading days after the meeting of the Supervisory Board that approves the consolidated financial statement in the year when the four-year performance period ends (2027) plus the dividends paid out during the performance period. The performance thus fully reflects the total shareholder return.

Calculation of the LTI base payment amount (allowance for share performance) **M 82**



The final amount to be paid out is determined from the base payment amount and the target attainment of the relative total shareholder return ("relative TSR") measured against the peer group (Munich Re, Swiss Re, Everest Re, Reinsurance Group of America, SCOR). The amount paid out for the LTI is limited to 200% of the LTI allocation value and can thus amount to altogether at most 400% of the LTI target amount (max. 200% LTI allocation value + max. 200% measured by the relative TSR) – provided that the sum total of all remuneration components does not exceed the maximum remuneration pursuant to § 87a Para. 1 Sentence 2 No. 1 Stock Corporation Act (AktG).

Calculation of the LTI amount paid out allowing for the performance peer group M 83



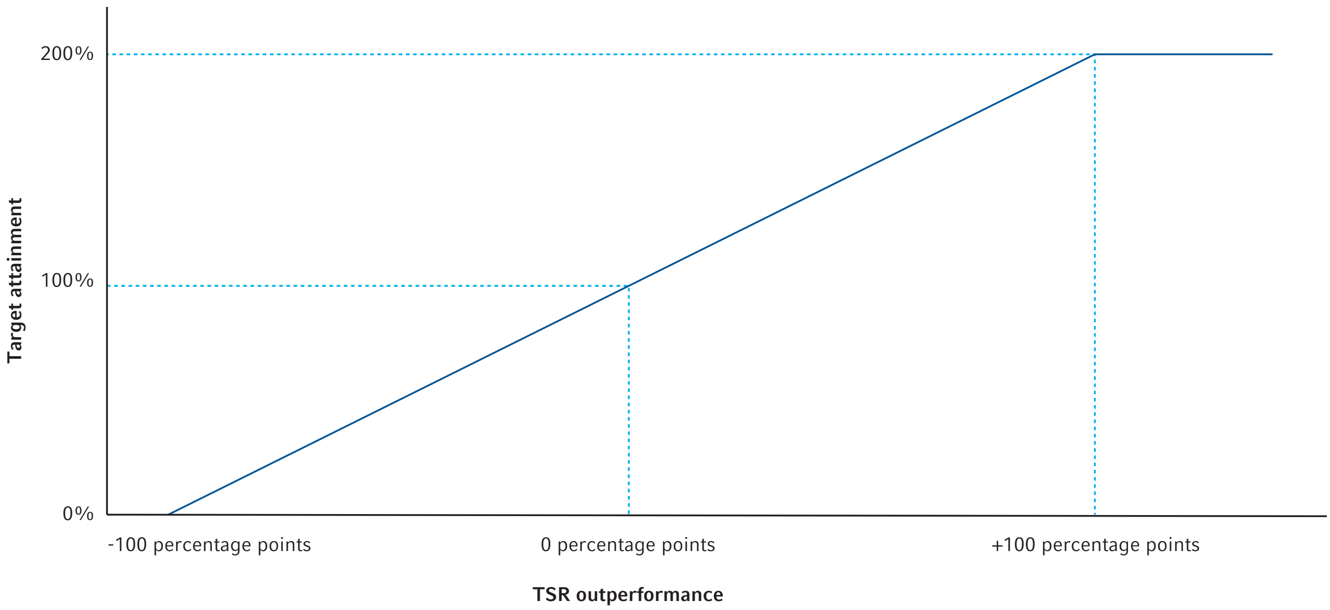
Financial performance criterion
The determinative performance criterion for the final LTI amount to be paid out is the relative TSR. By means of the relative TSR, an external performance criterion geared to the capital market is integrated into the variable remuneration that facilitates relative performance measurement as well as alignment of the interests of the Executive Board and those of shareholders. The relative TSR maps the development of the Hannover Re share price during the four-year performance period including gross dividends in comparison with a peer group comprised of relevant competitors in the insurance industry. In this way, the LTI creates incentives for the strong performance of the Hannover Re share on the capital market on a long-term and sustainable basis.

The target attainment for the relative TSR is established by comparing the TSR of the Hannover Re share with the shares of companies in the peer group during the four-year performance period. For this purpose, the TSR of the Hannover Re share in the respective performance period is compared with the unweighted average TSR of the peer group. The Supervisory Board reviews the peer group before the start of each performance period of a new LTI tranche. For the LTI tranche 2022 it is composed of the following companies:

- Munich Re
- Swiss Re
- Everest Re
- RGA (Reinsurance Group of America)
- SCOR

If the TSR of the Hannover Re share corresponds to the unweighted average TSR of the peer group, the target attainment for the relative TSR amounts to 100%. Each percentage point by which the TSR of the Hannover Re share exceeds or falls short of the unweighted average TSR of the peer group results in a corresponding increase or reduction in the target attainment (linear scaling). If the TSR of the Hannover Re share exceeds the unweighted average TSR of the peer group by 100 percentage points or more, the target attainment for the relative TSR amounts to 200%. Any further increase in the relative TSR will not lead to a further increase in the target attainment. If the TSR of the Hannover Re share is 100 percentage points or more below the unweighted average TSR of the peer group, the target attainment for the relative TSR amounts to 0%.

Target attainment curve relative TSR M 84



The target attainment for the LTI tranche 2022 will be disclosed in the 2027 remuneration report after the end of the performance period.

Amounts paid out from multi-year variable remuneration components

In the 2022 financial year amounts were paid out from multi-year variable remuneration components of the old remuneration system, which was applicable until the end of the 2020 financial year. In this system the variable remuneration for a financial year consisted of a Group bonus and an individual bonus as well as – in the case of members of the Executive Board with responsibility for a certain division – a divisional bonus. 60% of the amount determined for each member of the Executive Board was paid out after the end of the respective financial year, while 20% was allocated as virtual shares (Hannover Re share awards) and a further 20% was contributed to a so-called bonus bank. The Hannover Re share awards allocated in the 2018 financial year on the basis of the target attainment for the variable remuneration of the 2017 financial year (Hannover Re share awards 2017) as well as the amount contributed to the bonus bank in the 2019 financial year on the basis of the target attainment for the variable remuneration of the 2018 financial year (bonus bank 2018) were paid out in 2022.

Hannover Re share awards 2017

Under the remuneration system valid until 2020, once the variable remuneration had been established for a financial year Hannover Re share awards were automatically allocated in the equivalent amount of 20% of the determined variable remuneration. The value per share upon allocation was established on the basis of the unweighted arithmetic mean of the Xetra closing prices over a period of five trading days before to five trading days after the meeting of the Supervisory Board that approved the consolidated financial statement. After a vesting period of four years the value of the Hannover Re share awards calculated at the payment date was paid out. In this context, the value of the share is established on the basis of the unweighted arithmetic mean of the Xetra closing prices over a period of five trading days before to five trading days after the meeting of the Supervisory Board that approves the consolidated financial statement. In addition, the sum total of all dividends per share distributed during the vesting period is paid out.

In the 2022 financial year the vesting period for the Hannover Re share awards allocated in the 2018 financial year on the basis of the 2017 variable remuneration ended and the calculated value was paid out.

The following table provides an overview of the Hannover Re share awards 2017:

HR Share Awards (HR SA) paid out for 2017 M 85

Member of the Executive Board	Allocation value 20% of the 2017 variable remuneration in EUR thousand	Average share price on allocation in EUR	Number of allocated HR SA	Average share price at the end of the vesting period in EUR	Total distributed dividends per share in EUR	**Amount paid out 2022 in EUR thousand**
Sven Althoff	109.6	111.65	982	148.86	20.25	166.1
Claude Chèvre	125.8	111.65	1,127	148.86	20.25	190.6
Dr. Klaus Miller	105.8	111.65	948	148.86	20.25	160.3
Dr. Michael Pickel	118.6	111.65	1,063	148.86	20.25	179.8
Silke Sehm[1] Since 6 March 2019	–	–	–	–	–	115.6

[1] The amount paid out to Ms Silke Sehm refers to HR SA that were allocated to her for her work as a senior executive before her appointment as a member of the Executive Board.

Bonus bank 2018

In addition, the amount contributed to the bonus bank in the 2019 financial year on the basis of the 2018 variable remuneration was paid out in the 2022 financial year.

The positive amount contributed to the bonus bank three years prior to the payment date becomes payable, insofar as it does not exceed the balance of the bonus bank after allowance for credits/debits up to and including those for the last completed financial year. Pending payments not covered by a positive balance in the bonus bank are forfeited.

The following table provides an overview of the bonus bank 2018:

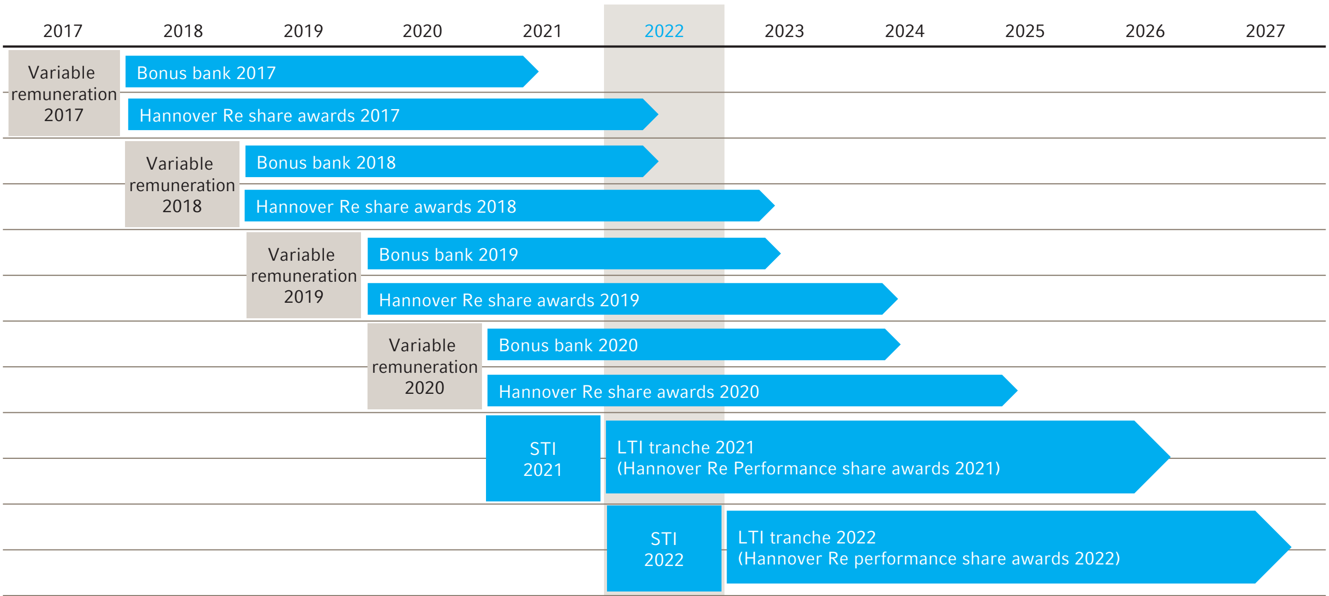
Bonus bank paid out for 2018 M 86

Member of the Executive Board	Amount contributed (20% of the 2018 variable remuneration) in EUR thousand	**Amount paid out 2022 in EUR thousand**
Sven Althoff	117.6	117.6
Claude Chèvre	119.6	119.6
Dr. Klaus Miller	111.0	111.0
Dr. Michael Pickel	161.8	161.8

Overview of multi-year variable remuneration components

The following chart provides an overview of the multi-year variable remuneration components:

Multi-year variable remuneration components **M 87**



The following tables provide an overview of payments due in the coming years from multi-year variable remuneration:

Bonus bank balances of active members of the Executive Board as at 31.12.2022 (remuneration system until 2020) **M 88**

Member of the Executive Board	Amount contributed for FY 2019 in EUR thousand	Amount contributed for FY 2020 in EUR thousand	Total in EUR thousand
Jean-Jacques Henchoz Since 1 April 2019	207.0	268.6	475.6
Sven Althoff Since 1 August 2014	122.6	136.6	259.2
Claude Chèvre Since 1 November 2011	123.8	162.6	286.4
Clemens Jungsthöfel Since 1 September 2020	–	39.4	39.4
Dr. Klaus Miller Since 1 September 2010	138.0	156.4	294.4
Dr. Michael Pickel Since 1 January 2000	150.8	144.8	295.6
Silke Sehm Since 6 March 2019	90.0	107.8	197.8

Hannover Re Share Awards (HR SA) of active members of the Executive Board as at 31.12.2022 (remuneration system until 2020) **M 89**

Member of the Executive Board	Number of HR SA allocated for FY 2018 Average share price on allocation EUR 129.60	Number of HR SA allocated for FY 2019 Average share price on allocation EUR 139.04	Number of HR SA allocated for FY 2020 Average share price on allocation EUR 150.42	Total
Jean-Jacques Henchoz Since 1 April 2019	–	1,489	1,786	3,275
Sven Althoff Since 1 August 2014	908	882	909	2,699
Claude Chèvre Since 1 November 2011	923	891	1,081	2,895
Clemens Jungsthöfel Since 1 September 2020	–	–	262	262
Dr. Klaus Miller Since 1 September 2010	857	993	1,040	2,890
Dr. Michael Pickel Since 1 January 2000	1,249	1,085	963	3,297
Silke Sehm [1] Since 6 March 2019	–	648	717	1,365

[1] Ms. Sehm was additionally allocated a further 824 HR SA for the 2018 and 2019 financial years for her work as a senior executive before her appointment to the Executive Board.

Hannover Re Performance Share Awards (HR PSA) of members of the Executive Board as at 31.12.2022 (remuneration system from 2021 onwards) **M 90**

Member of the Executive Board	Number of HR PSA allocated for FY 2021 Average share price on allocation EUR 156.31
Jean-Jacques Henchoz	6,554
Sven Althoff	4,057
Claude Chèvre	3,758
Clemens Jungsthöfel	3,121
Dr. Klaus Miller	3,608
Dr. Michael Pickel	3,758
Silke Sehm	3,121

Malus and clawback, risk adjustment

If a member of the Executive Board intentionally violates one of their fundamental due diligence obligations pursuant to § 93 Stock Corporation Act (AktG), a cardinal obligation under their service contract or other fundamental company principles governing conduct, e.g. from the Code of Conduct or the compliance guidelines, the Supervisory Board may, at its discretion, withhold in part or in full variable remuneration that has not yet been paid out ("malus") or reclaim in part or in full the gross amount of the variable remuneration already paid out ("clawback"). A clawback of remuneration is excluded if the significant breach occurred more than five years ago.

In making its discretionary decision, the Supervisory Board considers the severity of the violation, the degree of fault on the part of the member of the Executive Board as well as the material and immaterial damage incurred by the company.

Furthermore, a member of the Executive Board shall pay back variable remuneration already paid out to them in the event that, and insofar as, it emerges after payment has been made that the audited and adopted consolidated financial statement used as a basis for the calculation of the amount paid out was incorrect and must therefore be corrected according to pertinent financial reporting standards and a lower amount – or no amount at all – would have been owed from the variable remuneration on the basis of the corrected and audited consolidated financial statement and the relevant remuneration system.

In addition, a restriction or complete omission of payment of the variable remuneration components is permissible in the event of a final or immediately enforceable ruling of the Federal Financial Supervisory Authority (BaFin) in which the payment is prohibited or restricted (such as: if the equity capital is lower or at risk of becoming lower than the solvency capital requirement), and also if this is required in accordance with Art. 275 Para. 2 letter e of the Delegated Regulation (EU) 2015/35 of 10 October 2014.

No clawback or reduction occurred in the 2022 financial year, nor was there any restriction or omission of payment of variable remuneration components.

Benefits on leaving the company

Retirement provision

The members of the Executive Board, with the exception of Dr. Pickel, have been granted defined contribution pension commitments through retirement, surviving dependants' and disability benefits. At the request of the member of the Executive Board the retirement benefit is paid as a one-time lump sum. The pension benefits are provided through HDI Unterstützungskasse e. V. The latter takes out corresponding insurance covers to fund the benefits. The amount of the pension benefits corresponds to the payments under the insurance covers on the basis of the funding contributions rendered annually by the company in an amount of 25% of the pensionable income (annual fixed remuneration). Regular annuities are increased annually by at least 1% of their last (gross) amount.

Dr. Pickel was granted a pension commitment through a lifelong pension and a surviving dependants' benefit. The amount of the pension benefits is calculated according to a length-of-service-based percentage ranging from 25% to at most 50% of the pensionable income (last monthly salary received). In conjunction with the remuneration structure valid from 2011 onwards, a non-pensionable fixed remuneration component was implemented. Of the fixed remuneration amounting to altogether EUR 520 thousand, EUR 320 thousand carries a pension entitlement. If the pension is drawn before reaching the age of 65, 50% of other income received is counted towards the pension. Regular pensions are adjusted annually according to changes in the consumer price index for Germany.

The pension entitlements pursuant to IAS 19 for the current members of the Executive Board are set out in the following table.

Pension commitments M 91

			IAS 19			
	2022	2021	2022	2021	2022	2021
in EUR thousand	Attainable annual pension (age 65)		Personnel expense		Present value of pension commitment	
Jean-Jacques Henchoz	58.8	58.2	151.9	215.0	478.8	509.3
Sven Althoff [1, 2]	118.4	118.2	76.5	288.7	1,647.6	2,290.0
Claude Chèvre	107.1	106.1	106.6	148.7	1,078.8	1,473.2
Clemens Jungsthöfel	52.0	46.1	84.5	103.2	234.1	256.0
Dr. Klaus Miller	61.8	61.5	89.3	136.1	995.2	1,150.2
Dr. Michael Pickel	160.0	160.0	190.1	203.9	3,052.1	4,087.7
Silke Sehm [1, 3]	70.8	65.8	138.6	188.7	996.6	1,257.6
Total	**628.9**	**615.9**	**837.5**	**1,284.3**	**8,483.2**	**11,024.0**

1 Mr. Althoff and Ms. Sehm were first granted a pension commitment prior to 2001 on the basis of their service to the company before 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 includes a past service cost due to a premium increase in an amount of EUR 211.9 thousand (2021).

3 The personnel expense includes a past service cost due to a premium increase and change in measurement in an amount of EUR 144.9 thousand (2021) and EUR 93.1 thousand (2022).

Variable remuneration in case of early termination of the employment relationship

Short-Term Incentive (STI)

If the employment relationship of a member of the Executive Board ends during a financial year for a compelling reason that is not the responsibility of the member of the Executive Board in accordance with § 626 Para. 1 Civil Code (BGB), the participant in the plan has an entitlement to a pro rata temporis STI for this financial year. If the employment relationship is terminated by the company without notice prior to the end of the financial year for a compelling reason that is the responsibility of the member of the Executive Board in accordance with § 626 Para. 1 Civil Code (BGB), the entitlement to STI for this financial year shall be cancelled without replacement or compensation.

Long-Term Incentive (LTI)

If the employment relationship or the term of office on the Executive Board ends prior to the end of the performance period for a reason other than those specified below before the end of a financial year, the participant in the plan has an entitlement to a pro rata temporis LTI for this financial year. In this event, the determination and payment of the variable remuneration components is normally made in accordance with the provisions of the plan conditions for the LTI. Early payment prior to the end of the respective performance period of the LTI is not envisaged in such instances.

If the employment relationship or the term of office on the Executive Board ends during the financial year due to resignation from office or notice given by the member of the Executive Board (exception: resignation from office or notice given by the member of the Executive Board for a compelling reason), the refusal by the member of the Executive Board to accept an offer of extension on at least equal contractual conditions (exception: the member of the Executive Board has reached the age of 60 and served as a member of the Executive Board for two terms of office), extraordinary termination without notice of the service contract of the member of the Executive Board by the company for a compelling reason or revocation of the appointment of the member of the Executive Board for a compelling reason as defined by § 84 Para. 3 Stock Corporation Act (AktG) (exception: vote of no confidence passed by the General Meeting), all conditionally allocated Hannover Re performance shares shall be cancelled without replacement or compensation.

Severance pay

The service contracts of the Executive Board make no provision for claims to severance pay. Commitments to benefits in connection with the early termination of employment on the Executive Board as a consequence of a change of control are similarly not envisaged in the service contracts of the members of the Executive Board.

Remuneration granted and owing in the 2022 financial year

Current members of the Executive Board

The following tables set out the remuneration granted and owing to the individual members of the Executive Board pursuant to § 162 Para. 1 Sentence 2 No. 1 Stock Corporation Act (AktG). Remuneration granted refers to remuneration for which the activity was performed in full in the year under review. Remuneration owing encompasses remuneration that is due but has not yet actually been received. In this context, the disclosure for the 2022 financial year covers:

- the fixed remuneration paid out in the 2022 financial year
- the fringe benefits accruing in the 2022 financial year
- the STI determined for the 2022 financial year with payment in 2023
- the amount contributed to the bonus bank for the 2018 financial year, which was paid out in the 2022 financial year
- the share awards allocated for the 2017 financial year, which were paid out in the 2022 financial year.

In addition, the service cost for the pension commitments for the 2022 financial year is disclosed in the tables as part of the Executive Board remuneration.

The tables also show the relative shares of the individual remuneration components in the total remuneration granted and owing.

Remuneration granted and owing in the 2022 financial year

	Jean-Jacques Henchoz (Chief Executive Officer) since 1 April 2019			Sven Althoff (Board member with divisional responsibility/ Coordinator of the Property & Casualty reinsurance business group) since 1 August 2014		
	2022		2021	2022		2021
	in EUR thousand	in %	in EUR thousand	in EUR thousand	in %	in EUR thousand
Basic remuneration	840.0		840.0	520.0		520.0
Fringe benefits/non-cash benefits [1]	14.2		14.5	16.8		16.5
Other [2]	1,000.0		130.0			–
Fixed remuneration components	**1,854.2**	**71**	**984.5**	**536.8**	**42**	**536.5**
One-year variable remuneration (STI)	758.5		682.9	469.6		422.8
Multi-year variable remuneration	–		–	283.7		303.4
Bonus bank 2018 (3 years) [3]				117.6		109.6
Share Awards 2017 (4 years) [4]				166.1		193.8
Variable remuneration components	**758.5**	**29**	**682.9**	**753.3**	**58**	**726.2**
Total remuneration	**2,612.7**	**100**	**1,667.4**	**1,290.1**	**100**	**1,262.7**
Service cost [5]	151.9		215.0	76.5		288.7

	Claude Chèvre (Board member with divisional responsibility) since 1 November 2011			Clemens Jungsthöfel (Chief Financial Officer) since 1 September 2020		
	2022		2021	2022		2021
	in EUR thousand	in %	in EUR thousand	in EUR thousand	in %	in EUR thousand
Basic remuneration	520.0		520.0	430.0		400.0
Fringe benefits/non-cash benefits [1]	16.0		15.4	9.0		8.4
Fixed remuneration components	**536.0**	**40**	**535.4**	**439.0**	**51**	**408.4**
One-year variable remuneration (STI)	485.2		391.6	427.0		325.2
Multi-year variable remuneration	310.2		378.3	–		–
Bonus bank 2018 (3 years) [3]	119.6		125.8			
Share Awards 2017 (4 years) [4]	190.6		252.5			
Variable remuneration components	**795.4**	**60**	**769.9**	**427.0**	**49**	**325.2**
Total remuneration	**1,331.4**	**100**	**1,305.3**	**866.0**	**100**	**733.6**
Service cost [5]	106.6		148.7	84.5		103.2

1 Costs of company car for business and personal use, insurance premiums and non-cash benefits are carried at the values calculated for tax purposes. The figures for the previous year were adjusted for the sake of comparability. The non-cash benefit associated with insurance premiums is now included.
2 The Supervisory Board gave Jean-Jacques Henchoz a contractual commitment to compensate the forfeiture of benefits from his previous employer in instalments. The compensatory payment in 2022 was dependent upon reappointment effective 1 April 2022.
3 The disclosure in the 2021 financial year refers to amounts paid out from the bonus bank 2017.
4 The disclosure in the 2021 financial year refers to amounts paid out from the share awards 2016.
5 For details of the service cost see the table “Pension commitments”.

	Dr. Klaus Miller (Board member with divisional responsibility) since 1 September 2010			Dr. Michael Pickel (Board member with divisional responsibility) since 1 January 2000		
	2022		2021	2022		2021
	in EUR thousand	in %	in EUR thousand	in EUR thousand	in %	in EUR thousand
Basic remuneration	520.0		520.0	520.0		520.0
Fringe benefits/non-cash benefits [1]	1.0		1.1	14.8		7.4
Fixed remuneration components	**521.0**	**41**	**521.1**	**534.8**	**40**	**527.4**
One-year variable remuneration (STI) [2]	493.0		376.0	469.6		391.6
Multi-year variable remuneration	271.3		314.5	341.6		336.0
Bonus bank 2018 (3 years) [3]	111.0		105.8	161.8		118.6
Share Awards 2017 (4 years) [4]	160.3		208.7	179.8		217.4
Variable remuneration components	**764.3**	**59**	**690.5**	**811.2**	**60**	**727.6**
Total remuneration	**1,285.3**	**100**	**1,211.6**	**1,346.0**	**100**	**1,255.0**
Service cost [5]	89.3		136.1	190.1		203.9

	Silke Sehm (Board member with divisional responsibility) since 6 March 2019		
	2022		2021
	in EUR thousand	in %	in EUR thousand
Basic remuneration	430.0		400.0
Fringe benefits/non-cash benefits [1]	11.0		10.8
Fixed remuneration components	**441.0**	**46**	**410.8**
One-year variable remuneration (STI)	401.2		325.2
Multi-year variable remuneration	115.6		141.6
Bonus bank 2018 (3 years) [3]	–		–
Share Awards 2017 (4 years) [4]	115.6		141.6
Variable remuneration components	**516.8**	**54**	**466.8**
Total remuneration	**957.8**	**100**	**877.6**
Service cost [5]	138.6		188.7

[1] Costs of company car for business and personal use, insurance premiums and non-cash benefits are carried at the values calculated for tax purposes. The figures for the previous year were adjusted for the sake of comparability. The non-cash benefit associated with insurance premiums is now included.

[2] Payments for seats held on Group bodies received in 2021 are counted towards the one-year variable remuneration (STI 2021) paid out in April 2022. Allowance for seats on Group bodies: Dr. Miller EUR 75 thousand, Dr. Pickel EUR 5 thousand.
Payments for seats held on Group bodies received in 2022 are counted towards the one-year variable remuneration (STI 2022) paid out in April 2023. Allowance for seats on Group bodies: Dr. Miller EUR 75 thousand, Dr. Pickel EUR 5 thousand.

[3] The disclosure in the 2021 financial year refers to amounts paid out from the bonus bank 2017.

[4] The disclosure in the 2021 financial year refers to amounts paid out from the share awards 2016. The entitlement of Silke Sehm refers to share awards allocated to her for her work as a senior executive before her appointment as a member of the Executive Board.

[5] For details of the service cost see the table "Pension commitments".

Former members of the Executive Board

The remuneration granted and owing to former members of the Executive Board of Hannover Re in the 2022 financial year pursuant to § 162 Stock Corporation Act (AktG) is shown below.

Former members of the Executive Board M 93

	Roland Vogel (until 30 September 2020)		Ulrich Wallin (until 5 May 2019)		André Arrago (until 31 August 2014)	
	2022		2022		2022	
	in EUR thousand	in %	in EUR thousand	in %	in EUR thousand	in %
Fixed remuneration components	**–**	**0**	**–**	**0**	**–**	**0**
One-year variable remuneration (STI 2021)	–		–		–	
Multi-year variable remuneration [1]	425.1		584.0		–	
Bonus bank 2018 (3 years)	173.6		244.6		–	
Share Awards 2017 (4 years)	251.5		339.4		–	
Variable remuneration components	**425.1**	**50**	**584.0**	**68**	**–**	
Payment to compensate claims under the service contract	**236.1**	**50**	**–**		**–**	
Pension payments	**–**		**279.4**	**32**	**140.0**	**100**
Total target remuneration	**661.2**	**100**	**863.4**	**100**	**140.0**	**100**
Service cost	**47.0**		**–**		**–**	

[1] In the case of Mr. Vogel remuneration for seats held on Group bodies is counted in an amount of EUR 32.7 thousand.

The total remuneration of former members of the Executive Board and their surviving dependants, for whom 16 (16) pension commitments existed, amounted to EUR 1.9 million (EUR 1.8 million) in the year under review. Altogether, a provision of EUR 24.7 million (EUR 31.2 million) has been set aside for pension commitments.

Remuneration of the Supervisory Board

The remuneration of the Supervisory Board is determined by the Annual General Meeting of Hannover Rück SE and governed by the Articles of Association.

In accordance with § 14 of the Articles of Association as amended on 5 May 2021 and the resolution of the Annual General Meeting on 5 May 2021, the members of the Supervisory Board receive fixed annual remuneration of EUR 75,000 in addition to reimbursement of their expenses.

The Chairman of the Supervisory Board receives two-and-a-half times the aforementioned remuneration amounts and the Deputy Chairman one-and-a-half times the amounts.

The members of the Finance and Audit Committee formed by the Supervisory Board additionally receive remuneration of EUR 25,000 for their committee work and the members of the Standing Committee formed by the Supervisory Board receive remuneration of EUR 15,000. The Chair of each Committee receives twice 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 amounts pro rata temporis.

In addition to the specified remuneration for participation in the meetings of the Supervisory Board and the Committees, each member of the Supervisory Board receives an attendance allowance of EUR 1,000 per meeting. 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.

The individualised presentation of the remuneration shows the remuneration actually due in the respective year under review for the year under review as well as the attendance allowances granted in the year under review. Value-added tax payable on the remuneration, insofar as it accrues, is reimbursed by the company.

In the year under review no remuneration was paid to the members of the Supervisory Board for services provided individually outside the committee work described above, e. g. for consulting or mediation services, with the exception of the remuneration paid to employee representatives on the basis of their employment contract.

Individual remuneration of the members of the Supervisory Board

		Remuneration for Supervisory Board work – Fixed remuneration		
		2022		2021
		in EUR thousand	in %	in EUR thousand
Torsten Leue	Chairman of the – Supervisory Board – Standing Committee – Nomination Committee Member of the Finance and Audit Committee	187.5	52	187.5
Herbert K. Haas	Deputy Chairman of the Supervisory Board Chairman of the Finance and Audit Committee (until 31.3.2022) Member of the – Finance and Audit Committee (from 1.4.2022) – Standing Committee – Nomination Committee	112.5	67	112.5
Natalie Bani Ardalan [1]	Member of the Supervisory Board	75.0	95	75.0
Frauke Heitmüller [1]	Member of the Supervisory Board	75.0	95	75.0
Ilka Hundeshagen [1]	Member of the Supervisory Board	75.0	95	75.0
Dr. Ursula Lipowsky	Member of the – Supervisory Board – Finance and Audit Committee (until 31.3.2022) Chairwoman of the Finance and Audit Committee (from 1.4.2022)	75.0	59	75.0
Dr. Michael Ollmann	Member of the Supervisory Board	75.0	95	75.0
Dr. Andrea Pollak	Member of the – Supervisory Board – Nomination Committee	75.0	95	75.0
Dr. Erhard Schipporeit	Member of the – Supervisory Board – Standing Committee	75.0	78	75.0
Total		**825.0**	**72**	**825.0**

[1] Employee representative

Remuneration for committee work			Attendance allowances			Supervisory board remuneration from Group entities			Total remuneration	
2022		2021	2022		2021	2022		2021	2022	2021
in EUR thousand	in %	in EUR thousand	in EUR thousand	in %	in EUR thousand	in EUR thousand	in %	in EUR thousand	in EUR thousand	in EUR thousand
55.0	15	55.0	8.0	2	9.0	110.0	31	100.0	360.5	351.5
46.2	28	65.0	8.0	5	9.0	–	0	–	166.7	186.5
–	0	–	4.0	5	4.0	–	0	–	79.0	79.0
–	0	–	4.0	5	4.0	–	0	–	79.0	79.0
–	0	–	4.0	5	4.0	–	0	–	79.0	79.0
43.8	35	25.0	8.0	6	8.0	–	0	–	126.8	108.0
–	0	–	4.0	5	4.0	–	0	–	79.0	79.0
–	0	–	4.0	5	4.0	–	0	–	79.0	79.0
15.0	16	15.0	6.0	6	6.0	–	0	–	96.0	96.0
160.0	**14**	**160.0**	**50.0**	**4**	**52.0**	**110.0**	**10**	**100.0**	**1,145.0**	**1,137.0**

Comparative presentation of the change in remuneration and earnings trend

In conformity with the requirements of § 162 Para. 1 Sentence 2 No. 2 Stock Corporation Act (AktG), the following table presents a comparison of the change in the remuneration of the members of the Executive Board, the members of the Supervisory Board as well as the employees and the earnings trend of the company.

The presentation of the remuneration of the Executive Board and the Supervisory Board is geared to the remuneration granted and owing pursuant to § 162 Stock Corporation Act (AktG).

The presentation of the average remuneration of the employees is geared to the workforce of Hannover Re in Germany. The employee remuneration shown encompasses the personnel expense (excluding the expense for Executive Board remuneration) for wages and salaries, employer contributions to social security, the variable remuneration components allocable to the financial year as well as – in the case of share-based payment – the amounts received in the financial year.

Comparative presentation M 95

	2022 in EUR thousand	2021 in EUR thousand	Change 2022/2021 in %	Change 2021/2020 in %
Active members of the Supervisory Board				
Torsten Leue	360.5	351.5	2.6	40.8
Herbert K. Haas	166.7	186.5	-10.6	37.6
Natalie Bani Ardalan	79.0	79.0	0.0	24.6
Frauke Heitmüller	79.0	79.0	0.0	24.6
Ilka Hundeshagen	79.0	79.0	0.0	24.6
Dr. Ursula Lipowsky	126.8	108.0	17.4	32.7
Dr. Michael Ollmann	79.0	79.0	0.0	24.6
Dr. Andrea Pollak	79.0	79.0	0.0	24.6
Dr. Erhard Schipporeit	96.0	96.0	0.0	33.5
Active members of the Executive Board [1]				
Jean-Jacques Henchoz [2]	2,612.7	1,667.4	56.7	-2.9
Sven Althoff	1,290.1	1,262.7	2.2	9.5
Claude Chèvre	1,331.4	1,305.3	2.0	-3.6
Clemens Jungsthöfel (since 1 September 2020)	866.0	733.6	18.0	222.0
Dr. Klaus Miller	1,285.3	1,211.6	6.1	-1.7
Dr. Michael Pickel	1,346.0	1,255.0	7.3	1.1
Silke Sehm	957.8	877.6	9.1	10.5
Former members of the Executive Board				
André Arrago (until 31 August 2014)	140.0	128.9	8.6	-1.2
Roland Vogel (until 30 September 2020)	661.2	1,340.6	-50.7	1.5
Ulrich Wallin (until 5 May 2019)	863.4	867.1	-0.4	-2.5
Average employee remuneration				
Employees of Hannover Rück SE in Germany on a full-time equivalent basis	113.1	108.5	4.2	0.8
Earnings trend				
Profit for the year of Hannover Rück SE according to HGB in EUR million	753.0	701.2	7.4	81.3
Group net income in EUR million	1,406.7	1,231.3	14.2	39.4

[1] The figures for the previous year were increased by the amount of the non-cash benefit associated with insurance premiums for the sake of comparability.

[2] The remuneration includes compensatory payments due to loss of pay from a previous employment relationship: 2022: EUR 1 million, 2021: EUR 130 thousand

Remuneration of staff and senior executives

Structure and system

The remuneration system 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 variable remuneration. This is comprised of short-term variable remuneration, the annual cash bonus and long-term share-based remuneration, 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). In the 2021 financial year the modifications made to its system of remuneration prompted the Executive Board of Hannover Rück SE to review and overhaul the system of remuneration for senior executives (management levels 2 and 3). With effect from 1 January 2022 the Executive Board therefore approved refinements to the measurement bases and their weighting, while the amount of variable remuneration including share awards continues to be determined by the degree of overall target attainment. No change was made to the split of cash bonus/share awards.

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 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 actually generated return on equity. 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

With effect from the 2022 financial year, the overall target attainment for the variable remuneration of management levels 2 and 3 is based on three elements. These differentiate between target attainment geared towards Group performance (Group RoE and Group xRoCA) and target attainment based on individual performance (individual targets). Measurement of the variable remuneration is based 50% on Group RoE, 15% on Group xRoCA and 35% on individual target attainment. Individual targets and the attainment of such targets are agreed between the senior executive and their supervisor. The degree of target attainment for the Group performance is defined. The Group performance is measured by the one-year average return on equity of the Hannover Re Group above the risk-free interest rate as well as by the Group xRoCA. The risk-free interest rate is the average market interest rate over the past five years for ten-year German government bonds.

Target attainment is calculated from the quotients of the annual Group RoE and the current target value (both less the risk-free interest rate). If the Group RoE reaches the target value, the target attainment for the financial year in question is 100%. The maximum possible target attainment is 200%. A lower limit of 0% is set for the degree of target attainment. The target value for the Group xRoCa is defined yearly in advance by the Executive Board. Target attainment amounts to 100% if the target value is reached. A lower limit of 0% is set for the degree of target attainment (NOPAT = 0; IVC is negative in the amount of the cost of capital). If the target value is exceeded, a cap of 150% (calculated from the linear extrapolation of the data points from 0% and 100%) applies.

Individual targets are agreed and measured for a period of one year. The degree of target attainment is between 0% and 100%. The degree of individual target attainment can be determined to be up to 150% in justified special cases based on outstanding achievements.

Group of participants and total number of eligible participants in variable remuneration systems – valid: 31 December 2022 M 96

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 163 Group senior executives worldwide receive a cash bonus upon corresponding target attainment and participate in the Share Award Plan.
Director	Management level 3		
General Manager			
Chief Manager		Group Performance Bonus (GPB)	**Hannover Office** Of the altogether 1,536 employees at the Hannover Office (incl. 96 senior executives), 912 staff (excl. seconded employees) are GPB-eligible.
Senior Manager			
Manager			

Amount and payment of variable remuneration for senior executives

The degree of overall target 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 bonus and 35% granted as share awards. In a departure from the above, a split of 60% cash bonus and 40% share awards applies to certain key function holders and material risk takers identified by the Executive Board on management level 3.

The minimum variable remuneration amounts to EUR 0 based on the premise that the degree of attainment for all targets is 0%. Given that outperformance of up to 200% is possible for Group RoE and up to 150% for Group xRoCa and the individual targets, a maximum degree of target attainment of 175% and hence maximum variable remuneration of 175% can be attained.

Allocation and payment of share awards for 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 ten trading days after the meeting of the Supervisory Board that approves the consolidated financial statement. 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 ten 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 ten 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 ten trading days after the Annual General Meeting that approves the dividend payment for the financial year just ended.

The cash bonus for the 2021 financial year was paid out in June 2022. The share awards for the 2021 financial year were also allocated in June 2022; they will be paid out in the spring of 2026 including dividends paid for the 2021, 2022, 2023 and 2024 financial years.

Outlook

Forecast

- Group net income under IFRS 17 of at least EUR 1.7 billion expected
- Reinsurance revenue under IFRS 17 expected to grow by at least 5%
- Improved prices and conditions in property and casualty reinsurance
- Life and health reinsurance: sustained strong demand for financial solutions
- Return on investment target of at least 2.4% for assets under own management

Economic developments

Global economy

Muted economic growth, sustained inflationary pressures and the repercussions of the war in Ukraine on energy markets will likely leave policy makers facing some difficult questions in 2023. Energy supply bottlenecks may push up prices, while interest rate increases needed to curb inflation are exacerbating the fragility of financial markets. A crucial question is whether central banks, first and foremost the US Federal Reserve, will succeed with their interest rate policy in bringing inflation down while at the same time guiding the economy towards a soft landing without a recession.

In its November 2022 Economic Outlook the OECD expects growth in global economic output to decline again in 2023 to 2.2%. Asia will probably be the main growth engine, while Europe, North America and Latin America appear set for merely minimal increases. Projections suggest that inflation in the major industrial nations will retreat from 6.3 to around 4.25% because the tighter monetary policy is making itself felt, demand pressures are easing and both transportation costs and delivery times are returning to normal. The pace at which inflation drops will, however, vary from country to country.

Yet the OECD indicates that the outlook for 2023 is most uncertain. On a positive note, the end of Covid-19 lockdowns in China paved the way for a more rapid recovery than anticipated. What is more, the pent-up demand in numerous economies may generate stronger catch-up effects and inflation will perhaps retreat more quickly than expected.

On the other hand, there is a risk that Russia's war on Ukraine will escalate further. On financial markets, it is possible that surprisingly high inflation numbers will lead to greater volatility. Financial strategies developed during the long period of ultra-low interest rates could throw up unexpected problems in this new environment. Many emerging countries could similarly face difficulties, especially commodity-importing economies. Higher interest rates, the strong US dollar and deteriorating terms of trade are making it difficult to service high foreign debt loads and reduce external trade deficits.

Last but not least, further geopolitical fragmentation could hamper economic progress. The Covid-19 pandemic also remains a risk factor for the world economy. The OECD warns that new waves of the virus could soften private consumption or aggravate supply chain shortages.

Growth in gross domestic product (GDP) **M 97**

in %	2022 (provisional calculation)	2023 (forecast)	2024 (forecast)
Economic areas			
World economy	3.1	2.2	2.7
Eurozone	3.3	0.5	1.4
Selected countries			
USA	1.8	0.5	1.0
China	3.3	4.6	4.1
India	6.6	5.7	6.9
Japan	1.6	1.8	0.9
Germany	1.8	-0.3	1.5

Source: OECD Economic Outlook, Volume 2022, Issue 2: preliminary version

United States

Real GDP is set to increase by just 0.5% in 2023 according to OECD projections. Growth will likely be slowed by high inflation and the deteriorating financial framework conditions because the Federal Reserve appears poised to further hike interest rates in the course of the year, albeit in smaller increments. Along with domestic production, demand for labour and wage growth will slow.

Even though the pressure on prices is gradually easing, it will probably be 2024 before core inflation heads towards the US central bank's target of 2%. The OECD expects private investment, particularly in housing construction, to decline further in response to softer demand and higher interest rates.

Growth forecasts are at risk if inflationary pressure proves to be more stubborn than anticipated and the Federal Reserve were to adopt an even tighter monetary policy. Heavily indebted companies, in particular, would lose out if this happened. On the other hand, an easing in supply chain issues and commodity prices could take the pressure off inflation considerably more quickly than currently anticipated.

Europe

The OECD forecasts that the Eurozone economy will likely come under pressure in 2023 from multiple sides all at once, causing GDP growth to soften to 0.5%. Along with high energy and food prices, the negative factors include waning consumer confidence, possible supply chain bottlenecks and the effects of the ECB's restrictive interest rate policy. Despite appreciable wage growth, real disposable incomes will probably fall and drag on private consumption in the face of consumer price inflation of 6.8%. Only minimal impetus can be anticipated from capital expenditures, which are being slowed by softening demand. Even though projections for individual countries differ widely, fiscal policy in the Eurozone will tend to be restrictive. While many countries have rolled out programmes to help private households and companies better shoulder the higher cost of energy and food, the OECD nevertheless fears that such measures will have only a modest impact in the absence of common policies and coordination. Additional interest rate hikes will probably drive the ECB's main refinancing operations rate as high as 4.25% in the second quarter of 2023.

Growth forecasts rank Germany as one of the biggest losers in 2023. The OECD expects economic output to shrink by 0.3%. The experts at the ifo Institute for Economic Research, on the other hand, anticipate minimal growth of 0.1%. This is based on the assumption that high inflation and fading consumer confidence are weighing on consumers and private investment will remain muted in the face of economic uncertainties and rising interest rates. Potential gas rationing poses a considerable risk to the economy, although the supply situation has eased of late. Higher interest rates could also adversely affect the real estate sector. On the other hand, a swift end to the Ukraine war would open up an entirely new scenario.

Expectations are similarly unfavourable for the United Kingdom, where economic output is forecast to decline by 0.4%. Loss of purchasing power and the more restrictive monetary policy will likely drag on private consumption, while rising interest rates are putting the brakes on the real estate sector. No significant impetus is anticipated from corporate investments owing to the higher cost of capital and uncertain situation. On the other hand, the OECD expects public sector spending to rise, with increased expenditures for infrastructure and climate-related projects. A risk factor here is a more protracted labour shortage, which would compel companies to limit their production capacities. Further progress on trade agreements could, however, help to support growth.

Asia

According to the OECD, the major emerging economies in Asia will together account for almost three-quarters of global GDP growth in 2023. In China, it believes that increasing investment in infrastructure will to some extent offset softer real estate investments. In addition, with monetary and fiscal policy tilted towards the expansionary side, economic output is likely to grow by 4.6% in 2023. Exports will probably only increase slightly in light of muted global growth prospects, with more robust growth not likely until 2024.

India is set to shine again in 2023 with above-average rates of growth, even though the country will be unable to escape the global downturn. The OECD expects GDP growth to slow to 5.7%. While consumer prices are still high for the time being, the rate of increase should drop below the upper limit of 6% defined by the central bank as the year progresses.

Economic growth in Asia's major industrial nations should slow less abruptly than in other regions. In Japan GDP is even forecast to rise by 1.8% (previous year: 1.6%). While higher energy prices will put the brakes on real household incomes and corporate investments, fiscal policy will likely tend to have a supportive effect and lessen the impacts of external shocks. At the same time, the Bank of Japan will probably stay with its accommodative fiscal policy because it attributes the rise in inflation beyond the 2% target to outside factors.

Capital markets

In contrast to the previous years, 2023 will likely be dictated to a far lesser extent by the pandemic. In this context, it will doubtless be most important to look towards China when it comes to answering the question of how global supply chains are returning to normal. The war in Ukraine, on the other hand, with its implications for global energy, commodity and food supplies, will probably be a more significant influencing factor. In this respect, it is especially important to evaluate the extent to which increasingly emerging geopolitical tensions will fuel tendencies towards deglobalisation and the formation of blocks. High inflation will likely continue to be a key factor affecting capital markets in 2023, although levels are expected to be lower than in 2022. Particularly where inflation is concerned, central bank policy will be a pivotal element for the economy and capital markets alike. Following the about-turn in the previous expansionary policy executed in the year under review, central banks in 2023 will have to manage the difficult balancing act of keeping inflation in check while at the same time not disrupting the still fragile economic momentum.

Along with the progressive march of digitalisation, the necessary efforts to bring greater efficiency to the supply of energy and raw materials will likely have a positive effect on the economy. On capital markets, a somewhat higher level of interest rates and continued elevated volatility on equity and credit markets are anticipated. Markets for alternative and real asset classes should see a stable development with a modestly downward tendency. Should interest rates move lower again as the year progresses, however, renewed appreciation pressure in these asset classes is likely. Diminishing catch-up effects are anticipated on the consumption side. Investment demand in the goods sector will probably tend to be muted, whereas in the service sector it should develop positively.

As a consequence of the unusual capital market constellations seen in the past year and the prevailing geopolitical tensions, market players are no longer consistently guided by fundamentals.

Insurance industry

Geopolitical risks and stubbornly high inflation will probably present the greatest challenges for international (re)insurers in 2023. Along with the war in Ukraine, relations between the United States and China may shape the geopolitical landscape. Even though the pace of inflation should gradually ease, the pressure on prices in 2023 will likely remain higher than over the long-term average. In the medium term, higher interest rates can be expected to have a positive effect on investment performance.

Inflation will continue to play an important role in the renewals in property and casualty reinsurance during 2023. This applies not only to the cost of claims that have to be settled. The anticipated sustained level of inflation will also necessitate expanded limits of liability. This is happening at a time when some providers are restricting their reinsurance capacity, especially for catastrophe covers. The assumption therefore remains that reinsurers will be operating in a robust supplier market and rates will continue to rise substantially in 2023.

Climate change and the associated increase in extreme climatic events will remain a central theme for the insurance industry in 2023. As a risk carrier, it is particularly affected by progressive global warming because the risk of severe natural disasters – and hence also large property losses – is rising.

When it comes to digitalisation, central issues will likely be the automation of business processes, the entry into the market of new competitors, changes in methods of communication and new forms of marketing. Industry collaboration with insurtechs looks set to keep on growing. What is more, data analytics can be used to better evaluate risks, individualise pricing and improve claims management as well as underwriting performance. Last but not least, digitalisation is opening up an extensive business segment for the insurance industry in the form of protection against cyber risks. In an increasingly networked, data-dependent business world, the need for insurance solutions to cover potential losses from hacker attacks is growing.

Property & Casualty reinsurance

Overview

The treaty renewals in property and casualty reinsurance as at 1 January 2023 passed off very successfully. Hannover Re achieved far-reaching and significant improvements in prices and conditions. The inflation- and risk-adjusted price increase on the renewed business averaged 8.0%, with prices in non-proportional reinsurance rising far more strongly than in proportional reinsurance.

Of the total premium volume booked in the previous year on an underwriting-year basis amounting to EUR 15,543 million in traditional property and casualty reinsurance (excluding facultative reinsurance, ILS business and structured reinsurance), treaties with a volume of altogether EUR 9,870 million – or 63% of the business – were up for renewal as at 1 January 2023.

Hannover Re renewed a premium volume of EUR 8,494 million, while treaties worth EUR 1,376 million were either cancelled or renewed in modified form. Including increases of EUR 576 million from new treaties and from changes in prices and treaty shares, the total renewed premium volume came in at EUR 9,798 million and was thus a modest 0.7% below the previous year's level.

Adjusted for the sharp surge in inflation rates, the pricing momentum eased in many lines of primary insurance. Non-proportional reinsurance therefore fared comparatively more favourably than proportional business, which is linked directly to market developments on the primary side. Hannover Re responded by growing its book of non-proportional reinsurance in the renewals by 21.4% to a premium volume of EUR 3,162 million. The risk-adjusted price increase stood at 20.7%. In proportional reinsurance we scaled back shares after the vigorous growth of prior years and hence reduced the business by 8.7% to EUR 6,636 million. The price increase here amounted to 3.4% after risk adjustment.

In part because of the ongoing considerable losses from natural catastrophes, the renewal of our retrocession covers proved challenging. Based on our long-standing cooperation with our retrocessionaires, we were nevertheless able to arrange a more extensive retrocession programme compared to the previous year, which for the first time also includes a proportional reinsurance solution to protect our cyber risks. We thus covered our requirements according to our risk appetite. Risk-adjusted prices showed an increase in line with market developments that reflected the loss expenditures.

Property & Casualty reinsurance: Forecast development for 2023 **M 98**

	Volume [1]	Profitability [2]
Regional Markets		
Europe, Middle East and Africa (including CIS countries) [3]	→	++
Americas [3]	→	++
Asia-Pacific [3]	↘	+
Worldwide Markets		
Structured Reinsurance and Insurance-Linked Securities	↗	++
Facultative Reinsurance	↗	+
Credit, Surety and Political Risks	→	+
Aviation and Marine	↘	+
Agricultural Risks	→	+

[1] In EUR, development in original currencies can be different
[2] ++ = significantly above the cost of capital
+ = above the cost of capital
+/– = cost of capital earned
– = below the cost of capital
[3] All lines of business except those stated separately

Expectations for the development of individual markets and lines in property and casualty reinsurance are described in greater detail below.

Regional Markets

Europe, Middle East and Africa

In **Continental Europe** we were again able to obtain significantly higher prices and improved conditions across all lines of business in the 1 January treaty renewals, especially for loss-affected covers in Germany and France. Demand for high-quality reinsurance protection remains brisk.

Increasing exposures in the primary insurance market coupled with major uncertainties are further boosting demand for reinsurance. Against a backdrop of tighter capacities worldwide, this has already led to appreciable price rises for reinsurance coverage of natural catastrophes. In view of these influencing factors, we do not expect to see any softening in market conditions over the short term.

For 2023 Hannover Re anticipates strong growth on the primary market in **Germany** compared to the previous year. Premium in the motor line is expected to grow against the backdrop of rising claims burdens after two flat years. In homeowners' insurance the sharp increase in the construction price index promises further premium growth in 2023. The considerable economic uncertainties are also necessitating further adjustments in industrial business. In view of the existing uncertainties on the underwriting side, we have decided to withdraw from treaties if we do not find the conditions to be adequate. This applied only in carefully selected cases and thus serves to reduce our exposure.

After the areas of telematics and cyber had been overshadowed somewhat of late by developments around natural perils covers, we expect these topics to come back into sharper focus in 2023. Questions regarding the influence of climate change on the insurability of natural perils risks as well as the further development and implementation of sustainability criteria in the insurance industry remain highly relevant.

In the **United Kingdom, Ireland and the London Market** we achieved price increases in all major reinsurance lines in the treaty renewals as at 1 January 2023. Continued, sometimes very appreciable, hardening is expected on the original market in 2023.

The positive pricing trend in the **Middle East** lagged behind on account of the relatively slight exposure to natural disasters and a comparatively low frequency of large losses in recent years. Our premium volume in the Middle East and in our retakaful business should therefore remain stable. For 2023 we are planning to further enlarge our product range. We shall continue to stress the importance of selective underwriting in order to preserve the profitability of our portfolio.

In **South Africa** the treaty renewals for 2023 brought considerable improvements compared to previous years. For the first time, South Africa is also viewed by the international reinsurance market more in terms of its exposure than as a diversifying factor. The available capacity has been significantly reduced accordingly and we are increasingly seeing rates that are commensurate with the risks. With this in mind, we expect participations in catastrophe covers to grow substantially.

Americas

Building on the improvements in conditions achieved in previous years, the treaty negotiations in **North America** as at 1 January 2023 brought additional adjustments. Tighter reinsurance capacities as a consequence of numerous catastrophe losses worldwide had positive effects on reinsurance prices and conditions. Improvements in property lines were considerably more marked than in liability lines. Although loss payments will probably be driven higher by inflation, we expect a clear increase in margins for our written portfolio in 2023. Our diversified positioning combined with close customer relationships will continue to enable us to act on market opportunities as the preferred reinsurance partner for our customers and reinsurance brokers.

In **Latin America** we are still seeing growing awareness of the exposure to natural catastrophes and rising demand for corresponding covers. This is accompanied by stronger interest in parametric covers. The trend towards improved rates and conditions was sustained in the renewals as at 1 January 2023. Large parts of the traditional property and casualty reinsurance portfolio in Latin America are, however, only renewed by Hannover Re later in the year, most notably in the 1 July main renewal season. All in all, we are looking for further robust improvement in conditions on the reinsurance market against a backdrop of lower capacities.

Asia-Pacific

The **Asia-Pacific** region is evolving into one of the largest insurance markets globally. This growth is opening up further significant business opportunities, not least because the insurance density is still lower than in more mature markets. In the short term we expect to see consolidation in the business coupled with a greater focus on profitability. We responded by scaling back our premium volume in the renewals as at 1 January 2023. Over the medium to long term, we nevertheless continue to anticipate substantial growth in property and casualty reinsurance in the APAC region.

As far as the pandemic-related losses in accident and health insurance are concerned, we expect to see a sharp reduction in loss advices given that the relevant reinsurance treaties were already terminated in the year under review.

For the renewals as at 1 April 2023 we are looking for appreciably improved reinsurance conditions and prices, as already observed in the 1 January renewals. Treaties affected by the pandemic or other losses should see especially positive changes.

Bearing in mind the government actions taken in response to the spread of the Covid-19 omicron variant in early December, experts anticipate a relatively severe wave of the pandemic in China. Once this has been overcome, however, economic development should take a significantly more positive turn, barring any further deterioration in the international geopolitical situation.

As in the past, the profitability of our business in China remains paramount and we are prepared to further reduce our market share in case of doubt. At the same time, we are seeing a clear tendency towards improved profitability in the market due to corresponding pressure exerted by capital providers, regulators and market players. It is our expectation that the Chinese insurance industry will improve considerably over the coming three to five years.

The major reinsurers have recalibrated their risk models and hence their risk assessment and exposures for the coverage of typhoon risks in Japan. The increase in prices for industrial and fire business already recorded in the previous year looks set to continue.

In Australia we anticipate significant rate adjustments on both the original and reinsurance market for 2023, first and foremost in natural catastrophe business following the historic flood damage of 2022.

Worldwide Markets

Structured Reinsurance and Insurance-Linked Securities

Given significant market hardening in property business – especially in North America and Europe –, we expect continued rising demand at attractive conditions in **structured reinsurance**. The worldwide capacity shortage resulted in markedly improved prices and conditions; further growth in the business is therefore to be expected, especially on the non-proportional side.

In the area of **insurance-linked securities (ILS)** we anticipate rising demand over the long term. Investors are seeking a minimal correlation with other financial investments and hence greater diversification. We are responding to this demand with a strong emphasis on service, offering individually tailored solutions for the transfer of property and life reinsurance risks to the capital market. Over the coming years we expect further growth in business volumes not only in collateralised reinsurance but also when it comes to supporting catastrophe bond issues and in the transfer of life reinsurance risks. All in all, we are looking for our ILS activities to deliver a positive and consistently rising profit contribution. The capital market also remains a very important element in our own retrocession protection.

Facultative Reinsurance

In **facultative reinsurance** we see sustained attractive market conditions for the current financial year. We are looking for further growth and rising demand based on the shortage of capacity in traditional reinsurance.

Considerable growth potential is still evident in Asia and we are expanding our activities accordingly. Yet in other regions, too, we shall press ahead on our growth track in facultative business.

Sustainability remains an increasingly prominent issue that is very much aligned with our corporate strategy and our corporate values. At the heart of our approach is our striving to avoid facilitating unsustainable practices in economic activity through our reinsurance support and to actively assist the transformation to a sustainable economy through facultative reinsurance coverage.

Credit, Surety and Political Risks

In view of the global economic challenges, it is to be expected that loss ratios – which have been comparatively low to date – will increase modestly in some countries in 2023 and prices will pick up for the **credit, surety and political risks** line on both the insurance and reinsurance side. A good result is expected for 2023.

Aviation and Marine

Aviation insurance will likely present a mixed picture in 2023: given the unchanged high capacity available in the airline segment, the market environment will probably not improve directly despite rising reinsurance costs. A similar situation is emerging in the product liability segment. In general aviation business we expect the positive trend of the previous years to be sustained, even though it will likely flatten out.

Turning to our reinsurance portfolio, our rigorous underwriting approach – especially with an eye to the conflict in Ukraine – is again expected to lead to a loss of business. What will likely be a smaller portfolio will, however, be written with an unchanged focus on profitability and will also benefit from pricing and contractual improvements on the market. Lease agreements with Russian airlines, among other things, may be affected by the war in Ukraine and associated sanctions. The coverage issues raised between insurers and insureds are currently being clarified in the courts.

Sharply higher prices and restructuring moves under reinsurance programmes are anticipated for the various rounds of treaty renewals in 2023 in the **marine segment**. We are confident that we can build on our strong market position and keep the business on a profitable footing for Hannover Re going forward, as we have in the past.

Agricultural Risks

Overall, we are looking for a qualitative improvement in our portfolio of **agricultural risks** for 2023. After the loss-making years in the past, we shall adopt a rigorously profit-driven approach to our underwriting. We were able to push through rate increases in the renewals as at 1 January 2023 and expect further appreciable improvements in the treaty renewals during the year. At the same time, we have reduced our exposure to drought, frost and wildfires in regions threatened by climate change. A substantial improvement in reinsurance conditions and an increase in the retentions carried by primary insurers are also needed.

We engage both in traditional reinsurance and in intensified cooperation with our customers and partners on the development of innovative tools for primary insurance. Index-linked products and parametric covers, which can also be used to mitigate adverse impacts of climate change, offer growth potential. In addition, the more widespread implementation of public-private partnerships opens up new opportunities to write profitable business in markets that have still to establish themselves as well as to close protection gaps, especially in emerging and developing countries.

Life & Health reinsurance

For the 2023 financial year we anticipate additional pandemic-related strains in life and health reinsurance, albeit on a reduced scale. We have placed an extreme mortality cover on the capital market as partial protection against extreme mortality. Aside from the challenges associated with the pandemic and the persistent intense competition, we nevertheless still see attractive opportunities in life and health reinsurance for robustly capitalised reinsurers such as Hannover Re. Additional opportunities should open up in response to the generally high level of customer demand, regulatory requirements and rising interest rates, especially in the areas of longevity covers and financial solutions.

In **Financial Solutions** business it is our assumption that the favourable trend on markets such as Asia will continue. Special mention should be made here of China, where – as in the preceding years – we see considerable potential for 2023.

Turning to the **Longevity Solutions** reporting category, it is our expectation that coverage of longevity-related risks will remain a focus of attention and interest in corresponding solutions will continue to grow – not only in the UK.

In the area of **Mortality and Morbidity Solutions**, the consequences of the Covid-19 pandemic will likely continue to negatively affect results – albeit on a significantly reduced scale.

In the area of **Underwriting Services** it is our expectation that our automated underwriting systems "hr | ReFlex" and "hr | Quirc" will continue to stimulate considerable interest among our customers as part of the progressive march towards digitalisation.

Our customers increasingly see Hannover Re no longer as just a pure risk carrier, but rather as an expert and financially strong partner that stands ready to support them with its worldwide know-how as they face up to a diverse range of issues.

Life & Health reinsurance: Forecast development for 2023 **M 99**

	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
+/– = cost of capital earned
– = below the cost of capital

Investments

Given the uncertainties associated with geopolitical developments and the waning of the pandemic, we shall continue to invest major parts of our asset holdings conservatively. Currently, we believe that certain risks to global economic growth are not yet adequately reflected in credit spreads and equity prices. We are nevertheless monitoring markets very closely with an eye to attractive entry opportunities. By maintaining the most neutral possible modified duration, we shall ensure that the interest rate risk is tightly managed.

The good operating cash flow based on the expected favourable development of business should be reflected in an enlarged asset portfolio and have a positive effect on investment income. The interest rate increases observed during the reporting period in our main currency areas are also beneficial in this respect.

In view of the continued lower level of returns overall on high-quality investments, we shall press ahead with our activities relating to products offering attractive credit spreads and step them up opportunistically in some cases. With this in mind, we also intend to somewhat expand the portfolio of real assets or financing of such asset classes, although we shall maintain a particular focus going forward – as in the past – on attractive risk-return profiles against the backdrop of the new interest rate landscape. We similarly intend to selectively grow our exposure, as appropriate, to the areas of private equity and emerging markets.

If the valuation levels of listed equities experience significant corrections and stabilise, we are prepared to moderately increase the equity portfolio.

Due to adoption of the new accounting standard IFRS 9, we expect the income statement for investments to show increased market-driven volatility and somewhat reduced predictability going forward. This is because the fair value changes of a significantly larger part of the investments have to be recognised directly in profit or loss in the future.

Outlook for the 2023 financial year

In view of the continued positive market climate for reinsurers, Hannover Re expects Group net income under IFRS 17 to grow to at least EUR 1.7 billion for the 2023 financial year. The new financial reporting standards IFRS 17 and IFRS 9 will be applied for the first time in the preparation of the consolidated financial statement for 2023. Based on constant exchange rates, the growth in reinsurance revenue under IFRS 17 should be at least 5% and the return generated on investments under own management should reach at least 2.4%.

In response to the growth in the book of property and casualty reinsurance and the increased loss expectancy from natural catastrophes, Hannover Re has raised its net major loss budget for 2023 to EUR 1.725 billion (EUR 1.4 billion).

In **property and casualty reinsurance** we expect moderate growth in reinsurance revenue for the current financial year based on constant exchange rates. We shall retain unchanged our selective underwriting policy, under which in large part we write only business that satisfies our margin requirements.

Thanks to our good rating, our long-standing stable customer relationships and our low expense ratio, we should be able to generate another good result in property and casualty reinsurance, provided the burden of large losses remains within our expectations.

As a consequence of the accounting transition to IFRS 17, it is our expectation that the discounting of technical liabilities, in particular, will have a clearly positive effect on the combined ratio, which will be opposed by interest accretion in the insurance finance income. The specific implications depend on the corresponding movements in interest rates. For 2023 we expect property and casualty reinsurance to contribute around EUR 1.6 billion to the operating profit (EBIT).

Growth in reinsurance revenue is expected to be moderate in **life and health reinsurance** for the current financial year based on constant exchange rates, although it will be lower than in property and casualty reinsurance. The accounting transition to IFRS 17 will boost the contribution to the operating result by an amount in the mid- to high-double-digit millions. The contribution made by life and health reinsurance to the operating result (EBIT) should come in around EUR 750 million.

In view of the expected positive cash flow that we generate from the technical account and the investments themselves, and assuming roughly stable exchange rates and interest rate levels, our portfolio of **investments** should continue to show moderate growth.

For the 2023 financial year we again expect to achieve a return on equity above our minimum target, which we define as an additional 1,000 basis points above the five-year average return on ten-year German government bonds. As far as the solvency ratio is concerned, we continue to anticipate a level in excess of our minimum 200% target.

As usual, all forward-looking statements regarding future targets are based on the assumption that there are no unforeseen distortions on capital markets, that major loss expenditure remains within the budgeted level and that the Covid-19 pandemic has no further significant effect on the result in life and health reinsurance.

It is envisaged that the ordinary dividend will at least be on a par with the previous year. The ordinary dividend will be supplemented by a special dividend provided the capitalisation exceeds the level required for future growth and the earnings guidance is achieved.

Consolidated financial statements

Consolidated balance sheet as at 31 December 2022

Assets

in EUR thousand	Notes	31.12.2022	31.12.2021
Fixed-income securities – held to maturity	6.1	48,630	48,632
Fixed-income securities – loans and receivables	6.1	2,401,499	2,443,629
Fixed-income securities – available for sale	6.1	44,729,477	45,473,677
Fixed-income securities – at fair value through profit or loss	6.1	127,591	81,308
Equity securities – available for sale	6.1	15,060	314,453
Other financial assets – at fair value through profit or loss	6.1	458,746	248,233
Investment property	6.1	2,319,332	1,818,754
Real estate funds	6.1	945,531	805,912
Investments in associated companies and joint ventures	6.1	2,225,514	238,110
Other invested assets	6.1	1,812,802	2,941,633
Short-term investments	6.1	532,184	443,793
Cash and cash equivalents	6.1	1,323,175	1,355,114
Total investments and cash under own management		**56,939,541**	**56,213,248**
Funds withheld	6.2	11,000,479	10,803,071
Contract deposits	6.3	538,374	503,412
Total investments		**68,478,394**	**67,519,731**
Reinsurance recoverables on unpaid claims	6.7	3,313,370	2,674,107
Reinsurance recoverables on benefit reserve	6.7	228,091	192,039
Prepaid reinsurance premium	6.7	224,605	204,597
Reinsurance recoverables on other technical reserves	6.7	493	2,703
Deferred acquisition costs	6.4	3,578,805	3,350,633
Accounts receivable	6.4	8,340,530	7,207,750
Goodwill	6.5	77,365	83,933
Deferred tax assets	7.5	1,874,202	676,344
Other assets	6.6	814,723	972,167
Accrued interest and rent		21,791	18,248
Total assets		**86,952,369**	**82,902,252**

Liabilities

in EUR thousand	Notes	31.12.2022	31.12.2021
Loss and loss adjustment expense reserve	6.7	46,864,378	40,777,703
Benefit reserve	6.7	7,115,757	7,541,881
Unearned premium reserve	6.7	6,653,586	6,195,961
Other technical provisions	6.7	1,066,543	841,591
Funds withheld	6.8	711,726	632,195
Contract deposits	6.9	3,364,679	3,586,740
Reinsurance payable		2,822,161	2,380,681
Provisions for pensions	6.10	153,757	208,750
Taxes	7.5	191,228	92,023
Deferred tax liabilities	7.5	2,617,631	2,836,374
Other liabilities	6.11	1,132,849	681,867
Financing liabilities	6.12	5,510,361	4,370,255
Total liabilities		**78,204,656**	**70,146,021**
Shareholders' equity			
Common shares	6.13	120,597	120,597
Nominal value: 120,597 Conditional capital: 24,119	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		(3,015,404)	1,768,312
Cumulative foreign currency translation adjustment		598,266	366,231
Changes from hedging instruments		177	(8,618)
Other changes in cumulative other comprehensive income		(36,596)	(71,851)
Total other comprehensive income		**(2,453,557)**	**2,054,074**
Retained earnings		9,699,372	8,985,770
Equity attributable to shareholders of Hannover Rück SE		**8,090,974**	**11,885,003**
Non-controlling interests	6.14	656,739	871,228
Total shareholders' equity		**8,747,713**	**12,756,231**
Total liabilities		**86,952,369**	**82,902,252**

Consolidated statement of income 2022

in EUR thousand	Notes	1.1.–31.12.2022	1.1.–31.12.2021
Gross written premium	7.1	33,275,528	27,762,314
Ceded written premium		3,319,647	2,905,054
Change in gross unearned premium		(299,694)	(737,631)
Change in ceded unearned premium		16,527	24,023
Net premium earned		**29,672,714**	**24,143,652**
Ordinary investment income	7.2	1,978,883	1,555,591
Profit/loss from investments in associated companies and joint ventures	7.2	111,783	35,743
Realised gains and losses on investments	7.2	99,263	281,026
Change in fair value of financial instruments	7.2	(2,223)	36,114
Total depreciation, impairments and appreciation of investments	7.2	194,137	87,665
Other investment expenses	7.2	168,942	146,047
Net income from investments under own management		**1,824,627**	**1,674,762**
Income/expense on funds withheld and contract deposits	7.2	236,224	268,250
Net investment income		**2,060,851**	**1,943,012**
Other technical income	7.3	–	114
Total revenues		**31,733,565**	**26,086,778**
Claims and claims expenses	7.3	22,609,448	18,617,725
Change in benefit reserves	7.3	(266,465)	(298,645)
Commission and brokerage, change in deferred acquisition costs	7.3	7,108,935	5,788,582
Other acquisition costs		5,792	4,767
Administrative expenses	7.3	575,758	510,707
Total technical expenses		**30,033,468**	**24,623,136**
Other income	7.4	1,038,964	774,816
Other expenses	7.4	651,614	503,631
Other income and expenses	7.4	387,350	271,185
Operating profit/loss (EBIT)		**2,087,447**	**1,734,827**
Financing costs	6.12	91,078	83,037
Net income before taxes		**1,996,369**	**1,651,790**
Taxes	7.5	453,630	351,569
Net income		**1,542,739**	**1,300,221**
thereof			
Non-controlling interest in profit and loss	6.14	136,005	68,887
Group net income		**1,406,734**	**1,231,334**
Earnings per share (in EUR)	**8.5**		
Basic earnings per share		11.66	10.21
Diluted earnings per share		11.66	10.21

Consolidated statement of comprehensive income 2022

in EUR thousand	1.1.–31.12.2022	1.1.–31.12.2021
Net income	**1,542,739**	**1,300,221**
Not reclassifiable to the consolidated statement of income		
Actuarial gains and losses		
Gains (losses) recognised directly in equity	56,524	19,291
Tax income (expense)	(18,028)	(6,094)
	38,496	**13,197**
Changes from the measurement of associated companies		
Gains (losses) recognised directly in equity	–	96
	–	**96**
Income and expense recognised directly in equity that cannot be reclassified		
Gains (losses) recognised directly in equity	56,524	19,387
Tax income (expense)	(18,028)	(6,094)
	38,496	**13,293**
Reclassifiable to the consolidated statement of income		
Unrealised gains and losses on investments		
Gains (losses) recognised directly in equity	(6,750,682)	(537,235)
Transferred to the consolidated statement of income	44,250	(254,497)
Tax income (expense)	1,695,678	277,353
	(5,010,754)	**(514,379)**
Currency translation		
Gains (losses) recognised directly in equity	335,946	798,672
Transferred to the consolidated statement of income	(81,653)	–
Tax income (expense)	(16,587)	(92,474)
	237,706	**706,198**
Changes from the measurement of associated companies and joint ventures		
Gains (losses) recognised directly in equity	(12,430)	(1,493)
Transferred to the consolidated statement of income	–	915
	(12,430)	**(578)**
Changes from hedging instruments		
Gains (losses) recognised directly in equity	10,120	299
Tax income (expense)	(1,289)	(238)
	8,831	**61**
Reclassifiable income and expense recognised directly in equity		
Gains (losses) recognised directly in equity	(6,417,046)	260,243
Transferred to the consolidated statement of income	(37,403)	(253,582)
Tax income (expense)	1,677,802	184,641
	(4,776,647)	**191,302**
Total income and expense recognised directly in equity		
Gains (losses) recognised directly in equity	(6,360,522)	279,630
Transferred to the consolidated statement of income	(37,403)	(253,582)
Tax income (expense)	1,659,774	178,547
	(4,738,151)	**204,595**
Total recognised income and expense	**(3,195,412)**	**1,504,816**
thereof		
Attributable to non-controlling interests	(94,515)	72,507
Attributable to shareholders of Hannover Rück SE	(3,100,897)	1,432,309

Consolidated statement of changes in shareholders' equity 2022

in EUR thousand	Common shares	Additional paid-in capital	Other reserves (cumulative other comprehensive income) Unrealised gains/losses	Other reserves (cumulative other comprehensive income) Currency translation
Balance as at 1.1.2021	**120,597**	**724,562**	**2,275,936**	**(330,693)**
Net income	–	–	–	–
Total income and expense recognised directly in equity	–	–	(507,624)	696,924
Total recognised income and expense	**–**	**–**	**(507,624)**	**696,924**
Dividends paid	–	–	–	–
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	–	–	–	–
Balance as at 31.12.2021	**120,597**	**724,562**	**1,768,312**	**366,231**
Balance as at 1.1.2022	**120,597**	**724,562**	**1,768,312**	**366,231**
Net income	–	–	–	–
Total income and expense recognised in equity	–	–	(4,783,716)	232,035
Total recognised income and expense	**–**	**–**	**(4,783,716)**	**232,035**
Dividends paid	–	–	–	–
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	–	–	–	–
Balance as at 31.12.2022	**120,597**	**724,562**	**(3,015,404)**	**598,266**

Continuation: Other reserves (cumulative other comprehensive income)		Retained earnings	Equity attributable to shareholders of Hannover Rück SE	Non-controlling interests	Total shareholders' equity
Hedging instruments	Other				
(8,678)	**(83,792)**	**8,297,114**	**10,995,046**	**844,370**	**11,839,416**
–	–	1,231,334	1,231,334	68,887	1,300,221
60	11,615	–	200,975	3,620	204,595
60	**11,615**	**1,231,334**	**1,432,309**	**72,507**	**1,504,816**
–	–	(542,687)	(542,687)	(45,793)	(588,480)
–	–	384	384	172	556
–	326	(326)	–	–	–
–	–	–	–	313	313
–	–	–	–	(341)	(341)
–	–	(49)	(49)	–	(49)
(8,618)	**(71,851)**	**8,985,770**	**11,885,003**	**871,228**	**12,756,231**
(8,618)	**(71,851)**	**8,985,770**	**11,885,003**	**871,228**	**12,756,231**
–	–	1,406,734	1,406,734	136,005	1,542,739
8,795	35,255	–	(4,507,631)	(230,520)	(4,738,151)
8,795	**35,255**	**1,406,734**	**(3,100,897)**	**(94,515)**	**(3,195,412)**
–	–	(693,434)	(693,434)	(30,045)	(723,479)
–	–	267	267	2	269
–	–	–	–	(89,831)	(89,831)
–	–	–	–	31	31
–	–	–	–	(131)	(131)
–	–	35	35	–	35
177	**(36,596)**	**9,699,372**	**8,090,974**	**656,739**	**8,747,713**

Consolidated cash flow statement 2022

in EUR thousand	1.1.–31.12.2022	1.1.–31.12.2021
I. Cash flow from operating activities		
Net income	1,542,739	1,300,221
Appreciation/depreciation	271,527	150,664
Realised gains and losses on investments and on deconsolidation	(228,459)	(290,932)
Change in fair value of financial instruments (through profit or loss)	2,223	(36,114)
Amortisation	(355,418)	(45,907)
Changes in funds withheld	(89,780)	(514,338)
Changes in contract deposits	(391,066)	(41,422)
Change in prepaid reinsurance premium	283,031	713,607
Change in tax assets/provisions for taxes	346,844	241,332
Change in benefit reserve	(400,644)	(136,539)
Change in claims reserves	4,710,260	4,312,687
Change in deferred acquisition costs	(186,081)	(106,018)
Change in other technical provisions	215,851	104,705
Change in accounts receivable/payable	(780,119)	(844,022)
Change in other assets and liabilities	223,451	132,538
Cash flow from operating activities	**5,164,359**	**4,940,462**

in EUR thousand	1.1.–31.12.2022	1.1.–31.12.2021
II. Cash flow from investing activities		
Fixed-income securities – held to maturity		
Maturities	6	135,125
Fixed-income securities – loans and receivables		
Maturities, sales	289,710	310,648
Purchases	(223,753)	(345,506)
Fixed-income securities – available for sale		
Maturities, sales	17,266,942	18,401,741
Purchases	(22,047,153)	(23,910,783)
Fixed-income securities – at fair value through profit or loss		
Maturities, sales	1,670	39,192
Purchases	(49,445)	(6,970)
Equity securities – available for sale		
Sales	401,346	154,476
Purchases	(130,955)	(25,144)
Equity securities – at fair value through profit or loss		
Purchases	(1,198)	–
Other financial assets – at fair value through profit or loss		
Sales	85,994	58,999
Purchases	(198,839)	(25,815)
Other invested assets		
Sales	2,270,040	1,551,915
Purchases	(2,559,799)	(1,356,674)
Affiliated companies and participating interests		
Sales	34,240	224,603
Purchases	(41,058)	(87,164)
Real estate and real estate funds		
Sales	122,511	249,030
Purchases	(761,193)	(558,290)
Short-term investments		
Changes	(80,710)	(100,508)
Other changes	238,871	30,063
Cash flow from investing activities	**(5,382,773)**	**(5,261,062)**

in EUR thousand	1.1.–31.12.2022	1.1.–31.12.2021
III. Cash flow from financing activities		
Contribution from capital measures	31	313
Payment on capital measures	(131)	(341)
Structural change without loss of control	269	556
Dividends paid	(723,479)	(588,480)
Proceeds from long-term debts	894,517	881,102
Repayment of long-term debts	(37,990)	(15,592)
Other changes (net)	35	(49)
Cash flow from financing activities	**133,252**	**277,509**
IV. Exchange rate differences on cash	**53,223**	**120,134**
Cash and cash equivalents at the beginning of the period	**1,355,114**	**1,278,071**
Change in cash and cash equivalents (I.+II.+III.+IV.)	**(31,939)**	**77,043**
Cash and cash equivalents at the end of the period	**1,323,175**	**1,355,114**
Supplementary information on the cash flow statement[1]		
Income taxes paid (on balance)	(70,881)	(137,064)
Dividend receipts[2]	245,677	326,072
Interest received	1,651,729	1,538,887
Interest paid	(413,758)	(418,895)

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 2022

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 33.3 billion, Hannover Re is the third-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 3,500. 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 Re.

Hannover Rück Beteiligung Verwaltungs-GmbH and FUNIS GmbH & Co. KG, both subsidiaries of Hannover Rück SE, made use of the option to be exempted from disclosure pursuant to § 264 Para. 3 German Commercial Code (HGB) and § 264b German Commercial Code (HGB).

The consolidated financial statement reflects all IFRS in force as at 31 December 2022 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 88 to 92 "Underwriting risks in property and casualty reinsurance/Underwriting risks in life and health reinsurance" and to pages 93 to 97 "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.

Hannover Re is publishing its consolidated financial statement as at 31 December 2022 in accordance with the provisions of the German ESEF Implementation Act (European Single Electronic Format).

The present consolidated financial statement was released for publication by a resolution of the Executive Board on 7 March 2023.

New accounting standards or accounting standards applied for the first time

No amendments to existing standards were applied in the 2022 financial year that would have had significant implications for Hannover Re's net assets, financial position or results of operations.

Standards or changes in standards that have not yet entered into force or are not yet applicable

The IASB published IFRS 17 "Insurance Contracts" in May 2017 and issued further amendments and additions to the standard in June 2020 and December 2021. Mandatory initial application of the standard, which was endorsed by the EU in November 2021, was deferred to financial years beginning on or after 1 January 2023.

IFRS 17 replaces the existing transitional arrangements of IFRS 4 and establishes a comprehensive accounting framework for the recognition, measurement and disclosure of insurance contracts, reinsurance contracts and investment contracts with discretionary participation features. In addition, IFRS 17 requires extensive new disclosures in the notes.

The standard introduces three new measurement models, the basis being the "general measurement model" (GMM). The "variable fee approach" (VFA) is a variant of the general measurement model for contracts with direct participation features and is not applicable to reinsurance business. The "premium allocation approach" (PAA) is a simplified method that can be used by insurers and reinsurers when certain criteria are met. Hannover Re's portfolio contains both contracts that qualify for the premium allocation approach and – predominantly – contracts for which the general measurement model is to be applied. For operational reasons and to achieve consistent and comparable presentation and measurement within the portfolio of insurance and reinsurance contracts, Hannover Re will apply the general measurement model to its entire business.

The general measurement model measures assets and liabilities from reinsurance business by the fulfilment cash flows plus the contractual service margin. The fulfilment cash flows, for their part, constitute the risk-adjusted present value of the rights and obligations from a reinsurance treaty and are comprised of the estimates of expected future cash flows, their discounting and an explicit risk adjustment for non-financial risks. If the present value of the expected future cash inflows exceeds the present value of the expected future cash outflows plus the risk adjustment, an expected profit exists that is recognised in the contractual service margin (CSM). Initial balance sheet recognition of contracts expected to be profitable thus has no effect on profit or loss. The subsequent measurement of the contractual service margin reflects the rendering of a service in the form of insurance contract service. The insurance contract service consists of the payment in case of occurrence of the insured event and the policyholder's participation in income generated on the capital market through investment of paid insurance premiums. An amount is released from the CSM to profit or loss in the corresponding reporting periods for the provision of this service and recognised in the statement of income as part of the insurance revenue. So-called "coverage units" are used to measure this service in a reporting period. These coverage units are based on the quantities of benefits provided in the reporting period relative to those expected to be provided over the contract duration in order to determine the service rendered for the period. We select the coverage units for each insurance transaction in such a way that they optimally reflect the service provided in each case.

However, for groups of contracts where the sum of the present value of expected future cash outflows and the risk adjustment exceeds the present value of the expected future cash inflows, we recognise the loss expected at time of acquisition directly in profit or loss in the so-called "loss component".

Hannover Re will discount all cash flows using currency-specific, risk-free yield curves that are adjusted to reflect the respective characteristics of the cash flows and the liquidity of the underlying insurance contracts ("bottom-up approach"). The illiquidity premium used in this context is based on risk-adjusted spreads of corporate and government bonds. These adjustments, which take the form of a supplementary illiquidity premium per currency, satisfy the following requirements / assumptions:

- The illiquidity of the underlying insurance contracts is defined through the predictability of the resulting cash flows, since the harder it is to predict a cash flow, the less it lends itself to coverage with illiquid assets.
- All characteristics of an insurance contract (or a group of insurance contracts) can be fully described and measured through the characteristics of its resulting cash flows.
- The uncertainties in cash flows that may be caused by volatility in financial market parameters are captured in the estimation of future expected cash flows, instead of implicitly reflecting them through adjustment of the risk-free and completely illiquid yield curve by reducing the illiquidity premium.
- The illiquidity premiums are estimated on the basis of liquidity premiums for financial assets observable on the market that are adjusted to reflect the illiquidity characteristics of the cash flows on the liabilities side. The illiquidity premiums used in this context are based on risk-adjusted spreads of corporate and government bonds.

The non-financial risk adjustment for a group of insurance contracts reflects the amount of compensation needed to carry the uncertainty surrounding the amount and timing of the cash flows that arise out of the non-financial risk – such as the insurance risk itself, the cost risk and in particular the risk associated with policyholder behaviour. Hannover Re uses a "pricing margin approach" to determine the risk adjustment. This approach refers to the fact that the question of the necessary compensation for the uncertainty of the cash flows is already answered in connection with the premium calculation. The loadings determined here form the risk adjustment pursuant to IFRS 17. The provisions of IFRS 17 open up the option of recognising discounting effects within the non-financial risk adjustment not separately in the insurance finance result but rather together with the release of the risk adjustment within the technical result. The option is exercised in the property and casualty reinsurance segment.

As a general principle, insurance contracts are grouped together and measured on an aggregated level. For this purpose, the first step is to define portfolios containing contracts with similar risks that are managed together. In a second step, these portfolios are to be split into groups of contracts according to profitability criteria and annual cohorts. Under IFRS 17 there is a requirement to group contracts into such time buckets. In the context of the EU endorsement, however, an option to build annual cohorts was granted for certain types of contracts. Hannover Re will not use this EU exemption.

The standard must be applied retrospectively unless this is "impracticable" (IFRS 17.C3). In this case, especially if an adequate data basis for retrospective application is not available, it is possible to apply either a modified retrospective approach or a fair value approach on the level of the group of contracts. Using adequately robust information that is available without unreasonable effort, the modified retrospective approach is intended to arrive at an overall result that approximates retrospective application. In connection with application of the modified retrospective approach, the following main simplifications were utilised:

- Contracts issued in intervals of more than one year are combined
- No distinction is made between purchased insurance portfolios and directly written business
- Use of a yield curve approximating the estimated yield curve for at least three years directly prior to the date of transition to IFRS 17 that is based on the general approach used for calculating discount rates
- Restatement of the non-financial risk adjustment in the amount of the release of the non-financial risk adjustment expected prior to 1 January 2022 based on comparable contracts
- The OCI for the technical reserves as at 1 January 2022 is determined as the difference between the technical reserves discounted at the interest rate from the year of acquisition of the contracts and at the current rate on the closing date. Overall, the balance of the technical OCI positions and the investment OCI positions produces the OCI from investments not used to cover underwriting liabilities.

Under the fair value approach, the contractual service margin of a group of contracts at the transition date is established as the difference between the fair value of this group calculated according to IFRS 13 and the corresponding fulfilment cash flows calculated according to IFRS 17.

Hannover Re will apply each of the aforementioned transition arrangements, differentiated according to certain groups of contracts. Measured by their net technical liability, the proportion of contracts for which the full retrospective approach was used was around 36%. The modified retrospective approach and the fair value approach were applied to roughly 26% and roughly 38% of the portfolio respectively.

The application of IFRS 17 will have a number of implications for the structure of the consolidated balance sheet. In addition to the changed technical items under the general measurement model, certain items that are currently reported separately will be eliminated and in future recognised under the reinsurance liabilities in accordance with the general model. This is the case, for example, with the deferred acquisition costs, the reinsurance recoverables and funds withheld.

Furthermore, the standard fundamentally changes the consolidated statement of income and differentiates between the underwriting result, which is composed of the insurance revenue and insurance expense, and the insurance finance income and expenses.

Gross written premium will no longer be disclosed, instead being replaced with insurance revenue that is defined in such a way as to facilitate comparison with the revenue disclosures of other sectors. Neither savings/investment components nor certain ceding commissions can be recognised in the insurance revenue in future. Insurance revenue is instead reported when it is earned by recognising in each period the change in the liabilities for providing coverage for which the insurance entity receives compensation as well as the part of the premiums that covers acquisition costs.

Insurance finance income and expenses result from discounting effects and financial risks. In accordance with the option granted by IFRS 17 they can either be recognised entirely as profit or loss in the statement of income or in part directly in equity. This “OCI option” can be exercised on the level of individual portfolios and will be utilised by Hannover Re for a large part of its business.

Changes in assumptions about future cash flows that do not relate to interest rates or financial risks are not recognised directly in the statement of income but are instead booked against the contractual service margin and hence spread across the remaining coverage period. Recognition in profit or loss is only immediate in the case of those groups of insurance contracts that are expected to be loss-making. If this adjustment to the contractual service margin exceeds its carrying amount, a loss component is established analogously to the initial recognition of groups of contracts that are expected to be loss-making and recognised directly in profit or loss. Conversely, it may happen that a contractual service margin is established in the context of subsequent measurement of a group of contracts originally classified as probably loss-making.

Hannover Re’s multi-year, centrally managed IFRS 17 project, in which the implications of the standard – including the interaction with IFRS 9 – for the consolidated financial statement were explored and the necessary implementation steps initiated, continued to move forward in the course of the financial year. The elaboration of the accounting bases and implementation of the extensive requirements in the Group’s processes and systems have been completed, while documentation and analyses remain ongoing. The opening balance sheet and provisional quarterly closings in accordance with IFRS 17 were drawn up in the year under review. Internal quality assurance and the review by the independent auditor continue until the closing date. For this reason, at the date of publication of this consolidated financial statement it is not yet possible to definitively quantify the effects on the Group’s IFRS 17 opening balance sheet and subsequent reporting periods. At the transition date of 1 January 2022, based on the current status of analyses, the initial application of IFRS 17 gives rise to the following changes in the measurement of key items in the balance sheet:

The amount of the technical liabilities and assets changes due the concepts enshrined in the standard relating to the discounting of future cash flows, the establishment of the contractual service margin, loss components and risk adjustment and other measurement differences compared to IFRS 4, including for example the diverging definition of contract boundaries or the aforementioned grouping of contracts for measurement purposes.

In property and casualty reinsurance there is only a minimal change overall in the amount of the net technical liabilities. While the discounting of cash flows reduces the net liability, this effect is moderate owing to what is normally the short duration of the contracts. The effect of discounting is offset by recognition of the contractual service margin, the loss component, the risk adjustment and other measurement effects.

The technical liabilities in the life and health reinsurance segment are expected to increase significantly. This is due primarily to the measurement of portfolios in the US and Asian markets as well as from the United Kingdom.

Reduced by the mitigating effect of deferred taxes, a decline of some EUR 2.5 billion in the reported equity for Hannover Re can be attributed largely to the transition to measurement according to IFRS 17 rather than IFRS 4. The main driver of this effect is the low level of interest rates prevailing as at 1 January 2022. The difference is significantly smaller over the course of 2022 as interest rates rise.

The reduction in the reported equity is opposed by the establishment of the contractual service margin, representing the present value of expected future profits. For Hannover Re, this will likely far exceed the amount of the decrease in reported equity at the transition date.

The retention – insofar as this is possible under IFRS 17 – of the reserving approach hitherto adopted by Hannover Re will result in the recognition of a loss component for some groups of contracts at the time of initial recognition, although this may even out over time and lead to run-off profits.

IFRS 9 "Financial Instruments" will replace IAS 39 "Financial Instruments: Recognition and Measurement", which is currently used by Hannover Re. IFRS 9 contains new rules for classifying and measuring financial assets, for recognition of impairment based on a new, forward-looking model of the expected losses and for the accounting of general hedge relationships.

Initial mandatory application of the standard was envisaged for annual reporting periods beginning on or after 1 January 2018. However, the IASB published "Amendments to IFRS 4: Applying IFRS 9 Financial Instruments with IFRS 4 Insurance Contracts" in September 2016 and "Amendments to IFRS 4: Extension of the Temporary Exemption from Applying IFRS 9" in June 2020. These amendments extended the temporary deferral of initial application of IFRS 9 "Financial Instruments" that had been granted to insurers and reinsurers ("deferral approach") until 1 January 2023, with the result that IFRS 9 and IFRS 17 will be first applied by Hannover Re at the same time.

In order to be able to take advantage of the temporary deferral, it was necessary to demonstrate that Hannover Re's predominant activity is the issuance of insurance and reinsurance contracts within the scope of IFRS 4. Hannover Re reviewed the application requirements based on the consolidated financial statement as at 31 December 2015 with a positive outcome and decided to make use of the deferral approach. Since the review of the application requirements there has been no change in business activity that would have necessitated a re-evaluation of the predominant activity.

While the retrospective application of IFRS 17 provides for the presentation of comparative information for the 2022 financial year, this is not the case with initial application of IFRS 9. By issuing "Amendment to IFRS 17 Insurance Contracts; Initial Application of IFRS 17 and IFRS 9 – Comparative Information" in December 2021, the IASB therefore introduced a transition option relating to comparative information about financial assets that is presented on initial application of IFRS 17.

This option is intended to help entities avoid temporary accounting mismatches between financial assets and insurance contract liabilities in the 2022 comparative year, thereby improving the usefulness of comparative information for users of financial statements. It allows for an overlay in the classification of financial assets in the comparative period that is presented on initial application of IFRS 17 ("overlay approach"). This overlay makes it possible to classify all financial assets, including those not connected with contracts within the scope of IFRS 17, on a case-by-case basis in the comparative period in a way that corresponds to how the entity expects to classify these assets on initial application of IFRS 9. Hannover Re intends to apply this approach, including the provisions of IFRS 9 regarding impairment losses, consistently to all eligible financial assets.

Hannover Re anticipates implications primarily from the classification of financial assets. The classification is guided, on the one hand, by the cash flow characteristics of the financial assets and, on the other, by the business model used to manage the financial assets. It is anticipated that the portfolio of financial assets measured at fair value through profit or loss will increase as a consequence of the new classification rules. This may lead to greater volatility of results in future financial years.

At the transition date of 1 January 2022 we expect the changeover in the recognition of financial assets to have a positive effect of around EUR 130 million on the amount of equity. This derives primarily from the changeover in the measurement of certain financial assets at amortised cost to measurement at fair value.

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 results of operations:

Further IFRS Amendments and Interpretations N 06

Published	Titel	Initial application to annual periods beginning on or after the following date:
January/July 2020	Amendments to IAS 1 Presentation of Financial Statements: Classification of Liabilities as Current or Non-current and Classification of Liabilities as Current or Non-current – Deferral of Effective Date	
February 2021	Amendments to IAS 1 Presentation of Financial Statements and IFRS Practice Statement 2: Disclosure of Accounting policies	1 January 2023 (still to be endorsed by the EU)
February 2021	Amendments to IAS 8 Accounting policies, Changes in accounting Estimates and Errors: Definition of Accounting Estimates	1 January 2023 (still to be endorsed by the EU)
May 2021	Amendments to IAS 12 Income Taxes: Deferred Tax related to Assets and Liabilities arising from a Single Transaction	1 January 2023 (still to be endorsed by the EU)
September 2022	Amendments to IFRS 16 Leases: Lease Liability in a Sale and Leaseback	1 January 2024 (still to be endorsed by the EU)

3. Accounting policies

3.1 Summary of major accounting policies

Reinsurance contracts: 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.

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. With the amendments to IFRS 17 published in June 2019 and June 2020, the IASB ultimately proposed a deferral of the date of initial application to 1 January 2023 as well as further content-related amendments to the standard.

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		
Forward exchange transactions, foreign exchange swaps, non-deliverable 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
Cross-currency swaps	Yield curve, currency spot rates	Present value method
Total return swaps	Listing of underlying, 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 in the case of 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 and joint ventures 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.

Repurchase agreements (repo transactions): fully collateralised, term repurchase agreements (repos) are entered into as a supplementary liquidity management tool. In this context the Group sells securities and at the same time commits to repurchase them at a later date for an agreed price. Given that the material risks and opportunities associated with the financial instruments remain within the Group, we continue to recognise these assets. The repurchase commitment arising out of the payment received is accounted for under "sundry liabilities"; any difference between the amount received for the transfer of the securities and the amount agreed for their repurchase is spread across the term of the repo using the effective interest rate method and shown in investment income.

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.

Right-of-use assets from lease contracts are measured at amortised cost in the amount of the initial measurement of the lease liability (cf. here the paragraph below), adjusted by prepaid lease payments, lease incentives received, initial direct costs incurred and probable restoration costs.

Right-of-use assets are amortised on a straight-line basis over the term of the lease contract.

Revenue from contracts with customers is realised when control of the promised goods or services is transferred to the customer. The amount of revenue realised corresponds to the consideration that the Group expects to receive in return for the transfer of goods or services to the customer. Under its contracts that fall within the scope of application of IFRS 15 the Group generally acts as a principal, because it normally controls the services or goods before transferring them to the customer.

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.

Financing liabilities consist of liabilities from lease contracts and above all long-term debt and notes payable. In some instances these 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.

Lease liabilities are initially measured at the present value of essentially all lease payments that are not variable or dependent on an index or (interest) rate. The discount factor used is the implicit interest rate of the lease contract or the lessee's incremental borrowing rate.

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:	31.12.2022	31.12.2021	2022	2021
	Mean rate of exchange on the balance sheet date		Average rate of exchange	
AUD	1.5710	1.5596	1.5188	1.5800
BHD	0.4025	0.4277	0.3985	0.4469
CAD	1.4449	1.4491	1.3763	1.4882
CNY	7.3650	7.2297	7.0861	7.6408
GBP	0.8872	0.8393	0.8538	0.8617
HKD	8.3241	8.8474	8.2743	9.2128
INR	88.3048	84.3918	82.8122	87.5195
KRW	1,345.4700	1,348.4900	1,352.0823	1,352.9939
MYR	4.7017	4.7381	4.6302	4.8966
SEK	11.1118	10.2351	10.6253	10.1461
USD	1.0675	1.1344	1.0570	1.1853
ZAR	18.0975	18.0275	17.2599	17.6160

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.

Risks connected with the impacts of climate change are of great significance to a reinsurance company's business model. The estimation of occurrence probabilities and loss amounts for climate-related storms, floods or droughts is a major integral component of our risk management system. It exerts a considerable influence on our underwriting policy for catastrophe-exposed risks and requires appropriate risk capital to be kept available. Physical risks such as extreme weather events and their consequences as well as long-term changes in climatic and environmental conditions, such as precipitation amounts, the rise in sea levels or the increase in average temperatures, can also affect the value of our real estate holdings or the measurement of securities in our investment portfolio.

Along with the influence of these physical risks, the measurement of our investment portfolio is also subject to transition risks as a consequence of climate change. Transition risks refer to those risks connected with the effects of climate change that result from the shift towards a low-carbon economy. This transition is initiated and supported by political regulatory policies. Insofar as such regulatory measures negatively affect, for example, issuers of shares or corporate bonds in our asset portfolio, there are corresponding implications for the measurement of these instruments.

All in all, the evaluation of climate risks is considered inter alia in the context of the impairment test for non-financial assets, including goodwill pursuant to IAS 36, in the determination of the useful life and residual value of assets pursuant to IAS 16 or IAS 38 as well as in the establishment of provisions and the disclosure of contingent liabilities pursuant to IAS 37 and IFRS 4.

Estimates and assumptions are also significant in connection with the ongoing Covid-19 pandemic. 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.

The repercussions of the Covid-19 pandemic continued to heavily influence the entire global economy in the year under review and hence also had implications for Hannover Re's consolidated financial statement. Against the backdrop of the pandemic, the critical issues in the areas of investments, goodwill impairment and reinsurance obligations, in particular, were subjected to closer analysis. For further information, we would refer to our explanatory remarks in section 6.5 "Goodwill", 7.2 "Investment income" and 7.3 "Reinsurance result".

The conflict in Ukraine also gave rise to estimation uncertainties in the reporting period. We conducted probability-weighted scenario analyses for all relevant lines of business, taking into consideration all market insights available to us at the present moment in time and using them to determine our reserves on the basis of our own estimates. The affected lines at the balance sheet date primarily encompass political violence and other property covers, political risk, marine and aviation. Altogether, Hannover Re recorded loss expenditure of EUR 331 million in the financial year. The range of potential loss scenarios remains considerable and can result in significantly higher loss payments at a later point in time in the event of adverse developments not currently anticipated or unfavourable court decisions. In particular, legal uncertainties continue to surround the status of leased aircraft still in Russia. In this regard, however, we similarly do not expect Hannover Re to incur any substantial loss payments. Business with Russian cedants has been discontinued in conformity with existing sanctions regulations. We reduced our holdings of securities of Russian and Ukrainian issuers in the year under review, and impairment losses were also taken on Russian and Ukrainian bonds pursuant to IAS 39. For further information we would refer to our explanatory remarks in section 7.2 «Investment income» and 7.3 «Reinsurance result».

The conflict in Ukraine and its impacts had implications for worldwide commodity and energy prices and hence also for inflation rates. Inflation is factored into our reserving process at least on the basis of average inflation rates in past years. Furthermore, premium calculations make allowance for realistic inflation assumptions and additional provisions are established in the reserving for individual underwriting years, thereby also enabling us to offset inflationary trends to some extent. In addition, a substantial part of the business is protected against adverse inflation effects by index clauses. The Hannover Re Group's investment portfolio contains inflation-linked bonds, which protect against some of the negative effects of inflation. A scenario analysis was carried out to ensure that adequate allowance is made for inflation in the technical reserves. The various scenarios for a future inflation trend were compared with the historically observed inflation to estimate a possible impact on the technical reserves. Scenarios involving more protracted higher inflation are among those considered. Currently, however, it is our expectation that inflation rates will be elevated for the next three years and remain slightly above the historical average over the long term.

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 88 et seq. of the management report – 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 test 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 6.7 "Technical provisions" 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

Von der Konsolidierung ausgenommen sind lediglich Toch- 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. If investments in subsidiaries are retained and a loss of control exists, measurement effects recognised for these subsidiaries in the other reserves in conformity with IFRS 10 are entirely released to profit or loss rather than merely pro rata in the amount of the interests disposed of. 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 and joint ventures using the equity method of accounting. We therefore measure investments in associated companies and joint ventures with the proportion of the shareholders' equity attributable to the Group. According to the proportionate interest method required by IAS 28 "Investments in Associates and Joint Ventures", the goodwill attributable to associated companies and joint ventures is recognised together with the investments in associated companies and joint ventures. The share of the year-end profit or loss of an associated company or joint venture 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 latest available financial statement of the associated company or joint venture. 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 or joint venture from representation on a governing body of such entity, 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 entity. Further particulars on companies consolidated using the equity method of accounting are provided in section 6.1 "Investments under own management" under the subsection "Associated companies and joint ventures".

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 13 (12) companies at home and abroad were not consolidated in the year under review. A further 3 (3) individual companies were not included at equity in the consolidated financial statement for the same reason. The business object of these altogether 16 (15) 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	2022	2021
Consolidated companies (Group companies)		
Germany	11	11
Abroad	113	104
Total	**124**	**115**
Companies included at equity		
Germany	3	2
Abroad	4	4
Total	**7**	**6**

Altogether 16 companies were newly added to the scope of consolidation in the financial year just ended, while seven companies were removed from the scope of consolidation.

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.

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 information is the list of shareholdings in accordance with § 313 Para. 2 German Commercial Code (HGB). We make use of the exemptions pursuant to § 313 Para. 3 German Commercial Code (HGB). The stipulations of IFRS 12.10 and IFRS 12.21 have also been observed. With regard to the major acquisitions and disposals in the year under review, please see our remarks in the following subsections of this section.

List of shareholdings **N 10**

Name and registered office of the company	Proportionally calculated participation in %
Domestic companies	
Affiliated consolidated companies	
Hannover Rück Beteiligung Verwaltungs-GmbH, Hannover/Germany	100.00
FUNIS GmbH & Co. KG, Hannover/Germany	100.00
Hannover Re Global Holding GmbH, Hannover/Germany	98.24
Hannover RE AA PE Partners III GmbH & Co. KG, Hannover/Germany	98.24
Hannover Re Global Alternatives GmbH & Co. KG, Hannover/Germany	94.72
Hannover Re Euro RE Holdings GmbH, Hannover/Germany	87.68
cor F 25. GmbH & Co.KG, Berlin/Germany	87.68
HR GLL Central Europe GmbH & Co. KG, Munich/Germany	87.67
HR GLL Central Europe Holding GmbH, Munich/Germany	87.67
HR AI Komplementär GmbH, Hannover/Germany	82.40
E+S Rückversicherung AG, Hannover/Germany	64.79
Affiliated non-consolidated companies	
HILSP Komplementär GmbH, Hannover/Germany	100.00
mertus 313. GmbH, Frankfurt/Germany	87.68
Associated companies and joint ventures	
MR Beteiligungen 23. GmbH, Munich/Germany	46.95
WeHaCo Unternehmensbeteiligungs-GmbH, Hannover/Germany	32.96
HANNOVER Finanz GmbH, Hannover/Germany	27.78
Other participations	
Hannover America Private Equity Partners II GmbH & Co. KG, Hannover/Germany	13.79
Hannover Re Euro PE Holdings GmbH & Co. KG, Hannover/Germany	13.18
Neue SEBA Beteiligungsgesellschaft mbH, Nürnberg/Germany	12.07
Internationale Schule Hannover Region GmbH, Hannover/Germany	9.17
FinLeap GmbH, Berlin/Germany	8.41
ELEMENT Insurance AG, Berlin/Germany	6.08
VST Gesellschaft für Versicherungsstatistik mit beschränkter Haftung, Hannover/Germany	5.89
Foreign companies	
Affiliated consolidated companies	
Hannover Finance (Luxembourg) S.A., Röser/Luxembourg	100.00
Hannover Finance (UK) Limited, London/United Kingdom	100.00
Hannover Re Holdings (UK) Ltd., London/United Kingdom	100.00
Hannover Life Reassurance Company of America, Orlando/USA	100.00
Hannover Life Reassurance Company of America (Bermuda) Ltd., Hamilton/Bermuda	100.00
Hannover Re (Ireland) Designated Activity Company, Dublin/Ireland	100.00
Hannover Life Re of Australasia Ltd, Sydney/Australia	100.00
Hannover Re (Bermuda) Ltd., Hamilton/Bermuda	100.00
Hannover ReTakaful B.S.C. (c), Manama/Bahrain	100.00
Hannover Services (UK) Limited, London/United Kingdom	100.00
Inter Hannover (No. 1) Limited, London/United Kingdom	100.00
Integra Insurance Solutions Limited, Bradford/United Kingdom	100.00
Argenta Holdings Limited, London/United Kingdom	100.00
Argenta Private Capital Limited, London/United Kingdom	100.00
APCL Corporate Director No. 1 Limited, London/United Kingdom	100.00
APCL Corporate Director No. 2 Limited, London/United Kingdom	100.00

Name and registered office of the company	Proportionally calculated participation in %
Fountain Continuity Limited, Edinburgh/United Kingdom	100.00
Names Taxation Service Limited, London/United Kingdom	100.00
Argenta Secretariat Limited, London/United Kingdom	100.00
Argenta Continuity Limited, London/United Kingdom	100.00
Argenta General Partner Limited, Edinburgh/United Kingdom	100.00
Argenta General Partner II LLP, Edinburgh/United Kingdom	100.00
Argenta LLP Services Limited, London/United Kingdom	100.00
Argenta SLP Continuity Limited, Edinburgh/United Kingdom	100.00
Argenta Syndicate Management Limited, London/United Kingdom	100.00
Argenta Tax & Corporate Services Limited, London/United Kingdom	100.00
Argenta Underwriting No. 1 Limited, London/United Kingdom	100.00
Argenta Underwriting No. 2 Limited, London/United Kingdom	100.00
Argenta Underwriting No. 3 Limited, London/United Kingdom	100.00
Argenta Underwriting No. 4 Limited, London/United Kingdom	100.00
Argenta Underwriting No. 7 Limited, London/United Kingdom	100.00
Argenta Underwriting No. 9 Limited, London/United Kingdom	100.00
Argenta Underwriting No. 10 Limited, London/United Kingdom	100.00
Argenta Underwriting No. 11 Limited, London/United Kingdom	100.00
Residual Services Limited[2], London/United Kingdom	100.00
Residual Services Corporate Director Limited, London/United Kingdom	100.00
Argenta Underwriting Asia Pte. Ltd., Singapore/Singapore	100.00
Glencar Underwriting Managers, Inc., Chicago/USA	100.00
Glencar Insurance Company, Orlando/USA	100.00
Kubera Insurance (SAC) Ltd, Hamilton/Bermuda	100.00
Leine Investment General Partner S.à r.l., Luxembourg/Luxembourg	100.00
Leine Investment SICAV-SIF, Luxembourg/Luxembourg	100.00
LI RE, Hamilton/Bermuda	100.00

Name and registered office of the company	Proportionally calculated participation in %
Fracom FCP[3], Paris/France	100.00
Hannover Finance, Inc., Wilmington/USA	100.00
Sand Lake Re, Inc., Burlington/USA	100.00
Hannover Reinsurance Group Africa (Pty) Ltd., Johannesburg/South Africa	100.00
Hannover Re South Africa Limited, Johannesburg/South Africa	100.00
Hannover Africa Limited, Johannesburg/South Africa	100.00
Compass Insurance Company Limited, Johannesburg/South Africa	100.00
Annuity Reinsurance Cell A1, Hamilton/Bermuda	100.00
Argenta Underwriting (Europe) Limited, Dublin/Ireland	100.00
Hannover Re Real Estate Holdings, Inc., Orlando/USA	95.25
HR US Infra Equity LP, Wilmington/USA	95.24
320AUS LLC, Wilmington/USA	95.15
GLL HRE CORE Properties, L.P., Wilmington/USA	95.15
101BOS LLC, Wilmington/USA	95.15
402 Santa Monica Blvd, LLC, Wilmington/USA	95.15
1110RD LLC, Wilmington/USA	95.15
140EWR LLC, Wilmington/USA	95.15
7550IAD LLC, Wilmington/USA	95.15
Nashville West, LLC, Wilmington/USA	95.15
590ATL LLC, Wilmington/USA	95.15
975 Carroll Square, LLC, Wilmington/USA	95.15
Broadway 101, LLC, Wilmington/USA	95.15
River Terrace Parking, LLC, Wilmington/USA	95.15
3290ATL LLC, Wilmington/USA	95.15
1600FLL LLC, Wilmington/USA	95.15
2530AUS LLC, Wilmington/USA	95.15
7550BWI LLC, Wilmington/USA	95.15

Name and registered office of the company	Proportionally calculated participation in %
7659BWI LLC, Wilmington/USA	95.15
7653BWI LLC, Wilmington/USA	95.15
HRE Core Properties Chile Holding SpA, Santiago/Chile	95.15
Apoquindo CL SpA, Santiago/Chile	95.15
Apoquindo 5400 Chile Holding S.A., Santiago/Chile	95.15
Magdalena CL SpA, Santiago/Chile	95.15
Magdalena Chile Holding S.A., Santiago/Chile	95.15
Ombú CL SpA, Santiago/Chile	95.15
Ombú Chile Holding S.A., Santiago/Chile	95.15
M8 Property Trust, Sydney/Australia	94.72
Markham Real Estate Partners (KSW) Pty Limited, Sydney/Australia	94.72
PAG Real Estate Asia Select Fund Limited, George Town/Cayman Islands	94.72
Ubitech Hub Pte. Ltd., Singapore/Singapore	94.72
ASF Spectrum Limited, George Town/Cayman Islands	94.72
CC Aeolus Pte. Ltd., Singapore/Singapore	94.72
HR US Infra Debt LP, George Town/Cayman Islands	94.71
Peace G.K., Tokyo/Japan	93.77
Morea Limited Liabilty Company, Tokyo/Japan	93.77
Rocky G.K., Tokyo/Japan	93.77
Kaith Re Ltd., Hamilton/Bermuda	90.40
Star Grafton One S.à r.l., Luxembourg/Luxembourg	87.68
Highgate sp. z o.o., Warsaw/Poland	87.67
3541 PRG s.r.o., Prague/Czech Republic	87.67
HR GLL Roosevelt Kft, Budapest/Hungary	87.67
HR GLL Liberty Corner SPÓŁKA Z OGRANICZONĄ ODPOWIEDZIALNOŚCIĄ, Warsaw/Poland	87.67
HR GLL Griffin House SPÓŁKA Z OGRANICZONĄ ODPOWIEDZIALNOŚCIĄ, Warsaw/Poland	87.67
92601 BTS s.r.o., Bratislava/Slovakia	87.67
Akvamarín Beta s.r.o., Prague/Czech Republic	87.67
HR GLL Europe Holding S.à r.l., Luxembourg/Luxembourg	87.67
HR GLL CDG Plaza S.r.l., Bucharest/Romania	87.67
193 BCN, S.L., Madrid/Spain	87.67
Callisto, Milan/Italia	87.67
Commercial & Industrial Acceptances (Pty) Ltd., Johannesburg/South Africa	74.80
Lireas Holdings (Pty) Ltd., Johannesburg/South Africa	70.00
SUM Holdings (Pty) Ltd., Johannesburg/South Africa	70.00
Firedart Engineering Underwriting Managers (Pty) Ltd., Johannesburg/South Africa	70.00
Film & Entertainment Underwriters SA (Pty) Ltd., Johannesburg/South Africa	70.00
Transit Underwriting Managers (Pty) Ltd., Durban/South Africa	63.00
Garagesure Consultants and Acceptances (Pty) Ltd., Johannesburg/South Africa	63.00
MUA Insurance Acceptances (Pty) Ltd., Kapstadt/South Africa	59.50
Hospitality Industrial and Commercial Underwriting Managers (Pty) Ltd., Johannesburg/South Africa	59.50
Landmark Underwriting Agency (Pty) Ltd., Bloemfontein/South Africa	45.85
Real Assist (Pty) Ltd., Pretoria/South Africa	38.15
Affiliated non-consolidated companies	
HR Hannover Re, Correduría de Reaseguros, S.A., Madrid/Spain	100.00
Hannover Re Services Japan, Tokyo/Japan	100.00
Hannover Re Consulting Services India Private Limited, Mumbai/India	100.00
Hannover Services (México) S.A. de C.V., Mexico City/Mexico	100.00
Hannover Re Services USA, Inc., Itasca/USA	100.00
Hannover Mining Engineering Services LLC, Itasca/USA	100.00
Hannover Rück SE Escritório de Representação no Brasil Ltda., Rio de Janeiro/Brasil	100.00

Name and registered office of the company	Proportionally calculated participation in %
Hannover Re Risk Management Services India Private Limited, New Delhi/India	100.00
Dynastic Underwriting Limited, London/United Kingdom	100.00
Bristol Re Ltd., Hamilton/Bermuda	100.00
Hannover Re Services Italy S.r.l., Milan/Italia	100.65
Associated companies and joint ventures	
Monument Insurance Group Limited[5], Hamilton/Bermuda	20.00
Monument Midco Limited[5], Hamilton/Bermuda	24.35
Investsure Technologies Proprietary Limited, Johannesburg/South Africa	26.35
Clarendon Transport Underwriting Managers (Pty) Ltd., Johannesburg/South Africa	22.87
Inqaku FC (Pty) Ltd, Port Elizabeth/South Africa	14.72
Other participations	
Reaseguradora del Ecuador S.A., Guayaquil/Equador	30.00
Kopano Ventures (Pty) Ltd[4], Johannesburg/South Africa	20.34
Trinity Underwriting Managers Ltd., Toronto/Canada	19.65
FLS Group AG, Baar/Switzerland	19.73
Meribel Mottaret Limited, St. Helier/Jersey	18.96
YOUPLUS Holding AG, Freienbach/Switzerland	15.00
Mosaic Insurance Holdings Limited, Hamilton/Bermuda	14.35
Pineapple Tech (Pty) Ltd, Johannesburg/South Africa	10.28
Sureify Labs, Inc., Wilmington/USA	10.03
Acte Vie S.A., Schiltigheim/France	9.38
Different Technology (Pty) Ltd, Johannesburg/South Africa	8.61
BriteCo Inc., Dover/USA	8.14
Centaur Animal Health, Inc., Olathe/USA	6.90
Somerset Holdings International Ltd., Hamilton/Bermuda	5.25
Liberty Life Insurance Public Company Ltd, Nicosia/Cyprus	3.30
LifeQ Global Limited, Dublin/Ireland	1.71
B3i Services AG, Zurich/Switzerland	1.46

1 Further shares are held through MR Beteiligungen 23. GmbH.
2 The company holds 45 subsidiaries with capital and reserves of altogether EUR 0.7 million.
3 Investment fund
4 The company is in liquidation.
5 The company is included in measurement at equity through a consolidated financial statement.

Material branches within the Group

Hannover Rück SE maintains branches that are listed below according to the amount of gross written premium in the current financial year.

Material branches within the Group **N 11**

Group Company/Branch	Gross written premium[1]		Net income[1]	
Figures in EUR thousand	2022	2021	2022	2021
Hannover Rück SE				
Hannover Rück SE Shanghai Branch, Shanghai/China	2,099,557	2,024,182	30,060	22,122
Hannover Rueck SE Malaysian Branch, Kuala Lumpur/Malaysia	1,245,137	941,784	28,731	(38,410)
Hannover Rück SE Succursale Francaise, Paris/France	907,594	874,728	64,482	32,658
Hannover Rueck SE Australian Branch, Sydney/Australia	754,282	649,229	57,965	5,563
Hannover Rück SE Canadian Branch, Toronto/Canada	706,476	551,028	100,885	65,541
Hannover Rück SE, Tyskland Filial, Stockholm/Sweden	383,375	430,680	(4,704)	36,072
Hannover Re UK Life Branch, London/United Kingdom	366,363	353,285	(74,639)	(35,657)
Hannover Rück SE, Hong Kong Branch, Wanchai/Hong Kong	312,902	265,118	(9,385)	(24,918)
Hannover Rück SE – India Branch, Mumbai/India	262,601	199,076	7,447	13,398
Hannover Rueck SE Bahrain Branch, Manama/Bahrain	166,244	124,701	26,961	15,651
Hannover Rück SE Korea Branch, Seoul/South Korea	46,195	46,936	2,571	1,368

[1] IFRS figures before consolidation.

In addition, other companies belonging to the Hannover Re Group maintain further branches 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 2,729.8 million (EUR 4,587.4 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. The volume of these transactions is derived from the book values of the respective investments and amounted to EUR 125.5 million (EUR 77.5 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 370.0 million (EUR 398.5 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 5,988.9 million (EUR 4,730.9 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 6,182.7 million (EUR 4,550.0 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 the uncollateralised exposure limit amounted to EUR 1,864.8 million (EUR 1,174.1 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 43.7 million (EUR 38.4 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

	31.12.2022		
in EUR thousand	General investing activities	Investment in catastrophe bonds (ILS)	Retrocession incl. securitisations and ILS transactions
Assets			
Fixed-income securities – held to maturity	341	–	–
Fixed-income securities – loans and receivables	5,485	–	–
Fixed-income securities – available for sale	2,038,812	–	–
Fixed-income securities – at fair value through profit or loss	–	125,504	–
Equity securities – available for sale	15,060	–	–
Real estate and real estate funds	617,602	–	–
Other invested assets	52,529	–	–
Reinsurance recoverables on unpaid claims	–	–	1,881,509
Prepaid reinsurance premium	–	–	75,149
Accounts receivable	–	–	38,379
Total assets	**2,729,829**	**125,504**	**1,995,037**
Liabilities			
Reinsurance payable	–	–	1,011,632
Total liabilities	**–**	**–**	**1,011,632**

Book values from business relations with unconsolidated structured entities **N 13**

in EUR thousand	31.12.2021 General investing activities	Investment in catastrophe bonds (ILS)	Retrocession incl. securitisations and ILS transactions
Assets			
Fixed-income securities – held to maturity	346	–	–
Fixed-income securities – loans and receivables	438	–	–
Fixed-income securities – available for sale	2,020,491	–	–
Fixed-income securities – at fair value through profit or loss	–	77,518	–
Equity securities – available for sale	314,453	–	–
Real estate and real estate funds	525,148	–	–
Other invested assets	1,726,487	–	–
Contract deposits	–	–	212
Reinsurance recoverables on unpaid claims	–	–	1,230,181
Prepaid reinsurance premium	–	–	76,735
Deferred acquisition costs	–	–	209,570
Accounts receivable	–	–	285,581
Total assets	**4,587,363**	**77,518**	**1,802,279**
Liabilities			
Reinsurance payable	–	–	782,835
Total liabilities	**–**	**–**	**782,835**

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.

Kubera Insurance (SAC) Ltd established a segregated account that gathered investor capital by means of issued bonds and was made available to an Australian intermediary of insurance business under a swap agreement for the financing of the latter's business. Repayment of the bonds is contingent on the development of the intermediary's business. Hannover Re is an investor in the bond through one of its subsidiaries along with other external parties. The segregated account can be used flexibly for additional rounds of financing. Hannover Re is not the owner of the segregated account.

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

On 22 December 2022 Hannover Rück SE (roughly 41.3%) and E+S Rückversicherung AG (roughly 8.7%) together purchased 50% of the shares in MR Beteiligungen 23. GmbH, a wholly owned subsidiary of Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft. Through the share purchase Hannover Rück SE and E+S Rückversicherung AG together acquired joint control of the entity with Münchener Rückversicherungs-Gesellschaft AG as defined by IFRS 11.16. In the context of the share purchase, both Hannover Rück SE and E+S Rückversicherung committed to contribute altogether 85.5% of the shares in their wholly owned companies Hannover Re Euro PE Holdings GmbH & Co. KG and Hannover America Private Equity Partners II GmbH & Co. KG (including a further subsidiary held) effective 31 December 2022. In addition, another subsidiary – HAPEP II Komplementär GmbH – was contributed in full. The contributed companies are operational businesses. The remaining capital shares in the companies are recognised as available-for-sale financial assets in accordance with IAS 39 directly in equity at fair value.

The purpose of the joint venture is, in particular, to acquire, hold and manage participations in private equity firms. The fair value of the combined private equity portfolio amounted to around EUR 3.6 billion as at the balance sheet date. The intention is to secure better access to private equity funds, obtain more allocated fund units and generate more significant co-investment opportunities. Use of the other partner's networks opens up access to more general partners. Together, it may be possible to achieve economies of scale in contract terms and conditions.

The company is classified as a joint venture because it is independent and Hannover Rück SE is merely entitled to a share of its net assets. Nor is Hannover Re liable to third parties for the company's obligations. The company is recognised at equity. The book value of the company's equity amounted to around EUR 1.9 billion as at the balance sheet date.

The contribution of the company shares and associated disposal of private equity investments resulted in a profit on deconsolidation of EUR 687 million. Of this, EUR 558 million was recognised in investment income as a realised gain on disposals. This includes both the effect according to the contribution ratio and the percentage share apportionable to the remaining company shares. The remaining profit on deconsolidation of EUR 129 million was recognised under other income / expenses.

Assets and liabilities of the contributed subsidiaries — N 14

in EUR thousand	31.12.2022
Assets	
Fixed-income securities	5,174
Other invested assets	2,184,007
Cash and cash equivalents	22,600
Deferred tax assets	17
Other assets	14,609
	2,226,407
Liabilities	
Taxes	13,063
Deferred tax liabilities	1,435
Other liabilities	1,578
	16,076
Net asset values	**2,210,331**

4.4 Major disposals and retirements

No major disposals occurred in the 2022 financial year. The number of fully consolidated subsidiaries decreased particularly due to the contribution of shares in companies to the joint venture established with Münchener Rückversicherungs-Gesellschaft AG as described in the preceding subsection.

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 16 of the management report. The report on economic position on page 21 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 acquisition of altogether 50% of the shares in MR Beteiligungen 23. GmbH referred to in the subsection on major acquisitions and new formations is allocated to the property and casualty reinsurance segment. The same is true of the shares in Hannover Re Euro PE Holdings GmbH & Co. KG, Hannover America Private Equity Partners II GmbH & Co. KG (including a further subsidiary held) and HAPEP II Komplementär GmbH contributed to the joint venture in this context.

Consolidated segment report

Segmentation of assets

in EUR thousand	Property and casualty reinsurance 31.12.2022	31.12.2021
Assets		
Fixed-income securities – held to maturity	48,289	48,286
Fixed-income securities – loans and receivables	1,871,765	1,954,457
Fixed-income securities – available for sale	35,274,068	34,837,639
Equity securities – available for sale	15,060	314,453
Financial assets at fair value through profit or loss	145,054	87,403
Other invested assets	6,349,801	5,050,754
Short-term investments	418,997	379,437
Cash	1,127,171	907,873
Total investments and cash under own management	**45,250,205**	**43,580,302**
Funds withheld	4,019,425	3,247,068
Contract deposits	2,939	3,290
Total investments	**49,272,569**	**46,830,660**
Reinsurance recoverables on unpaid claims	3,178,770	2,527,916
Reinsurance recoverables on benefit reserve	–	–
Prepaid reinsurance premium	224,398	204,456
Reinsurance recoverables on other reserves	281	1,446
Deferred acquisition costs	1,593,335	1,474,442
Accounts receivable	6,649,293	5,637,585
Other assets in the segment	4,549,828	3,157,485
Total assets	**65,468,474**	**59,833,990**

Segmentation of liabilities

in EUR thousand	31.12.2022	31.12.2021
Liabilities		
Loss and loss adjustment expense reserve	41,006,562	35,089,423
Benefit reserve	–	–
Unearned premium reserve	6,295,325	5,795,849
Provisions for contingent commissions	716,486	513,280
Funds withheld	473,371	383,106
Contract deposits	13,746	28,221
Reinsurance payable	2,022,480	1,630,320
Financing liabilities	982,601	590,751
Other liabilities in the segment	2,948,300	2,587,905
Total liabilities	**54,458,871**	**46,618,855**

N 15

Life and health reinsurance		Consolidation		Total	
31.12.2022	31.12.2021	31.12.2022	31.12.2021	31.12.2022	31.12.2021
341	346	–	–	48,630	48,632
514,685	474,123	15,049	15,049	2,401,499	2,443,629
9,441,495	10,620,228	13,914	15,810	44,729,477	45,473,677
–	–	–	–	15,060	314,453
443,087	242,138	(1,804)	–	586,337	329,541
953,378	753,655	–	–	7,303,179	5,804,409
110,761	62,923	2,426	1,433	532,184	443,793
189,659	434,657	6,345	12,584	1,323,175	1,355,114
11,653,406	**12,588,070**	**35,930**	**44,876**	**56,939,541**	**56,213,248**
6,981,054	7,556,003	–	–	11,000,479	10,803,071
535,435	500,122	–	–	538,374	503,412
19,169,895	**20,644,195**	**35,930**	**44,876**	**68,478,394**	**67,519,731**
134,600	146,191	–	–	3,313,370	2,674,107
228,091	192,039	–	–	228,091	192,039
207	141	–	–	224,605	204,597
212	1,257	–	–	493	2,703
1,985,470	1,876,191	–	–	3,578,805	3,350,633
1,691,237	1,570,165	–	–	8,340,530	7,207,750
602,076	526,930	(2,363,823)	(1,933,723)	2,788,081	1,750,692
23,811,788	**24,957,109**	**(2,327,893)**	**(1,888,847)**	**86,952,369**	**82,902,252**

5,857,816	5,688,280	–	–	46,864,378	40,777,703
7,115,757	7,541,881	–	–	7,115,757	7,541,881
358,261	400,112	–	–	6,653,586	6,195,961
350,057	328,311	–	–	1,066,543	841,591
238,355	249,089	–	–	711,726	632,195
3,350,933	3,558,519	–	–	3,364,679	3,586,740
799,681	750,361	–	–	2,822,161	2,380,681
37,480	37,787	4,490,280	3,741,717	5,510,361	4,370,255
3,529,079	3,188,682	(2,381,914)	(1,957,573)	4,095,465	3,819,014
21,637,419	**21,743,022**	**2,108,366**	**1,784,144**	**78,204,656**	**70,146,021**

Consolidated segment report

Segment statement of income	Property and casualty reinsurance	
in EUR thousand	1.1.–31.12.2022	1.1.–31.12.2021
Gross written premium	24,242,258	19,224,174
Net premium earned	21,637,390	16,623,863
Net investment income	1,470,271	1,343,056
thereof		
Change in fair value of financial instruments	2,444	2,279
Total depreciation, impairments and appreciation of investments	186,524	87,634
Income/expense on funds withheld and contract deposits	70,814	48,527
Claims and claims expenses	15,558,745	11,514,353
Change in benefit reserve	–	–
Commission and brokerage, change in deferred acquisition costs and other technical income/expenses	5,818,738	4,529,517
Administrative expenses	285,044	245,050
Other income and expenses	(93,070)	(165,713)
Operating profit/loss (EBIT)	**1,352,064**	**1,512,286**
Financing costs	2,253	2,082
Net income before taxes	**1,349,811**	**1,510,204**
Taxes	338,724	359,911
Net income	**1,011,087**	**1,150,293**
thereof		
Non-controlling interest in profit or loss	130,656	67,848
Group net income	**880,431**	**1,082,445**

N 15

	Life and health reinsurance		Consolidation		Total	
	1.1.–31.12.2022	1.1.–31.12.2021	1.1.–31.12.2022	1.1.–31.12.2021	1.1.–31.12.2022	1.1.–31.12.2021
	9,033,270	8,538,140	–	–	33,275,528	27,762,314
	8,034,999	7,519,457	325	332	29,672,714	24,143,652
	589,677	598,759	903	1,197	2,060,851	1,943,012
	(4,667)	33,835	–	–	(2,223)	36,114
	7,613	31	–	–	194,137	87,665
	165,410	219,723	–	–	236,224	268,250
	7,050,703	7,103,372	–	–	22,609,448	18,617,725
	(266,465)	(298,645)	–	–	(266,465)	(298,645)
	1,295,989	1,263,718	–	–	7,114,727	5,793,235
	290,464	265,243	250	414	575,758	510,707
	482,901	438,729	(2,481)	(1,831)	387,350	271,185
	736,886	**223,257**	**(1,503)**	**(716)**	**2,087,447**	**1,734,827**
	1,300	1,501	87,525	79,454	91,078	83,037
	735,586	**221,756**	**(89,028)**	**(80,170)**	**1,996,369**	**1,651,790**
	141,952	24,107	(27,046)	(32,449)	453,630	351,569
	593,634	**197,649**	**(61,982)**	**(47,721)**	**1,542,739**	**1,300,221**
	5,349	1,039	–	–	136,005	68,887
	588,285	**196,610**	**(61,982)**	**(47,721)**	**1,406,734**	**1,231,334**

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 are determined by the investment intent and comply 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	2022	2021
Regional origin		
Germany	9,459,687	7,520,389
United Kingdom	3,122,718	3,525,675
France	1,932,865	2,113,298
Other	6,832,943	7,888,908
Europe	**21,348,213**	**21,048,270**
USA	19,614,243	19,839,869
Other	3,346,536	2,891,774
North America	**22,960,779**	**22,731,643**
Asia	6,936,901	6,301,135
Australia	3,118,919	3,156,317
Australasia	**10,055,820**	**9,457,452**
Africa	318,444	359,741
Other	2,256,285	2,616,142
Total	**56,939,541**	**56,213,248**

Maturities of the fixed-income and variable-yield securities N 17

in EUR thousand	2022 Amortised cost[1]	2022 Fair value	2021 Amortised cost[1]	2021 Fair value
Held to maturity				
due in one year	48,289	48,294	–	–
due after one through two years	–	–	48,287	50,020
due after two through three years	–	–	–	–
due after three through four years	–	–	–	–
due after four through five years	–	–	–	–
due after five through ten years	–	–	–	–
due after more than ten years	341	124	345	128
Total	**48,630**	**48,418**	**48,632**	**50,148**
Loans and receivables				
due in one year	651,614	653,796	195,267	198,864
due after one through two years	418,334	416,407	654,345	668,913
due after two through three years	201,135	197,797	348,624	355,108
due after three through four years	349,354	346,228	136,589	147,510
due after four through five years	98,894	98,420	404,066	453,370
due after five through ten years	252,848	237,977	286,294	315,823
due after more than ten years	429,320	355,764	418,444	450,179
Total	**2,401,499**	**2,306,389**	**2,443,629**	**2,589,767**
Available for sale				
due in one year[2]	10,052,558	10,021,358	5,364,684	5,385,051
due after one through two years	3,625,275	3,518,711	3,561,972	3,597,590
due after two through three years	3,496,145	3,325,898	3,545,176	3,604,426
due after three through four years	5,282,903	4,962,047	3,318,090	3,368,832
due after four through five years	2,758,688	2,520,416	5,197,728	5,393,570
due after five through ten years	15,250,137	13,319,457	15,819,565	16,239,970
due after more than ten years	10,978,815	8,916,949	9,166,253	9,683,145
Total	**51,444,521**	**46,584,836**	**45,973,468**	**47,272,584**
Financial assets at fair value through profit or loss				
due in one year	38,089	38,089	8,882	8,882
due after one through two years	37,866	37,866	25,999	25,999
due after two through three years	45,122	45,122	37,144	37,144
due after three through four years	6,514	6,514	3,505	3,505
due after four through five years	–	–	–	–
due after five through ten years	–	–	4,606	4,606
due after more than ten years	–	–	1,172	1,172
Total	**127,591**	**127,591**	**81,308**	**81,308**

[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	2022				
	Amortised cost including accrued interest	thereof accrued interest	Unrealised gains	Unrealised losses	Fair value
Investments held to maturity					
Fixed-income securities					
Corporate securities	48,289	1,292	6	–	48,295
Covered bonds / asset-backed securities	341	1	–	218	123
Total	**48,630**	**1,293**	**6**	**218**	**48,418**

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	2021				
	Amortised cost including accrued interest	thereof accrued interest	Unrealised gains	Unrealised losses	Fair value
Investments held to maturity					
Fixed-income securities					
Corporate securities	48,287	1,292	1,733	–	50,020
Covered bonds / asset-backed securities	345	1	–	217	128
Total	**48,632**	**1,293**	**1,733**	**217**	**50,148**

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	2022				
	Amortised cost including accrued interest	thereof accrued interest	Unrealised gains	Unrealised losses	Fair value
Loans and receivables					
Debt securities issued by semi-governmental entities	702,122	10,607	4,901	63,428	643,595
Corporate securities	1,361,150	61,626	3,723	30,953	1,333,920
Covered bonds / asset-backed securities	332,877	5,949	2,297	11,650	323,524
Other	5,350	56	–	–	5,350
Total	**2,401,499**	**78,238**	**10,921**	**106,031**	**2,306,389**

Amortised cost, unrealised gains and losses and accrued interest on loans and receivables as well as their fair value N 21

in EUR thousand	2021				
	Amortised cost including accrued interest	thereof accrued interest	Unrealised gains	Unrealised losses	Fair value
Loans and receivables					
Debt securities issued by semi-governmental entities	846,636	12,514	80,541	–	927,177
Corporate securities	1,219,874	35,135	26,286	1,325	1,244,835
Covered bonds/asset-backed securities	370,427	6,337	41,646	1,010	411,063
Other	6,692	78	–	–	6,692
Total	**2,443,629**	**54,064**	**148,473**	**2,335**	**2,589,767**

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

in EUR thousand	2022				
	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	6,187,586	22,477	2,516	753,854	5,436,248
US Treasury notes	11,966,054	40,379	548	777,689	11,188,913
Other foreign government debt securities	4,661,690	31,550	10,525	262,791	4,409,424
Debt securities issued by semi-governmental entities	7,520,604	62,917	28,193	698,119	6,850,678
Corporate securities	15,468,096	137,446	4,367	2,036,706	13,435,757
Covered bonds/asset-backed securities	3,622,353	31,524	2,460	387,244	3,237,569
Investment funds	163,605	–	8,870	1,587	170,888
	49,589,988	**326,293**	**57,479**	**4,917,990**	**44,729,477**
Equity securities					
Investment funds	8,795	–	6,321	56	15,060
	8,795	**–**	**6,321**	**56**	**15,060**
Short-term investments	531,358	3,529	843	17	532,184
Total	**50,130,141**	**329,822**	**64,643**	**4,918,063**	**45,276,721**

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

in EUR thousand	2021 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	5,221,089	19,591	341,147	23,036	5,539,200
US Treasury notes	9,198,765	29,293	380,096	11,937	9,566,924
Other foreign government debt securities	4,063,095	29,735	109,036	28,855	4,143,276
Debt securities issued by semi-governmental entities	6,707,198	56,544	238,642	43,138	6,902,702
Corporate securities	15,822,175	140,205	436,579	145,887	16,112,867
Covered bonds/asset-backed securities	3,011,312	20,188	56,351	17,154	3,050,509
Investment funds	150,968	–	9,107	1,876	158,199
	44,174,602	**295,556**	**1,570,958**	**271,883**	**45,473,677**
Equity securities					
Investment funds	183,529	–	130,924	–	314,453
	183,529	**–**	**130,924**	**–**	**314,453**
Short-term investments	443,752	1,375	138	97	443,793
Total	**44,801,883**	**296,931**	**1,702,020**	**271,980**	**46,231,923**

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	Fair value before accrued interest 2022	Fair value before accrued interest 2021	Accrued interest 2022	Accrued interest 2021	Fair value 2022	Fair value 2021
Financial assets at fair value through profit or loss						
Fixed-income securities						
Corporate securities	126,634	80,696	957	612	127,591	81,308
	126,634	**80,696**	**957**	**612**	**127,591**	**81,308**
Other financial assets						
Derivatives	460,190	248,248	(1,444)	(15)	458,746	248,233
	460,190	**248,248**	**(1,444)**	**(15)**	**458,746**	**248,233**
Total	**586,824**	**328,944**	**(487)**	**597**	**586,337**	**329,541**

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 127.6 million (EUR 81.3 million) as well as derivative financial instruments in an amount of EUR 458.7 million (EUR 248.2 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	2022 Carrying amount before impairment	2022 Impairment	2021 Carrying amount before impairment	2021 Impairment
Fixed-income securities – held to maturity	48,630	–	48,632	–
Fixed-income securities – loans and receivables	2,401,499	–	2,443,629	–
Fixed-income securities – available for sale	44,835,644	106,167	45,473,910	233
Short-term investments	532,335	151	443,916	123
Equity securities – available for sale	15,060	–	314,453	–
Participating interests and other invested assets, real estate funds	2,798,951	40,618	3,780,794	33,249
Total	**50,632,119**	**146,936**	**52,505,334**	**33,605**

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	2022 AAA	AA	A	BBB	BB	B	C	Other	Total
Fixed-income securities – held-to-maturity	–	341	48,289	–	–	–	–	–	48,630
Fixed-income securities – loans and receivables	1,034,864	–	763,344	306,879	34,477	–	–	261,935	2,401,499
Fixed-income securities – available-for-sale	21,022,255	5,726,493	7,624,003	7,627,628	1,186,578	267,615	62,728	1,212,177	44,729,477
Fixed-income securities – at fair value through profit or loss	–	–	–	–	–	–	–	127,591	127,591
Total fixed-income securities	**22,057,119**	**5,726,834**	**8,435,636**	**7,934,507**	**1,221,055**	**267,615**	**62,728**	**1,601,703**	**47,307,197**

Rating structure of fixed-income securities N 27

in EUR thousand	2021 AAA	AA	A	BBB	BB	B	C	Other	Total
Fixed-income securities – held-to-maturity	–	346	48,286	–	–	–	–	–	48,632
Fixed-income securities – loans and receivables	1,175,987	40,638	759,735	244,565	43,430	–	–	179,274	2,443,629
Fixed-income securities – available-for-sale	19,660,717	6,044,440	8,093,145	8,700,797	1,389,160	354,901	23,027	1,207,490	45,473,677
Fixed-income securities – at fair value through profit or loss	–	–	–	–	–	–	–	81,308	81,308
Total fixed-income securities	**20,836,704**	**6,085,424**	**8,901,166**	**8,945,362**	**1,432,590**	**354,901**	**23,027**	**1,468,072**	**48,047,246**

The maximum credit risk of the items shown here corresponds to their carrying amounts.

Breakdown of investments by currencies N 28

in EUR thousand	2022 AUD	CAD	CNY	EUR	GBP	USD	ZAR	Other	Total
Fixed-income securities – held to maturity	–	–	–	48,289	–	341	–	–	48,630
Fixed-income securities – loans and receivables	29,587	–	796,170	1,264,169	–	311,573	–	–	2,401,499
Fixed-income securities – available-for-sale	3,597,876	1,953,340	1,896,963	10,816,601	3,000,024	20,628,589	311,930	2,524,154	44,729,477
Fixed-income securities – at fair value through profit or loss	–	–	–	–	–	127,591	–	–	127,591
Equity securities – available-for-sale	–	–	–	–	–	15,060	–	–	15,060
Other financial assets – at fair value through profit or loss	(163,399)	–	–	225,225	194,215	190,248	–	12,457	458,746
Other invested assets	84,511	–	–	4,664,839	1,778	2,002,439	6,238	543,374	7,303,179
Short-term investments, cash	138,015	63,247	179,618	194,295	227,808	725,000	118,393	208,983	1,855,359
Total	**3,686,590**	**2,016,587**	**2,872,751**	**17,213,418**	**3,423,825**	**24,000,841**	**436,561**	**3,288,968**	**56,939,541**

Breakdown of investments by currencies **N 29**

	2021								
in EUR thousand	AUD	CAD	CNY	EUR	GBP	USD	ZAR	Other	Total
Fixed-income securities – held to maturity	–	–	–	48,286	–	346	–	–	48,632
Fixed-income securities – loans and receivables	29,771	–	753,113	1,417,682	–	243,063	–	–	2,443,629
Fixed-income securities – available-for-sale	3,416,331	1,688,265	1,663,735	12,157,995	3,324,741	20,555,887	334,442	2,332,281	45,473,677
Fixed-income securities – at fair value through profit or loss	–	–	–	–	–	81,308	–	–	81,308
Equity securities – available-for-sale	–	–	–	97,594	7,880	208,979	–	–	314,453
Other financial assets – at fair value through profit or loss	(57,705)	–	–	45,800	161,715	96,990	–	1,433	248,233
Other invested assets	84,894	–	–	2,372,401	1,879	2,909,642	6,548	429,045	5,804,409
Short-term investments, cash	180,001	50,479	139,572	226,890	142,309	761,654	76,483	221,519	1,798,907
Total	3,653,292	1,738,744	2,556,420	16,366,648	3,638,524	24,857,869	417,473	2,984,278	56,213,248

The maximum credit risk of the items shown here corresponds to their carrying amounts.

Associated companies and joint ventures

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,

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,
- Inqaku FC (Pty) Ltd, Port Elizabeth, South Africa,
- Investsure Technologies Proprietary Limited, Johannesburg, South Africa.

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 not material associated companies N 30

in EUR thousand	1.1.–31.12.2022	1.1.–31.12.2021
Group share of net income from continuing operations	10,478	22,258
Group share of income and expense recognised directly in equity	1	(1,245)
Group share of total recognised income and expense	**10,479**	**21,013**

The carrying amount of the investments in non-material associated companies changed as follows in the year under review:

Investments in not material associated companies N 31

in EUR thousand	2022	2021
Net book value at 31 December of the previous year	**66,230**	**203,221**
Currency translation at 1 January	(6)	(2)
Net book value after currency translation	**66,224**	**203,219**
Additions	2,400	1,918
Disposals	–	(159,942)
Profit or loss on investments in associated companies and joint ventures	10,478	22,258
Dividend payments	7,899	–
Change recognised outside income	1	(1,245)
Currency translation at 31 December	1	22
Net book value at 31 December of the year under review	**71,205**	**66,230**

FUNIS GmbH & Co. KG, Hannover, a wholly owned subsidiary of Hannover Rück SE, holds 20% of the common shares in Monument Insurance Group Limited, Hamilton, Bermuda (MIGL). The participation is identical to the share of voting rights held and – with a seat on the Board of Directors – establishes a significant influence over MIGL. In addition, a subsidiary of MIGL has issued non-voting, non-callable preference shares in which FUNIS holds an interest of 24.4%.

MIGL is a life insurance group that specialises in acquiring and operating life insurance portfolios and companies in Europe, primarily those in run-off. Measurement at equity is based on the consolidated financial statement drawn up by the company as at 30 September in accordance with UK GAAP, which is restated if significant transactions or other events occur.

MIGL – condensed balance sheet N 32

in EUR thousand	2022	2021
Current assets	1,370,497	578,232
Non-current assets	10,991,344	7,763,746
Current liabilities	1,221,903	183,436
Non-current liabilities	10,301,889	7,412,058
Equity at 30 September	838,049	746,484
Updated equity at 31 December	1,258,717	791,969
thereof non-controlling interests	59,443	–

MIGL – reconciliation to book values N 33

in EUR thousand	2022	2021
Updated equity at 1 January	791,969	699,124
Capital increase	–	300,308
Capital decrease	–	187,766
Net income	515,523	47,363
Other comprehensive income	(62,152)	3,815
Change in consolidated group	45,131	–
Dividends paid	31,754	70,875
Updated equity at 31 December	1,258,717	791,969
thereof non-controlling interests	59,443	–
Group interest in capital	21.1%	21.7%
Group share of equity	253,021	171,880
Goodwill	–	–
Book value of Group share	253,021	171,880

MIGL – condensed statement of comprehensive income N 34

in EUR thousand	2022	2021
Premium	1,719,164	1,978,528
Net income from continuing operations	515,523	47,363
Net income from discontinued operations	–	–
Net income	515,523	47,363
Total income and expense recognised directly in equity	(62,152)	3,815
Total recognised income and expense	453,371	51,178
thereof non-controlling interests	14,312	–
Group share of net income	101,305	13,485
Dividend receipts	7,733	19,682

On 22 December 2022 Hannover Rück SE (roughly 41.3%) and E+S Rückversicherung AG (roughly 8.7%) together purchased 50% of the shares in MR Beteiligungen 23. GmbH, a wholly owned subsidiary of Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft. Through the share purchase Hannover Rück SE and E+S Rückversicherung AG together with Münchener Rückversicherungs-Gesellschaft AG acquired joint control of the entity as defined by IFRS 11.16. The capital shares correspond to the distribution of voting rights. The purpose of the joint venture is, in particular, to acquire, hold and manage participations in private equity firms.

After the contribution of shares in subsidiaries to the joint venture as at 31 December 2022, the equity book value as at the balance sheet date was around EUR 1.9 billion. Consolidated business figures for the joint venture are not yet available.

Information on the percentage share held by the Hannover Re Group in the capital of associated companies and joint ventures is provided in the list of shareholdings in section 4.2 "Consolidated companies and complete list of shareholdings".

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 and joint ventures, 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 and joint ventures includes goodwill in the amount of EUR 12.2 million (EUR 11.7 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 35

in EUR thousand	2022	2021
Gross book value at 31 December of the previous year	2,083,011	1,797,761
Currency translation at 1 January	49,858	69,816
Gross book value after currency translation	**2,132,869**	**1,867,577**
Additions	527,544	334,889
Disposals	6,253	123,413
Changes in the consolidated group	1	–
Currency translation at 31 December	(14,257)	3,958
Gross book value at 31 December of the year under review	**2,639,904**	**2,083,011**
Cumulative depreciation at 31 December of the previous year	264,257	208,523
Currency translation at 1 January	9,897	10,452
Cumulative depreciation after currency translation	**274,154**	**218,975**
Disposals	876	10,029
Depreciation	48,510	38,402
Impairments	18,242	16,873
Appreciation	19,086	1,145
Currency translation at 31 December	(372)	1,181
Cumulative depreciation at 31 December of the year under review	**320,572**	**264,257**
Net book value at 31 December of the previous year	**1,818,754**	**1,589,238**
Net book value at 1 January of the year under review	**1,858,715**	**1,648,602**
Net book value at 31 December of the year under review	**2,319,332**	**1,818,754**

With regard to the right-of-use assets included as part of the accounting of leases, please see section 8.8 “Leases”.

The fair value of investment property excluding capitalised right-of-use assets amounted to EUR 2,833.3 million (EUR 2,266.6 million) as at the balance sheet date.

In terms of diversification across various real estate sectors, the focus is on office buildings (63%), complemented by logistics properties (19%) and retail (16%). In geographical terms, exposures are spread across the United States (36%), Europe (excluding Germany; 22%) as well as Germany (24%) and Asia (18%).

Changes in this item are attributable to investment activities at the relevant real estate companies belonging to the Hannover Re Group.

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 properties were reclassified to assets held for sale.

In addition, we held indirect real estate investments measured at fair values in an amount of EUR 945.5 million (EUR 805.9 million) in the year under review, the amortised costs of which amounted to EUR 818.5 million (EUR 691.6 million). The differences between the carrying amounts and amortised costs were recognised as unrealised gains of EUR 135.1 million (EUR 118.7 million) and unrealised losses of EUR 8.0 million (EUR 4.4 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 579.9 million (EUR 2,228.9 million), the amortised cost of which amounted to EUR 538.6 million (EUR 1,605.8 million). The differences between the carrying amounts and the amortised costs were recognised as unrealised gains of EUR 58.0 million (EUR 638.8 million) and unrealised losses of EUR 16.7 million (EUR 15.7 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 13.5 million (EUR 14.2 million). Loans granted in an amount of EUR 406.2 million (EUR 362.1 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 36**

	2022			
in EUR thousand	Level 1	Level 2	Level 3	Total
Fixed-income securities	33,401	44,823,667	–	44,857,068
Equity securities	15,060	–	–	15,060
Other financial assets	–	243,352	215,394	458,746
Real estate funds	–	–	945,531	945,531
Other invested assets	–	–	688,453	688,453
Short-term investments	532,184	–	–	532,184
Other assets	–	7,542	–	7,542
Total financial assets	**580,645**	**45,074,561**	**1,849,378**	**47,504,584**
Other liabilities	–	155,171	14,436	169,607
Total financial liabilities	**–**	**155,171**	**14,436**	**169,607**

Fair value hierarchy of financial assets and liabilities recognised at fair value N 37

in EUR thousand	2021 Level 1	Level 2	Level 3	Total
Fixed-income securities	30,051	45,524,934	–	45,554,985
Equity securities	314,453	–	–	314,453
Other financial assets	–	87,209	161,024	248,233
Real estate funds	–	–	805,912	805,912
Other invested assets	–	–	2,297,588	2,297,588
Short-term investments	443,793	–	–	443,793
Other assets	–	2,012	–	2,012
Total financial assets	**788,297**	**45,614,155**	**3,264,524**	**49,666,976**
Other liabilities	–	52,844	22,240	75,084
Total financial liabilities	**–**	**52,844**	**22,240**	**75,084**

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 38

in EUR thousand	2022 Equity securities	Other financial assets	Real estate funds	Other invested assets	Other liabilities
Net book value at 31 December of the previous year	**–**	**161,024**	**805,911**	**2,297,589**	**22,240**
Currency translation at 1 January	–	10,084	27,621	92,510	1,393
Net book value after currency translation	**–**	**171,108**	**833,532**	**2,390,099**	**23,633**
Changes in the consolidated group	–	–	(8,982)	(1,936,535)	–
Income and expenses					
recognised in the statement of income	1,939	37,824	(11,162)	(9,193)	(256)
recognised directly in shareholders' equity	–	–	7,170	(50,409)	–
Purchases	1,198	59,016	233,649	553,269	–
Sales	3,137	39,194	108,090	267,972	6,559
Transfers to level 3	–	–	–	–	–
Transfers from level 3	–	–	–	–	–
Currency translation at 31 December	–	(13,360)	(586)	9,194	(2,382)
Net book value at 31 December of the year under review	**–**	**215,394**	**945,531**	**688,453**	**14,436**

Movements in level 3 financial assets and liabilities N 39

in EUR thousand	2021				
	Equity securities	Other financial assets	Real estate funds	Other invested assets	Other liabilities
Net book value at 31 December of the previous year	**–**	**154,689**	**582,296**	**1,982,592**	**26,488**
Currency translation at 1 January	–	12,921	23,279	105,313	2,212
Net book value after currency translation	**–**	**167,610**	**605,575**	**2,087,905**	**28,700**
Income and expenses					
recognised in the statement of income	–	29,857	(7,905)	83,778	(7,246)
recognised directly in shareholders' equity	–	–	56,221	218,386	–
Purchases	–	–	223,401	465,770	1,124
Sales	–	35,836	77,362	562,687	–
Transfers to level 3	–	–	–	–	–
Transfers from level 3	–	–	–	–	–
Currency translation at 31 December of the year under review	–	(607)	5,981	4,437	(338)
Net book value at 31 December for the year under review	**–**	**161,024**	**805,911**	**2,297,589**	**22,240**

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 40

in EUR thousand	2022				
	Equity Securities	Other financial assets	Real estate funds	Other invested assets	Other liabilities
Total in the financial year					
Realised gains and losses on investments	–	–	77	17,846	–
Change in fair value of financial instruments	1,939	37,824	–	(931)	256
Total depreciation, impairments and appreciation of investments	–	–	(11,239)	(26,108)	–
Thereof attributable to financial instruments included in the portfolio at 31 December the year under review					
Change in fair value of financial instruments	1,939	37,824	–	(164)	256
Total depreciation, impairments and appreciation of investments	–	–	(11,239)	(6,454)	–

Income and expenses from level 3 financial assets and liabilities **N 41**

in EUR thousand	2021 Equity Securities	Other financial assets	Real estate funds	Other invested assets	Other liabilities
Total in the financial year					
Ordinary investment income	–	–	–	(23)	–
Realised gains and losses on investments	–	–	–	109,610	–
Change in fair value of financial instruments	–	29,857	–	(878)	7,246
Total depreciation, impairments and appreciation of investments	–	–	(7,905)	(24,931)	–
Thereof attributable to financial instruments included in the portfolio at 31 December the year under review					
Ordinary investment income	–	–	–	(23)	–
Change in fair value of financial instruments	–	29,857	–	(266)	7,246
Total depreciation, impairments and appreciation of investments	–	–	(7,905)	(24,931)	–

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 1,849.4 million (EUR 3,264.5 million) as at the balance sheet date, Hannover Re measures financial assets with a volume of EUR 1,525.5 million (EUR 3,034.9 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 1,372.9 million. The remaining financial assets included in level 3 with a volume of EUR 323.9 million (EUR 229.7 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 42**

in EUR thousand	2022 Level 1	Level 2	Level 3	Total
Fixed-income securities	–	2,020,625	334,182	2,354,807
Investment property	–	–	2,833,319	2,833,319
Other invested assets	8,135	2,194	1,116,776	1,127,105
Total financial assets	**8,135**	**2,022,819**	**4,284,277**	**6,315,231**
Financing liabilities	–	4,788,555	10	4,788,565
Total financial liabilities	**–**	**4,788,555**	**10**	**4,788,565**

Fair value hierarchy of financial assets and liabilities measured at amortised cost **N 43**

	2021			
in EUR thousand	Level 1	Level 2	Level 3	Total
Fixed-income securities	–	2,309,373	330,542	2,639,915
Investment property	–	–	2,266,593	2,266,593
Other invested assets	4,016	6,467	633,520	644,003
Total financial assets	**4,016**	**2,315,840**	**3,230,655**	**5,550,511**
Financing liabilities	–	4,160,613	238,127	4,398,740
Total financial liabilities	**–**	**4,160,613**	**238,127**	**4,398,740**

Disclosures relating to deferred adoption of IFRS 9

The table below 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).

Fair value disclosures for financial assets **N 44**

	2022			
	Financial assets that give rise to solely payments of principal and interest (SPPI criterion)		All other financial assets	
in EUR thousand	Fair value at 31.12.	Fair value change in the financial year	Fair value at 31.12.	Fair value change in the financial year
Fixed-income securities – held to maturity	48,418	(1,739)	–	–
Fixed-income securities – loans and receivables	2,300,904	(207,036)	5,485	(76)
Fixed-income securities – available for sale	44,335,692	(5,659,981)	393,785	(33,369)
Fixed-income securities – at fair value through profit or loss	–	–	127,591	(6,089)
Equity securities – available for sale	–	–	15,060	(2,076)
Equity securities – at fair value through profit or loss	–	–	–	1,939
Other financial assets – at fair value through profit or loss	–	–	348,617	714
Real estate funds	–	–	945,531	42,769
Other invested assets	398,675	78	600,908	(18,903)
Short-term investments	–	–	532,184	3,228
Other assets	132,480	–	16,455	5,530
Total	**47,216,169**	**(5,868,678)**	**2,985,616**	**(6,333)**

Fair value disclosures for financial assets N 45

in EUR thousand	2021 Financial assets that give rise to solely payments of principal and interest (SPPI criterion) Fair value at 31.12.	Fair value change in the financial year	All other financial assets Fair value at 31.12.	Fair value change in the financial year
Fixed-income securities – held to maturity	50,148	(4,552)	–	–
Fixed-income securities – loans and receivables	2,582,638	(46,109)	7,129	(247)
Fixed-income securities – available for sale	44,924,458	(17,277)	549,219	(8,213)
Fixed-income securities – at fair value through profit or loss	–	–	81,308	85
Equity securities – available for sale	–	–	314,453	56,757
Other financial assets – at fair value through profit or loss	–	–	231,707	(32,891)
Real estate funds	–	–	805,912	101,348
Other invested assets	356,184	2,448	2,249,029	295,855
Short-term investments	–	–	443,793	(440)
Other assets	290,131	–	34,426	2,071
Total	**48,203,559**	**(65,490)**	**4,716,976**	**414,325**

Rating structure of financial assets that give rise to solely payments of principal and interest N 46

in EUR thousand	2022	2021
AAA	22,003,559	20,805,954
AA	6,034,442	6,385,404
A	8,418,125	8,861,601
BBB	7,799,664	8,721,294
BB or lower	1,475,284	1,695,478
No rating		
low credit risk	1,223,520	1,120,019
more than a low credit risk	177,954	183,731
Total	**47,132,548**	**47,773,481**

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 11,000.5 million (EUR 10,803.1 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 by EUR 35.0 million in the year under review from EUR 503.4 million to EUR 538.4 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 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 84 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 47

in EUR thousand	2022	2021
Net book value at 31 December of the previous year	3,350,633	3,073,117
Currency translation at 1 January	33,888	148,321
Net book value after currency translation	**3,384,521**	**3,221,438**
Additions	2,044,672	1,617,119
Amortisations	1,858,556	1,511,101
Portefeuille entries/exits	(34)	–
Currency translation at 31 December	8,202	23,177
Net book value at 31 December of the year under review	**3,578,805**	**3,350,633**

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 classified as overdue at the balance sheet date is presented below.

Age structure of overdue accounts receivable N 48

	2022		2021	
in EUR thousand	Three months to one year	More than one year	Three months to one year	More than one year
Accounts receivable	860,223	269,322	479,549	271,037

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 97 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 49

in EUR thousand	2022	2021
Cumulative value adjustments at 31 December of the previous year	36,549	24,943
Currency translation at 1 January	570	1,008
Cumulative value adjustments after currency translation	**37,119**	**25,951**
Value adjustments	21,217	15,139
Reversal	8,496	3,655
Utilisation	3,130	886
Cumulative value adjustments at 31 December of the year under review	**46,710**	**36,549**
Gross book value of accounts receivable at 31 December of the year under review	8,387,240	7,244,299
Cumulative value adjustments at 31 December of the year under review	46,710	36,549
Net book value of accounts receivable at 31 December of the year under review	**8,340,530**	**7,207,750**

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 3.1 "Summary of major accounting policies". With regard to the credit risks resulting from technical assets we would also refer the reader to our comments on page 97 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 50

in EUR thousand	2022	2021
Net book value at 31 December of the previous year	83,933	80,965
Currency translation at 1 January	(2,267)	2,968
Net book value after currency translation	**81,666**	**83,933**
Value adjustments	4,510	–
Currency translation at 31 December	209	–
Net book value at 31 December of the year under review	**77,365**	**83,933**

This item principally includes the goodwill from the acquisitions of E+S Rückversicherung AG (EUR 36.1 million, previous year: EUR 36.1 million), Integra Insurance Solutions Limited (EUR 10.8 million, previous year: EUR 11.4 million) and Argenta Holdings Limited (EUR 28.5 million, previous year: 30.1 million). Impairments of EUR 4.5 million were taken on the existing goodwill with respect to the P&C segment of Hannover Reinsurance Group Africa (Pty) Ltd. (HRG SA) because recoverability is no longer assured. The calculation of the necessary impairment is based on the value in use, which was established as described in the following paragraph using the discounted cash flow method. A capitalisation rate of 16.94% was used in this context.

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 ranges currently recommended by 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 51**

	2022	2021	2022	2021
in %	Capitalisation rate		Growth rate	
Argenta Holdings Limited	9.28	6.93	1.00	1.00
E+S Rückversicherung AG	7.56	5.65	0.00	0.00
Integra Insurance Solutions Limited	9.24	6.64	1.00	1.00

The capitalisation rates as well as material/value-influencing items of the respective planning calculations (inter alia premium volumes, investment income or loss ratios) were varied as part of sensitivity analyses. In this context, individual parameters were changed within appropriate bands that can be expected in light of the current market situations and developments. With the exception of the P&C segment at HRG SA (in respect of which the goodwill was written off at the reporting date as described above), it was established that where changes were made to parameters in areas that could reasonably occur, the values in use were above the corresponding book values. We would also refer to our basic remarks in section 3.1 "Summary of major accounting policies".

6.6 Other assets

Other assets **N 52**

in EUR thousand	2022	2021
Present value of future profits on acquired life reinsurance portfolios	24,301	25,700
Other intangible assets	133,709	138,487
Insurance for pension commitments	103,229	102,530
Own-use real estate	122,306	129,806
Tax refund claims	181,348	196,826
Fixtures, fittings and equipment	39,681	35,529
Receivables from advance payments and services	95,243	87,997
Sundry	114,906	255,292
Total	**814,723**	**972,167**

With regard to the right-of-use assets from lease contracts included in the items “Own-use real estate”, “Fixtures, fittings and equipment” and “Sundry”, please see section 8.8 “Leases”.

The sundry assets in the previous year included the purchase price receivable from the sale of HDI Global Specialty SE in an amount of EUR 159.0 million. The sundry assets contain unadjusted other receivables of EUR 0.4 million (EUR 0.4 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 53

in EUR thousand	2022	2021
Gross book value at 31 December of the previous year	127,591	119,850
Currency translation at 1 January	6,284	7,741
Gross book value at 31 December of the year under review	**133,875**	**127,591**
Cumulative depreciation at 31 December of the previous year	101,891	94,043
Currency translation at 1 January	4,675	5,585
Cumulative depreciation after currency translation	**106,566**	**99,628**
Amortisation	3,038	2,166
Currency translation at 31 December	(30)	97
Cumulative depreciation at 31 December of the year under review	**109,574**	**101,891**
Net book value at 31 December of the previous year	**25,700**	**25,807**
Net book value at 31 December of the year under review	**24,301**	**25,700**

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. 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

In the past Hannover Rück SE took out insurance covers for pension commitments. The commitments involve, firstly, deferred annuities with regular premium payment under a group insurance policy and, secondly, the funding of direct commitments from deferred compensation for lump-sum payments in the event of death or on reaching retirement age. The insurance covers were carried as a separate asset at fair value as at the balance sheet date in an amount of EUR 103.2 million (EUR 102.5 million).

Fixtures, fittings and equipment

Fixtures, fittings and equipment N 54

in EUR thousand	2022	2021
Gross book value at 31 December of the previous year	157,347	153,816
Currency translation at 1 January	1,838	3,797
Gross book value after currency translation	**159,185**	**157,613**
Additions	18,152	15,694
Disposals	2,700	16,053
Changes in the consolidated group	(5)	–
Currency translation at 31 December	(617)	93
Gross book value at 31 December of the year under review	**174,015**	**157,347**
Cumulative depreciation at 31 December of the previous year	121,818	122,498
Currency translation at 1 January	1,682	3,052
Cumulative depreciation after currency translation	**123,500**	**125,550**
Disposals	2,627	15,729
Depreciation	13,677	12,105
Currency translation at 31 December	(216)	(108)
Cumulative depreciation at 31 December of the year under review	**134,334**	**121,818**
Net book value at 31 December of the previous year	**35,529**	**31,318**
Net book value at 31 December of the year under review	**39,681**	**35,529**

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”.

With regard to the leased assets contained in this table we would refer to section 8.8 “Leases”.

Other intangible assets

Development of other intangible assets N 55

in EUR thousand	2022	2021
Gross book value at 31 December of the previous year	422,221	394,002
Currency translation at 1 January	(5,388)	7,586
Gross book value after currency translation	**416,833**	**401,588**
Additions	21,372	23,104
Disposals	1,877	2,483
Currency translation at 31 December	(38)	12
Gross book value at 31 December of the year under review	**436,290**	**422,221**
Cumulative depreciation at 31 December of the previous year	283,734	262,307
Currency translation at 1 January	(856)	1,194
Cumulative depreciation after currency translation	**282,878**	**263,501**
Disposals	1,791	1,332
Depreciation	21,570	21,406
Currency translation at 31 December	(76)	159
Cumulative depreciation at 31 December of the year under review	**302,581**	**283,734**
Net book value at 31 December of the previous year	**138,487**	**131,695**
Net book value at 31 December of the year under review	**133,709**	**138,487**

The item includes EUR 35.4 million (EUR 30.4 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 4.8 million (EUR 6.8 million) is attributable to purchased software. Among other things, the amortised cost of the intangible assets identified in connection with the acquisition of Argenta Holdings Limited in an amount of EUR 75.5 million (EUR 81.2 million) is also recognised under other intangible assets.

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 88 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 56

	2022			2021		
in EUR thousand	gross	retro	net	gross	retro	net
Loss and loss adjustment expense reserve	46,864,378	3,313,370	43,551,008	40,777,703	2,674,107	38,103,596
Benefit reserve	7,115,757	228,091	6,887,666	7,541,881	192,039	7,349,842
Unearned premium reserve	6,653,586	224,605	6,428,981	6,195,961	204,597	5,991,364
Other technical provisions	1,066,543	493	1,066,050	841,591	2,703	838,888
Total	**61,700,264**	**3,766,559**	**57,933,705**	**55,357,136**	**3,073,446**	**52,283,690**

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 57

	2022			2021		
in EUR thousand	gross	retro	net	gross	retro	net
Net book value at 31 December of the previous year	40,777,703	2,674,107	38,103,596	33,929,230	1,883,270	32,045,960
Currency translation at 1 January	896,873	85,265	811,608	1,760,419	110,411	1,650,008
Net book value after currency translation	**41,674,576**	**2,759,372**	**38,915,204**	**35,689,649**	**1,993,681**	**33,695,968**
Incurred claims and claims expenses (net)[1]						
Year under review	20,507,202	1,676,564	18,830,638	16,751,508	2,002,255	14,749,253
Previous years	4,596,658	817,848	3,778,810	4,479,726	611,254	3,868,472
	25,103,860	**2,494,412**	**22,609,448**	**21,231,234**	**2,613,509**	**18,617,725**
Less:						
Claims and claims expenses paid (net)[1]						
Year under review	(5,839,416)	(565,312)	(5,274,104)	(4,809,075)	(910,023)	(3,899,052)
Previous years	(14,002,741)	(1,383,498)	(12,619,243)	(11,445,287)	(1,039,301)	(10,405,986)
	(19,842,157)	**(1,948,810)**	**(17,893,347)**	**(16,254,362)**	**(1,949,324)**	**(14,305,038)**
Specific value adjustment for retrocessions	–	6,751	(6,751)	–	40	(40)
Reversal of impairments	–	36,830	(36,830)	–	315	(315)
Portfolio entries/exits	(8,885)	(3,043)	(5,842)	–	–	–
Currency translation at 31 December	(63,016)	(18,640)	(44,376)	111,182	15,966	95,216
Net book value at 31 December of the year under review	**46,864,378**	**3,313,370**	**43,551,008**	**40,777,703**	**2,674,107**	**38,103,596**

[1] Excluding effects from portfolio entries/exits recognised in income

On balance, cumulative specific value adjustments of EUR 31.4 million (EUR 55.8 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 43,519.6 million (EUR 38,047.8 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 2012 to 2022 as well as the run-off of the reserve (so-called run-off triangle). The figures reported for the 2012 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 2022 financial year for the individual run-off years.

Net loss reserve and its run-off in the property and casualty reinsurance segment N 58

in EUR million	31.12. 2012	31.12. 2013	31.12. 2014	31.12. 2015	31.12. 2016	31.12. 2017	31.12. 2018	31.12. 2019	31.12. 2020	31.12. 2021	31.12. 2022
Loss and loss adjustment expense reserve (from balance sheet)											
	17,314.5	17,884.1	19,800.5	21,819.7	22,762.9	22,929.8	24,375.5	26,602.4	28,027.2	32,688.3	**37,827.8**
Cumulative payments for the year in question and previous years											
One year later	2,945.8	3,230.8	3,555.6	3,311.1	3,784.7	4,831.4	4,907.0	5,624.3	5,491.9	7,470.3	
Two years later	4,586.6	5,047.6	5,312.8	5,232.3	6,040.4	6,894.5	7,608.0	7,927.3	8,660.5		
Three years later	5,795.4	6,175.4	6,589.1	6,707.0	7,291.3	8,560.8	9,035.4	9,956.8			
Four years later	6,653.0	7,177.0	7,671.2	7,694.2	8,395.0	9,478.9	10,374.3				
Five years later	7,450.7	8,085.5	8,509.3	8,599.1	9,007.0	10,360.9					
Six years later	8,142.3	8,669.0	9,259.1	9,042.0	9,622.3						
Seven years later	8,614.0	9,253.3	9,590.6	9,496.3							
Eight years later	9,124.8	9,508.6	9,927.5								
Nine years later	9,327.8	9,771.9									
Ten years later	9,521.0										
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	**17,314.5**	**17,884.1**	**19,800.5**	**21,819.7**	**22,762.9**	**22,929.8**	**24,375.5**	**26,602.4**	**28,027.2**	**32,688.3**	**37,827.8**
One year later	16,831.1	17,704.6	19,293.8	20,940.8	21,585.0	22,190.3	23,506.2	25,981.8	27,161.5	31,956.6	
Two years later	16,478.5	17,055.6	18,157.1	19,494.8	20,589.0	20,855.8	22,593.3	24,830.3	25,642.4		
Three years later	15,961.8	16,002.2	17,201.3	18,496.1	19,498.9	20,095.6	21,734.5	24,026.4			
Four years later	15,249.6	15,143.6	16,313.0	17,505.9	18,740.7	19,427.2	21,082.3				
Five years later	14,547.0	14,378.9	15,466.1	16,831.8	18,125.0	18,631.3					
Six years later	13,858.7	13,565.1	14,818.9	16,287.0	17,432.8						
Seven years later	13,244.6	13,031.3	14,372.0	15,757.0							
Eight years later	12,828.7	12,659.0	13,978.5								
Nine years later	12,467.6	12,371.9									
Ten years later	12,261.1										
Change relative to previous year											
Net run-off result	206.4	80.7	106.3	136.6	162.1	103.8	(143.8)	151.8	715.2	(787.4)	
As percentage of original loss reserve	1.2	0.5	0.5	0.6	0.7	0.5	(0.6)	0.6	2.6	(2.4)	

The run-off profit of altogether EUR 731.7 million (EUR 848.0 million) in the 2022 financial year derives above all from positive run-offs of reserves in the areas of motor and credit insurance.

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 59

	2022					
	Loss and loss adjustment expense reserves			Benefit reserve		
in EUR thousand	gross	retro	net	gross	retro	net
Due in one year	14,093,350	790,589	13,302,761	799,017	3,345	795,672
Due after one through five years	17,759,701	1,632,231	16,127,470	110,511	5,642	104,869
Due after five through ten years	6,351,059	551,700	5,799,359	357,606	58,675	298,931
Due after ten through twenty years	3,550,250	231,128	3,319,122	747,591	2,200	745,391
Due after twenty years	1,536,494	84,614	1,451,880	2,048,327	5,900	2,042,427
	43,290,854	**3,290,262**	**40,000,592**	**4,063,052**	**75,762**	**3,987,290**
Deposits	3,573,524	54,533	3,518,991	3,052,705	152,329	2,900,376
Total	**46,864,378**	**3,344,795**	**43,519,583**	**7,115,757**	**228,091**	**6,887,666**

Maturities of the technical reserves

N 60

	2021					
	Loss and loss adjustment expense reserves			Benefit reserve		
in EUR thousand	gross	retro	net	gross	retro	net
Due in one year	11,505,643	604,687	10,900,956	1,035,542	1,460	1,034,082
Due after one through five years	15,685,611	1,327,189	14,358,422	564,159	6,049	558,110
Due after five through ten years	6,099,433	466,290	5,633,143	487,131	23,507	463,624
Due after ten through twenty years	3,596,204	203,007	3,393,197	489,823	1,611	488,212
Due after twenty years	1,532,264	74,750	1,457,514	1,598,438	3,115	1,595,323
	38,419,155	**2,675,923**	**35,743,232**	**4,175,093**	**35,742**	**4,139,351**
Deposits	2,358,548	54,016	2,304,532	3,366,788	156,297	3,210,491
Total	**40,777,703**	**2,729,939**	**38,047,764**	**7,541,881**	**192,039**	**7,349,842**

The average maturity of the loss and loss adjustment expense reserves was 4.4 years (4.8 years), or 4.4 years (4.8 years) after allowance for the corresponding retrocession shares. The benefit reserve had an average maturity of 18.6 years (14.5 years) – or 18.8 years (14.5 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 are made about the aforementioned three parameters 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 61**

	2022			2021		
in EUR thousand	gross	retro	net	gross	retro	net
Net book value at 31 December of the previous year	7,541,881	192,039	7,349,842	7,217,988	192,135	7,025,853
Currency translation at 1 January	(61,010)	8,323	(69,333)	482,845	15,380	467,465
Net book value after currency translation	**7,480,871**	**200,362**	**7,280,509**	**7,700,833**	**207,515**	**7,493,318**
Changes	(235,819)	30,646	(266,465)	(313,885)	(15,240)	(298,645)
Portfolio entries/exits	(135,331)	(1,153)	(134,178)	162,110	4	162,106
Currency translation at 31 December	6,036	(1,764)	7,800	(7,177)	(240)	(6,937)
Net book value at 31 December of the year under review	**7,115,757**	**228,091**	**6,887,666**	**7,541,881**	**192,039**	**7,349,842**

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 62**

	2022			2021		
in EUR thousand	gross	retro	net	gross	retro	net
Net book value at 31 December of the previous year	6,195,961	204,597	5,991,364	5,070,009	165,916	4,904,093
Currency translation at 1 January	95,677	2,649	93,028	320,011	12,116	307,895
Net book value after currency translation	**6,291,638**	**207,246**	**6,084,392**	**5,390,020**	**178,032**	**5,211,988**
Changes	299,694	16,527	283,167	737,631	24,023	713,608
Portfolio entries/exits	(209)	(74)	(135)	–	–	–
Currency translation at 31 December	62,463	906	61,557	68,310	2,542	65,768
Net book value at 31 December of the year under review	**6,653,586**	**224,605**	**6,428,981**	**6,195,961**	**204,597**	**5,991,364**

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 711.7 million (EUR 632.2 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 222.0 million in the year under review from EUR 3,586.7 million to EUR 3,364.7 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.

Insurance coverage has been taken out for both the aforementioned pension plans.

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. The provident fund takes out insurance coverage with HDI Lebensversicherung AG that maps the entire spectrum of benefits (matching coverage). These pension commitments are considered to be contribution-based pension benefits under German employment law, and for economic purposes the pension scheme is classified as a defined benefit plan. The relevant assets of the provident fund are recognised as plan assets.

Employees also have the option to accumulate additional, insurance-type retirement provision by way of deferred compensation. Pension provisions are not recognised in this regard.

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 Heubeck "2018 G standard tables", enhanced as in the previous year according to the observable risk experience in the portfolio. were used as the biometric actuarial basis for pension commitments in Germany. 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 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.

Measures to reduce these risks consist of pension insurance taken out for virtually all pension commitments (for new additions defined contribution plans with matching insurance coverage) as well as enhanced biometric actuarial bases. The assumptions for the pension progression and for the expected rate of compensation increase and career trend are regularly reviewed and if necessary adjusted with an eye to current expectations for the inflation trend. No unusual risks or risk concentrations can be identified.

The calculation of the provisions for pensions is based upon the following assumptions:

Measurement assumptions **N 63**

in %	2022	2021
Discount rate for defined benefit obligation	3.48	1.20
Discount rate for net interest component	1.42	0.68
Discount rate for current service costs	1.31	0.56
Rate of compensation increase	3.47	2.85
Pension indexation	2.37	1.96

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 64

in EUR thousand	2022	2021	2022	2021	2022	2021
	Defined benefit obligation		Fair value of plan assets		Effect of minimum funding requirement on asset ceiling	
Position at 1 January of the financial year	269,961	286,162	61,699	56,910	7	–
Recognised in profit or loss						
Current service costs	6,810	8,172	–	–	–	–
Past service cost and plan curtailments	93	357	–	–	–	–
Net interest component	2,542	1,151	784	440	2	–
	9,445	**9,680**	**784**	**440**	**2**	**–**
Recognised in cumulative other comprehensive income						
Actuarial gain (–)/loss (+) from change in biometric assumptions	–	838	–	–	–	–
Actuarial gain (–)/loss (+) from change in financial assumptions	(72,116)	(23,389)	–	–	–	–
Experience gains (––)/losses (+)	1,884	663	–	–	–	–
Return on plan assets, excluding amounts included in interest income	–	–	(9,729)	(2,320)	–	–
Change in asset ceiling	–	–	–	–	3,900	7
Exchange differences	(617)	1,333	(800)	1,263	–	–
	(70,849)	**(20,555)**	**(10,529)**	**(1,057)**	**3,900**	**7**
Other changes						
Employer contributions	–	–	5,911	5,834	–	–
Benefit payments	(6,128)	(5,148)	(1,046)	(347)	–	–
Additions and disposals	4	(88)	1	(81)	–	–
Effects of plan settlements	–	(90)	–	–	–	–
	(6,124)	**(5,326)**	**4,866**	**5,406**	**–**	**–**
Position at 31 December of the financial year	**202,433**	**269,961**	**56,820**	**61,699**	**3,909**	**7**

The actuarial gain from change in financial assumptions results primarily from an increase in the discount rate, which to some extent is offset by the increase in the rate of compensation and the pension progression.

The plan assets contain assets held by a long-term employee benefit fund and qualifying insurance policies as defined by IAS 19. The plan assets are attributable in an amount of EUR 17.0 million (EUR 21.4 million) to assets with quoted market prices.

The reconciliation of the projected benefit obligations with the recognised provisions for pensions is as follows:

Provisions for pensions **N 65**

in EUR thousand	2022	2021
Projected benefit obligations at 31 December of the financial year	202,433	269,961
Fair value of plan assets at 31 December of the financial year	56,820	61,699
Effect of minimum funding requirement on asset ceiling	3,909	7
Recognised pension obligations at 31 December of the financial year	**149,522**	**208,269**
thereof: capitalised assets	4,235	481
Provisions for pensions	153,757	208,750

Of the total provisions for pensions, an amount of EUR 151.2 million (EUR 205.8 million) is attributable to employer-funded obligations and EUR 2.5 million (EUR 3.0 million) to employee-funded obligations.

In the current financial year Hannover Re anticipates contribution payments of EUR 5.5 million under the plans set out above. The weighted average duration of the defined benefit obligation is 15.2 (17.8) 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 66**

in EUR thousand		Parameter increase	Parameter decrease
Discount rate	(+/– 0,5%)	(13,597)	15,219
Rate of compensation increase	(+/– 0,25%)	1,240	(1,235)
Pension indexation	(+/– 0,25%)	5,636	(5,431)

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 10.1 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 25.3 million (EUR 23.5 million). Of the expense for defined contribution plans, an amount of EUR 12.4 million (EUR 10.2 million) relates to state pension schemes, thereof EUR 10.2 million (EUR 9.6 million) to contributions to the statutory pension insurance scheme in Germany.

6.11 Other liabilities

Other liabilites N 67

in EUR thousand	2022	2021
Liabilities from derivatives	169,607	75,084
Interest	47,873	40,601
Deferred income and prepayments received	175,970	144,329
Sundry non-technical provisions	189,703	182,623
Sundry liabilities	549,696	239,230
Total	**1,132,849**	**681,867**

With regard to the liabilities from derivatives in an amount of EUR 169.6 million (EUR 75.1 million), please see our explanatory remarks on derivative financial instruments in section 8.1 "Derivative financial instruments and financial guarantees".

We enter into term repurchase agreements (repos) as a supplementary liquidity management tool. The asset portfolios exchanged in this context are fully collateralised. As at the balance sheet date the liabilities from repos recognised in the sundry liabilities amounted to EUR 250.1 million (EUR 89.8 million).

In addition, cash collateral received in connection with the market performance of derivatives was recognised in the sundry liabilities in an amount of EUR 92.1 million (EUR 16.3 million).

Development of sundry non-technical provisions

in EUR thousand	Balance at 31 December 2021	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	7,044	14	7,058
Consultancy fees	2,798	15	2,813
Suppliers' invoices	17,705	599	18,304
Partial retirement arrangements and early retirement obligations	2,344	(6)	2,338
Holiday entitlements and overtime	14,068	(63)	14,005
Anniversary bonuses	6,210	81	6,291
Management and staff bonuses	77,616	733	78,349
Other	54,838	112	54,950
Total	**182,623**	**1,485**	**184,108**

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 69

in EUR thousand	2022	2021
Due in one year	138,336	135,874
Due after one through five years	43,517	39,714
Due after five years	7,850	7,035
Total	**189,703**	**182,623**

N 68

Changes in consolidated group	Additions	Utilisation	Release	Currency translation at 31 December	Balance at 31 December 2022
(6)	12,563	6,710	261	(64)	12,580
6	2,385	2,371	531	(32)	2,270
–	3,464	10,251	1,693	101	9,925
–	569	–	–	(7)	2,900
–	8,146	7,810	–	(1)	14,340
–	314	762	–	(2)	5,841
–	56,211	42,599	1,051	(195)	90,715
496	14,432	12,626	6,166	46	51,132
496	**98,084**	**83,130**	**9,702**	**(154)**	**189,703**

6.12 Financing liabilities

On 14 November 2022 Hannover Rück SE placed subordinated debt in an amount of EUR 750.0 million on the European capital market. The bond has a total maturity of around 21 years and a first scheduled call option on 26 February 2033. It carries a fixed coupon of 5.875% p.a. in the first roughly eleven years, after which the interest rate basis changes to a floating rate of 3-month EURIBOR +375 basis points.

On 22 March 2021 Hannover Rück SE placed subordinated debt in the amount of EUR 750.0 million on the European capital market. The bond has a total maturity of around 21 years and a first scheduled call option on 30 December 2031. It carries a fixed coupon of 1.375% p.a. in the first roughly eleven years, after which the interest rate basis changes to a floating rate of 3-month EURIBOR +233 basis points.

On 8 July 2020 Hannover Rück SE placed subordinated debt in the amount of EUR 500.0 million on the European capital market. The bond has a total maturity of around 20 years with a first scheduled call option on 8 July 2030. It carries a fixed coupon of 1.75% p.a. in the first roughly ten years, after which the interest rate basis changes to a floating rate of 3-month EURIBOR +300 basis points.

On 9 October 2019 Hannover Rück SE placed subordinated debt in the amount of EUR 750 million on the European capital market. The bond has a total maturity of 20 years with a first scheduled call option on 9 July 2029. It carries a fixed coupon of 1.125% p.a. in the first ten years, after which the interest rate basis changes to a floating rate of 3-month EURIBOR +238 basis points.

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.

Altogether seven (six) bonds were recognised as at the balance sheet date with an amortised cost of EUR 4,472.0 million (EUR 3,722.3 million).

Long-term debt and notes payable **N 70**

in EUR thousand	Coupon	Maturity	Currency	2022 Amortised cost	2022 Fair value measure-ment	2022 Accrued interest	2022 Fair value
Begebene Anleihen							
Hannover Rück SE, 2022	5.875	2043	EUR	745,697	15,650	5,795	767,142
Hannover Rück SE, 2021	1.375	2042	EUR	743,887	(209,909)	5,227	539,205
Hannover Rück SE, 2020	1.75	2040	EUR	495,932	(109,802)	2,038	388,168
Hannover Rück SE, 2019	1.125	2039	EUR	743,006	(171,071)	1,919	573,854
Hannover Rück SE, 2018	1.125	2028	EUR	745,726	(92,108)	5,941	659,559
Hannover Rück SE, 2014	3.375	n/a	EUR	498,160	(20,715)	8,692	486,137
Hannover Finance (Luxembourg) S.A., 2012	5.00	2043	EUR	499,639	671	12,603	512,913
				4,472,047	**(587,284)**	**42,215**	**3,926,978**
Long-term debt				926,649	(22,846)	2,359	906,162
Total				**5,398,696**	**(610,130)**	**44,574**	**4,833,140**

Long-term debt and notes payable **N 71**

in EUR thousand	Coupon	Maturity	Currency	2021 Amortised cost	2021 Fair value measure-ment	2021 Accrued interest	2021 Fair value
Begebene Anleihen							
Hannover Rück SE, 2021	1.375	2042	EUR	743,257	(7,237)	5,227	741,247
Hannover Rück SE, 2020	1.75	2040	EUR	495,433	15,112	2,038	512,583
Hannover Rück SE, 2019	1.125	2039	EUR	741,983	(6,406)	1,919	737,496
Hannover Rück SE, 2018	1.125	2028	EUR	744,914	46,291	5,941	797,146
Hannover Rück SE, 2014	3.375	n/a	EUR	497,490	50,420	8,692	556,602
Hannover Finance (Luxembourg) S.A., 2012	5.00	2043	EUR	499,239	36,151	12,603	547,993
				3,722,316	134,331	36,420	3,893,067
Long-term debt				535,386	6,707	1,008	543,101
Total				**4,257,702**	**141,038**	**37,428**	**4,436,168**

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 periods are always taken as a basis.

Net gains and losses from long-term debt and notes payable **N 72**

in EUR thousand	Ordinary income/expenses 2022	Ordinary income/expenses 2021	Amortisation 2022	Amortisation 2021	Net result 2022	Net result 2021
Long-term debt	(19,262)	(9,704)	(717)	(358)	(19,979)	(10,062)
Notes payable	(83,607)	(75,552)	(3,571)	(3,779)	(87,178)	(79,331)
Long-term debt	**(102,869)**	**(85,256)**	**(4,288)**	**(4,137)**	**(107,157)**	**(89,393)**

The ordinary expenses principally include interest expenses of nominally EUR 83.6 million (EUR 75.6 million) resulting from the issued subordinated and senior bonds.

Maturities of financial liabilities **N 73**

in EUR thousand	2022						
	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]	475,694	290,063	3,032	4,750	–	–	–
Long-term debt	10	261,551	411,156	227,080	26,852	–	–
Notes payable	–	–	–	745,726	1,738,577	1,489,584	498,160
Lease liabilities	3,467	4,733	35,942	28,804	637	38,082	–
Total	**479,171**	**556,347**	**450,130**	**1,006,360**	**1,766,066**	**1,527,666**	**498,160**

[1] Excluding sundry non-technical provisions and derivative financial instruments; the maturities of these items are broken down separately

Maturities of financial liabilities **N 74**

in EUR thousand	2021						
	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]	115,421	304,618	3,410	711	–	–	–
Long-term debt	–	23,315	329,484	153,642	28,945	–	–
Notes payable	–	–	–	744,914	1,237,416	1,242,496	497,490
Lease liabilities	3,961	4,525	31,277	33,733	3,489	35,568	–
Total	**119,382**	**332,458**	**364,171**	**933,000**	**1,269,850**	**1,278,064**	**497,490**

[1] Excluding sundry non-technical provisions and derivative financial instruments; the maturities of these items are broken down separately

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 financing liabilities **N 75**

in EUR thousand	Balance at 31 December 2021	Cash flow	Change in consolidation	Non-cash items		Balance at 31 December 2022
				Exchange rate difference	Other changes	
Long-term debt	535,386	125,203	240,551	24,792	717	926,649
Notes payable	3,722,316	745,760	–	–	3,971	4,472,047
Lease liabilities	112,553	(14,436)	–	1,368	12,180	111,665
Total	**4,370,255**	**856,527**	**240,551**	**26,160**	**16,868**	**5,510,361**

Reconciliation of financing liabilities **N 76**

in EUR thousand	Balance at 31 December 2021	Cash flow	Change in consolidation	Non-cash items		Balance at 31 December 2021
				Exchange rate difference	Other changes	
Long-term debt	372,705	137,169	–	25,154	358	535,386
Notes payable	2,975,730	742,807	–	–	3,779	3,722,316
Lease liabilities	82,841	(14,466)	–	5,803	38,375	112,553
Total	**3,431,276**	**865,510**	**–**	**30,957**	**42,512**	**4,370,255**

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 24,119 thousand is available. It can be used to grant shares to holders of bonds and/or profit-sharing rights with conversion rights and warrants and has a time limit of 4 May 2026. In addition, authorised capital is available in an amount of up to EUR 24,119 thousand, which similarly has a time limit of 4 May 2026. 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 2025.

The Annual General Meeting of Hannover Rück SE resolved on 4 May 2022 that a gross dividend of EUR 5.75 per share should be paid for the 2021 financial year, corresponding to a total distribution of EUR 693.4 million (EUR 542.7 million).

The decrease in the other reserves arising out of currency translation, which is recognised in equity, was attributable in a net amount of EUR 22.8 million (increase of EUR 97.1 million in the previous year) 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 and net assets" subsection of the management report, to which the reader is referred. This includes both a presentation of our capital management objectives and procedures (page 46 et seq., subsection entitled "Investment policy") and a description of our policyholders' surplus (page 48 et seq., subsection 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 76 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 26,927 (15,766) treasury shares during the second quarter of 2022 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 2026. This transaction resulted in an expense of EUR 1.6 million (EUR 0.5 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 656.7 million (EUR 871.2 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 136.0 million (EUR 68.9 million) in the year under review.

Subsidiaries with material non-controlling interests N 77

in EUR thousand	2022	2021
	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	346,719	146,624
thereof attributable to non-controlling interests	122,074	51,624
Income/expense recognised directly in equity	(676,301)	(73,518)
Total recognised income and expense	(329,582)	73,106
Shareholder's equity	1,696,241	2,105,823
thereof attributable to non-controlling interests	597,219	741,427
Dividends paid	80,000	125,000
thereof attributable to non-controlling interests	28,167	44,011
Assets	12,050,338	11,819,576
Liabilities	10,354,097	9,713,753
Cash flow from operating activities	494,243	563,547
Cash flow from investing activities	(451,451)	(455,683)
Cash flow from financing activities	(36,610)	(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 78

in EUR thousand	2022	2021
Regional origin		
Germany	2,107,512	1,998,499
United Kingdom	4,261,626	3,722,549
France	1,131,745	1,034,597
Other	3,518,105	3,253,195
Europe	**11,018,988**	**10,008,840**
USA	10,947,722	8,194,528
Other	1,933,373	1,494,412
North America	**12,881,095**	**9,688,940**
Asia	5,325,845	4,463,120
Australia	2,093,264	1,848,562
Australasia	**7,419,109**	**6,311,682**
Africa	631,996	622,441
Other	1,324,340	1,130,411
Total	**33,275,528**	**27,762,314**

7.2 Investment income

Investment income N 79

in EUR thousand	2022	2021
Income from real estate	228,600	177,109
Dividends	3,873	6,363
Interest income	1,151,231	1,006,895
Other investment income	595,179	365,224
Ordinary investment income	**1,978,883**	**1,555,591**
Profit or loss on investments in associated companies and joint ventures	111,783	35,743
Appreciation	19,086	1,145
Realised gains on investments	844,774	506,893
Realised losses on investments	745,511	225,867
Change in fair value of financial instruments	(2,223)	36,114
Impairments on real estate	77,990	63,180
Impairments on fixed-income securities	106,167	233
Impairments on participating interests and other financial assets	29,066	25,397
Other investment expenses	168,942	146,047
Net income from assets under own management	**1,824,627**	**1,674,762**
Interest income on funds withheld and contract deposits	291,150	462,812
Interest expense on funds withheld and contract deposits	54,926	194,562
Total investment income	**2,060,851**	**1,943,012**

Of the impairments totalling EUR 164.7 million (EUR 50.4 million), an amount of EUR 26.1 million (EUR 24.9 million) was attributable to private equity. Impairments of EUR 29.5 million (EUR 24.8 million) were recognised on real estate and real estate funds, opposed by appreciation of EUR 19.1 million (EUR 1.1 million).

The impairments taken on fixed-income securities amounted to just EUR 106.2 million (EUR 0.2 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 80

in EUR thousand	2022	2021
Fixed-income securities – held to maturity	1,476	4,207
Fixed-income securities – loans and receivables	82,685	81,041
Fixed-income securities – available for sale	1,031,548	897,154
Financial assets – at fair value through profit or loss	6,908	4,198
Other	28,614	20,295
Total	**1,151,231**	**1,006,895**

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 168.9 million (EUR 146.0 million), net income from assets under own management of altogether EUR 1,824.6 million (EUR 1,674.8 million) was recognised in the year under review.

Net gains and losses on investments

N 81

in EUR thousand	2022 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	1,471	(12)	–	–	1,459
Loans and receivables					
Fixed-income securities	81,317	3,537	–	–	84,854
Available for sale					
Fixed-income securities	1,407,629	(596,957)	106,167	–	704,505
Equity securities	189	94,647	–	–	94,836
Other invested assets	291,016	617,681	40,618	–	868,079
Short-term investments	21,750	(12)	150	–	21,588
At fair value through profit or loss					
Fixed-income securities	6,908	(20)	–	(5,883)	1,005
Equity securities	–	–	–	1,940	1,940
Other financial assets	–	281	–	103,568	103,849
Other invested assets	142	(2,762)	–	4,655	2,035
Other	280,244	(17,120)	47,202	(106,503)	109,419
Total	**2,090,666**	**99,263**	**194,137**	**(2,223)**	**1,993,569**

[1] Including income from associated companies and joint ventures, for reconciliation with the consolidated statement of income
[2] Excluding other investment expenses

Net gains and losses on investments

N 82

in EUR thousand	2021 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	4,169	(183)	–	–	3,986
Loans and receivables					
Fixed-income securities	76,558	153	–	–	76,711
Available for sale					
Fixed-income securities	966,293	22,967	233	–	989,027
Equity securities	562	49,296	–	–	49,858
Other invested assets	353,903	149,528	33,250	–	470,181
Short-term investments	11,017	127	123	–	11,021
At fair value through profit or loss					
Fixed-income securities	4,198	–	–	384	4,582
Other financial assets	–	2,278	–	31,193	33,471
Other invested assets	–	20	–	4,897	4,917
Other	174,634	56,840	54,059	(360)	177,055
Total	**1,591,334**	**281,026**	**87,665**	**36,114**	**1,820,809**

[1] Including income from associated companies and joint ventures, for reconciliation with the consolidated statement of income
[2] Excluding other investment expenses

7.3 Reinsurance result

Reinsurance result N 83

in EUR thousand	2022	2021
Gross written premium	33,275,528	27,762,314
Ceded written premium	3,319,647	2,905,054
Change in unearned premium	(299,694)	(737,631)
Change in ceded unearned premium	16,527	24,023
Net premium earned	**29,672,714**	**24,143,652**
Other technical income	–	114
Total net technical income	**29,672,714**	**24,143,766**
Claims and claims expenses paid	17,893,347	14,305,038
Change in loss and loss adjustment expense reserve	4,716,101	4,312,687
Claims and claims expenses	**22,609,448**	**18,617,725**
Change in benefit reserve	(266,465)	(298,645)
Net change in benefit reserve	**(266,465)**	**(298,645)**
Commissions	7,079,200	5,789,895
Change in deferred acquisition costs	186,116	106,018
Change in provision for contingent commissions	215,851	104,705
Other acquisition costs	5,792	4,767
Administrative expenses	575,758	510,707
Net technical result	**(360,754)**	**(479,370)**

With regard to the claims and claims expenses as well as the change in the benefit reserve, the reader is also referred to section 8.1 “Derivative financial instruments and financial guarantees”. The change in the benefit reserve relates exclusively to the life and health reinsurance segment. The administrative expenses amounted to altogether 1.9% (2.1%) of net premium earned.

The effects of the Covid-19 pandemic increased the losses in the year under review by altogether EUR 276.0 million. They are entirely allocable to the life and health reinsurance segment. In the property and casualty reinsurance segment, reserves established for Covid-19 were released in the year under review in an amount of EUR 272.0 million.

Other technical income N 84

in EUR thousand	2022	2021
Other technical income (gross)	–	114
Reinsurance recoverables	–	–
Other technical income (net)	**–**	**114**

Commission and brokerage, change in deferred acquisition costs **N 85**

in EUR thousand	2022	2021
Commissions paid (gross)	7,423,673	6,073,534
Reinsurance recoverables	344,473	283,639
Change in deferred acquisition costs (gross)	149,615	102,826
Reinsurance recoverables	(36,501)	(3,192)
Change in provision for contingent commissions (gross)	213,565	106,273
Reinsurance recoverables	(2,286)	1,568
Commissions and brokerage, change in deferred acquisition costs (net)	**7,108,935**	**5,788,582**

7.4 Other income/expenses

Other income/expenses **N 86**

in EUR thousand	2022	2021
Other income		
Exchange gains	168,743	140,205
Reversals of impairments on receivables	45,048	3,970
Income from contracts recognised in accordance with the deposit accounting method	460,591	387,663
Income from services	131,748	112,326
Deconsolidation	129,195	–
Other interest income	70,222	50,036
Sundry income	33,417	80,616
	1,038,964	**774,816**
Other expenses		
Other interest expenses	21,996	15,283
Exchange losses	257,062	217,739
Expenses from contracts recognised in accordance with the deposit accounting method	3,262	985
Separate value adjustments on receivables	78,984	31,859
Expenses for the company as a whole	117,787	99,842
Expenses for services	76,169	68,786
Sundry expenses	96,354	69,137
	651,614	**503,631**
Total	**387,350**	**271,185**

The increase in the balance of exchange gains and losses is essentially the result of the US dollar's upward revaluation against the euro. The deconsolidation of previously fully consolidated entities produced income of EUR 129.2 million in the year under review. For further information we would refer to section 4.3 "Major acquisitions and new formations". The decline in sundry income can be attributed to a fee included in the previous year for early termination of a contract in our US mortality portfolio amounting to EUR 59.1 million. The sundry expenses include the amortisation of the PVFP in an amount of EUR 3.0 million (EUR 2.2 million). For details we would refer to section 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 application of IFRS 15 we would refer to the remarks in section 3.1 "Summary of major accounting policies".

Revenue categories N 87

in EUR thousand	2022	2021
Revenue realised at a point in time		
Brokerage commissions, performance fees and similar forms of remuneration	43,823	38,521
Other insurance-related services	7,390	6,913
Revenue realised over time		
Other insurance-related services	79,846	66,429
Total	**131,059**	**111,863**

The brokerage commissions, performance fees and similar forms of remuneration in an amount of EUR 43.8 million (EUR 38.5 million) were realised at a point in time. Of this amount, EUR 43.0 million (EUR 37.7 million) is attributable to brokerage commissions earned by Group-internal insurance intermediaries.

Further revenues of EUR 0.8 million (EUR 0.8 million) were generated in this revenue category

An amount of EUR 79.8 million (EUR 66.4 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 30.3 million (EUR 28.0 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 underlying 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 realised pro rata temporis in accordance with the contractual term.

In addition, other revenues known as "binder fees" were earned from administrative activities on the South African market in an amount of EUR 17.4 million (EUR 16.1 million). The transaction price is calculated from a percentage rate in relation to the gross premium of the underlying insurance contracts. Binding fees are earned over a period of time.

On the German market revenues of EUR 11.9 million (EUR 8.6 million) were generated. These relate in large part to transfers of use for IT. The underlying transaction prices are derived from the contractually agreed contract prices and are realised pro rata temporis as the customer makes use of the IT.

On the North American market revenues of EUR 3.9 million (EUR 3.6 million) were earned from the assumption of administrative tasks. The performance obligation is considered to have been fulfilled when the company has rendered the contractually agreed services. Further revenues as defined by IFRS 15 were generated from the transfer of use of application software used for the underwriting of insurance risks. These amounted to EUR 7.5 million (EUR 4.1 million) in the year under review and are deemed to be earned over a period of time when the customer makes use of the software. In both cases the transaction price is derived from the contractually agreed contract prices.

An amount of EUR 5.9 million (EUR 5.2 million) was earned on the UK and Swedish markets from the performance of management services. The performance obligation is considered to have been fulfilled when the administrative activities specified in the contract were carried out. The transaction prices in this regard are measured essentially by the underlying general fee scales.

Further revenues of EUR 2.9 million (EUR 0.8 million) were generated in this revenue category.

In addition, revenues of EUR 7.4 million (EUR 6.9 million) were realised at a point in time in the year under review from other insurance-related services.

In this context revenues of EUR 6.9 million (EUR 6.4 million) were realised on the South African market which are connected with commission-based business but cannot be characterised as commissions. The transaction price is arrived at as a percentage of the underlying gross premium share. The performance obligation is deemed to be fulfilled at a point in time upon issuance of the insurance certificate for the end customer.

An amount of EUR 0.5 million (EUR 0.5 million) was also earned on the North American market 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.

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% 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%. This therefore gives rise to a Group tax rate (rounded) of 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 88

in EUR thousand	2022	2021
Actual tax for the year under review	301,740	250,029
Actual tax for other periods	(36,857)	(59,664)
Deferred taxes due to temporary differences	84,126	133,476
Deferred taxes from loss carry-forwards	116,353	28,313
Change in deferred taxes due to changes in tax rates	(663)	22,134
Value adjustments on deferred taxes	(11,069)	(22,719)
Total	**453,630**	**351,569**

Domestic/foreign breakdown of recognised tax expenditure/income N 89

in EUR thousand	2022	2021
Current taxes		
Germany	42,951	77,601
Abroad	221,932	112,764
Deferred taxes		
Germany	288,962	200,429
Abroad	(100,215)	(39,225)
Total	**453,630**	**351,569**

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 90

in EUR thousand	2022	2021
Deferred tax assets		
Tax loss carry-forwards	317,113	422,689
Loss and loss adjustment expense reserves	801,754	653,572
Benefit reserve	183,415	65,986
Other technical/non-technical provisions	54,291	71,671
Funds withheld	172,441	96,924
Deferred acquisition costs	2,993	1,820
Accounts receivable/reinsurance payable	972,860	712,092
Valuation differences relating to investments	1,036,962	87,990
Other valuation differences	202,404	62,886
Value adjustments [1]	(74,918)	(75,962)
Total	**3,669,315**	**2,099,668**
Deferred tax liabilities		
Loss and loss adjustment expense reserves	46,583	39,957
Benefit reserve	1,623,098	1,577,804
Other technical/non-technical provisions	48,859	29,222
Equalisation reserve	1,825,609	1,502,324
Funds withheld	69,257	1,263
Deferred acquisition costs	253,983	235,015
Accounts receivable/reinsurance payable	194,535	169,698
Valuation differences relating to investments	177,866	556,658
Other valuation differences	172,954	147,757
Total	**4,412,744**	**4,259,698**
Deferred tax liabilities	743,429	2,160,030

[1] Thereof on tax loss carry-forwards: EUR -59,477 thousand (EUR -72,871 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 assests and deferred tax liabilities N 91

in EUR thousand	2022	2021
Deferred tax assets	1,874,202	676,344
Deferred tax liabilities	2,617,631	2,836,374
Net deferred tax liabilities	**743,428**	**2,160,030**

In view of the unrealised components of profit and loss recognised directly in equity in the financial year, actual and deferred tax income – including amounts attributable to non-controlling interests – of EUR 1,659.8 million (tax income of EUR 178.5 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 92

in EUR thousand	2022	2021
Profit before taxes on income	1,996,369	1,651,790
Group tax rate	32.7%	32.7%
Expected expense for income taxes	652,813	540,135
Change in tax rates	(663)	22,134
Differences in tax rates affecting subsidiaries	(201,662)	(157,250)
Non-deductible expenses	299,156	126,484
Tax-exempt income	(210,040)	(82,582)
Tax expense/income not attributable to the reporting period	(44,168)	(14,706)
Value adjustments on deferred taxes/loss carry-forwards	(11,069)	(22,719)
Trade tax modifications	(45,508)	(68,131)
Other	14,771	8,204
Actual expense for income taxes	**453,630**	**351,569**

The expense for income taxes in the financial year was EUR 102.1 million higher than in the previous year at EUR 453.6 million (EUR 351.6 million). This development was driven largely by a significantly increased pre-tax profit and a slightly higher effective tax rate than in the previous year of 22.7% (21.3%).

Availability of non-capitalised loss carry-forwards and other temporary differences

Unused tax loss carry-forwards of EUR 1,291.4 million (EUR 1,875.6 million) existed as at the balance sheet date. Of existing tax loss carry-forwards and other temporary differences, EUR 307.3 million (EUR 302.9 million) was not capitalised in consideration of local tax rates because their realisation is not sufficiently certain.

The assets-side unadjusted deferred taxes on loss carry-forwards amounting to EUR 257.6 million (EUR 349.8 million) will probably be realised in an amount of EUR 80.5 million (EUR 34.1 million) within one year and in an amount of EUR 177.1 million (EUR 315.7 million) in the subsequent years.

In the year under review the actual taxes on income were reduced by EUR 2.1 million (EUR 0.8 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 in the year under review of EUR 0.1 million (EUR 0 million). This is opposed by deferred tax income of EUR 26.2 million (EUR 25.5 million) from the reassessment 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 106.4 million (EUR 30.9 million).

No deferred taxes were established on liabilities-side taxable temporary differences amounting to EUR 36.9 million (EUR 24.3 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 93

in EUR thousand	One to five years	Six to ten years	More than ten years	Unlimited	Total
Other temporary differences	–	–	–	73,529	73,529
Loss carry-forwards	148,431	–	–	85,316	233,747
Total	**148,431**	**–**	**–**	**158,845**	**307,276**

Introduction of global minimum taxation

In December 2021 the OECD published its model rules for a new global minimum rate of taxation. Just a few days later, the European Commission presented a draft directive on implementation of these rules in the EU, which was unanimously adopted in December 2022 via written procedure. Transposition into national law of the EU Member States is envisaged by the end of 2023. It is planned that the minimum taxation rules will apply to financial years commencing on or after 31 December 2023. The profits of multinational enterprise groups and large-scale domestic groups or companies with combined financial revenues of more than EUR 750 million are to be taxed at a minimum rate of 15% in the future. While the overall framework has already been published, implementation in German law and the elaboration of detailed guidance on application are currently still pending. The implications of this complex set of rules for Hannover Re therefore cannot yet be fully evaluated at the present moment in time.

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 trading 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 1.3 million (EUR 1.8 million) and other financial assets at fair value through profit or loss in an amount of EUR 3.5 million (EUR 0.1 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 60.1 million (EUR 50.3 million) and other financial assets at fair value through profit or loss in an amount of EUR 98.4 million (EUR 16.4 million).

The increase in equity from hedging instruments recognised directly in equity pursuant to IAS 39 in an amount of EUR 6.0 million (decrease of EUR 0.4 million recognised directly in equity) derived 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 receivables of EUR 6.1 million (other liabilities of EUR 0.3 million).

Hannover Re began to take out inflation swaps in the form of cash flow hedges in the 2022 financial year to minimise the inflation risk associated with payments under a morbidity loss reserve portfolio. These swaps serve primarily to hedge volatility in reinsurance payments due. The structuring is such that separate inflation swaps are taken out for the loss payments incurred in each year. These financial instruments result in disclosure of other financial assets at fair value through profit or loss in an amount of EUR 2.1 million (EUR 0 million). The hedge gave rise to an increase in equity from hedging instruments recognised directly in equity in an amount of EUR 2.1 million (EUR 0 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 was recognised in an amount of EUR 7.5 million under other receivables (EUR 2.0 million) as at the balance sheet date. The hedge gave rise to an increase in equity from hedging instruments recognised directly in equity in an amount of EUR 2.0 million (decrease of EUR 0.7 million recognised directly in equity).

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 94

in EUR thousand	2022 Less than one year	One to five years	Five to ten years	More than ten years	31.12.2022
Interest rate hedges					
Fair values	978	1,205	–	–	2,183
Notional values	79,308	73,862	–	–	153,170
Currency hedges					
Fair values	73,191	(2,167)	(26,624)	–	44,400
Notional values	1,937,042	922,927	312,312	–	3,172,281
Inflation hedges					
Fair values	405	1,164	559	–	2,128
Notional values	48,376	130,488	88,478	–	267,342
Share price hedges					
Fair values	7,542	–	–	–	7,542
Notional values	29,761	–	–	–	29,761
Total hedging instruments					
Fair values	82,115	202	(26,064)	–	56,253
Notional values	2,094,487	1,127,277	400,790	–	3,622,554

Maturity structure of derivative financial instruments N 95

in EUR thousand	2021 Less than one year	One to five years	Five to ten years	More than ten years	31.12.2021
Interest rate hedges					
Fair values	(704)	(909)	–	–	(1,613)
Notional values	5,946	100,164	–	–	106,110
Currency hedges					
Fair values	(8,703)	(8,966)	(11,517)	(5,105)	(34,291)
Notional values	2,961,844	311,335	401,221	46,141	3,720,541
Inflation hedges					
Fair values	–	(9)	–	–	(9)
Notional values	–	641	–	–	641
Share price hedges					
Fair values	2,012	–	–	–	2,012
Notional values	27,064	–	–	–	27,064
Total hedging instruments					
Fair values	(7,395)	(9,884)	(11,517)	(5,105)	(33,901)
Notional values	2,994,854	412,140	401,221	46,141	3,854,356

The net changes in the fair value of these instruments reduced the result of the financial year by EUR 4.2 million (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 96

in EUR thousand	2022				
	Fair value	Netting agreement	Cash collateral received/ furnished	Other collateral received/ furnished	Net amount
Derivative receivables	105,972	24,623	65,918	138	15,293
Derivative liabilities	59,687	24,623	1,384	31,287	2,393

Netting agreements N 97

in EUR thousand	2021				
	Fair value	Netting agreement	Cash collateral received/ furnished	Other collateral received/ furnished	Net amount
Derivative receivables	18,122	5,585	6,640	–	5,897
Derivative liabilities	49,253	5,585	5,788	34,416	3,464

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 1.5 million (EUR 1.0 million) as at the balance sheet date and was recognised under other financial assets at fair value through profit or loss together with an amount of EUR 0.3 million (EUR 0.4 million) recognised under other liabilities. In total, the change in the fair value of the derivative over the course of the year gave rise to income of EUR 0.6 million before tax (expense of EUR 15.0 million).

A derivative financial instrument was also unbundled from another similarly structured transaction in previous years. This gave rise to recognition of other liabilities of EUR 93,5 million (other financial assets at fair value through profit or loss of EUR 26.0 million). The performance of this derivative reduced the result by EUR 122.6 million (EUR 35.2 million) in the financial year.

A number of transactions concluded in the Life & 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 21.2 million (EUR 25.3 million) on the balance sheet date and was recognised under other financial assets at fair value through profit or loss. The change in value in subsequent periods is dependent upon the risk experience and led to an improvement in investment income of EUR 42.2 million (EUR 34.8 million) in the financial year.

The portfolio contains a hedge against an extreme increase in mortality that protects the Hannover Re Group against a rise in mortality rates, for example due to pandemics, natural catastrophes or terrorist attacks. The risk swap is indexed against a weighted combination of US, UK and Australian population mortality. Payment under the cover is triggered proportionately between 110% and 120% of the mortality index. The derivative was recognised with a positive fair value of EUR 126.2 million (EUR 39.2 million) under other financial assets at fair value through profit or loss. The change in the fair value of the derivative gave rise to income of EUR 87.0 million (EUR 43.9 million) in the course of the year.

In the area of life and health reinsurance a reinsurance treaty with a financing component was also written in the past 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 14.4 million (EUR 22.2 million) and other financial assets at fair value through profit or loss in an amount of EUR 124.4 million (EUR 135.8 million). Altogether, these arrangements gave rise to a deterioration in income of EUR 4.3 million (improvement in income of EUR 2.3 million) in the year under review.

At the end of the 2017 financial year an index-linked cover was written for longevity risks. The resulting derivative was recognised as at the balance sheet date with a positive fair value of EUR 5.6 million (EUR 4.6 million) under other financial assets at fair value through profit or loss. The change in the fair value of the derivative gave rise to income of EUR 3.8 million (EUR 9.6 million) in the course of the year.

In the 2022 financial year a cover containing a financing component was taken out for biometric risks in life and health reinsurance. IAS 39 requires that an embedded derivative be separated from this arrangement. The derivative resulted in recognition of other financial assets at fair value through profit or loss in an amount of EUR 69.8 million (none) in the year under review. The change in the fair value of this derivative gave rise to income of EUR 0.1 million (none) over 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 348.6 million (EUR 231.9 million) as well as recognition of liabilities in an amount of EUR 108.2 million (EUR 22.6 million) from the derivatives resulting from technical items as at the balance sheet date. Improvements in investment income amounting to EUR 133.7 million (EUR 90.6 million) as well as charges to income of EUR 126.9 million (EUR 50.2 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 1,290.9 million (EUR 2,651.7 million); an amount equivalent to EUR 1,095.6 million (EUR 1,988.1 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 and joint ventures, 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, 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. E+S Rückversicherung AG and Hannover Rück SE bear exclusive responsibility for German business and for international markets respectively.

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. Divisions of Hannover Rück SE performed services in connection with the insurance and reinsurance business of HDI Global Specialty SE, a participation of HDI Global SE.

Talanx Reinsurance Broker GmbH and Talanx AG grant 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 or Talanx AG.

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 that are not included in the Hannover Re Group'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 98

in EUR thousand	2022 Property and casualty reinsurance	2022 Life and health reinsurance	2022 Total	2021 Property and casualty reinsurance	2021 Life and health reinsurance	2021 Total
Material items in the statement of income						
Business assumed						
Premium	1,525,552	144,002	1,669,554	1,804,465	142,586	1,947,051
Underwriting result	(58,726)	30,095	(28,631)	(38,018)	19,099	(18,919)
Business ceded						
Premium	11,107	(61,247)	(50,140)	13,299	(71,924)	(58,625)
Underwriting result	11,452	(7,593)	3,859	24,392	(11,160)	13,232
Total						
Premium	1,536,659	82,755	1,619,414	1,817,764	70,662	1,888,426
Underwriting result	(47,274)	22,502	(24,772)	(13,626)	7,939	(5,687)
Material items in the balance sheet						
Assets						
Funds withheld	94,582	893,012	987,594	85,289	933,151	1,018,440
Deferred acquisition costs	241,102	17,398	258,500	280,676	17,668	298,344
Accounts receivable	505,788	16,295	522,083	688,885	11,564	700,449
Liabilities						
Loss and loss adjustment expense reserve	3,554,290	48,479	3,602,769	3,371,974	50,233	3,422,207
Benefit reserve	–	85,541	85,541	–	91,708	91,708
Unearned premium reserve	833,084	158	833,242	972,009	143	972,152
Contract deposits	–	778,108	778,108	–	810,913	810,913
Reinsurance payable	34,030	19,880	53,910	68,401	22,352	90,753

In addition, other assets of EUR 2.9 million (EUR 162.0 million) as well as other liabilities of EUR 43.1 million (EUR 33.8 million) exist with respect to Talanx AG and its subsidiaries which are not part of the scope of consolidation of Hannover Re.

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 performs investment and asset management services for Hannover Rück SE and the vast majority of its subsidiaries. A total amount of EUR 59.7 million (EUR 52.6 million) was expensed for the rendering of these services in the financial year just ended. Ampega Real Estate GmbH also performed services for Hannover Re until June 2021 under a number of management contracts, although in the course of the year it was merged into Ampega Asset Management GmbH. These contracts have been continued by Ampega Asset Management GmbH.

Hannover Rück SE has concluded agreements with Ampega Asset Management GmbH, Talanx Reinsurance Broker GmbH and Svedea AB that enable these companies to use software for screening 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.

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 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 Hannover Re companies.

Since 2012 a service agreement has existed between Hannover Rück SE and Talanx AG regarding the use of data acquisition software for Group accounting purposes.

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 members of the governing bodies of the parent company

A provision of altogether EUR 9.7 million (EUR 8.3 million) was established for the remuneration of the active members of the Executive Board of Hannover Re. Of this, EUR 4.9 million (EUR 3.9 million) is fixed remuneration and an anticipated EUR 4.8 million (EUR 4.4 million) variable remuneration. In the event of 100% target attainment the remuneration of the Executive Board consists of a 40% short-term fixed component and a 60% variable component. Each member of the Executive Board receives a contractual commitment to customary target remuneration which is aligned with their scope of responsibility and their expertise and experience of relevance to the position. The long-term incentive is paid out at the end of the four-year performance period in the 2027 financial year.

With effect from 1 January 2021 the variable component of the Executive Board remuneration is split into a short-term incentive (40%) and a long-term incentive (60%) ("HR performance share awards"). For a detailed explanation of the long-term incentive ("LTI") we would refer to section 8.3 "Share-based payment". The short-term incentive ("STI") is geared to Hannover Re's commercial success in the respective financial year. The basis for payment under the STI is the contractually defined STI target amount, which is based on overall target attainment of 100%. The overall target attainment (including the individual premium or deduction) can range from 0% to 200%. The amount paid out under the STI is thus limited to 200% of the target amount. In addition to the return on equity as a financial performance criterion, an individual premium or deduction is also determinative for the STI. The latter encompasses both financial and non-financial performance criteria, particularly including sustainability targets. The amount of the premium or deduction, which can range from -25 percentage points to +25 percentage points, is determined by the Supervisory Board at its reasonable discretion. The criteria and key performance indicators used to establish the individual premium or deduction are defined by the Supervisory Board in advance for the coming financial year and communicated to the members of the Executive Board. The STI for the 2022 financial year amounts to EUR 3.5 million (EUR 2.9 million).

The fixed remuneration is granted in three components, namely fixed remuneration, fringe benefits and retirement provision. The fixed remuneration is aligned with the scope of duties and the professional experience of the individual member of the Executive Board. In addition, each member of the Executive Board receives certain, non-performance-based fringe benefits in the customary scope, for example a company car and insurance coverage. These amounted to EUR 0.1 million (EUR 0.1 million). The benefits after termination of the employment relationship for the most part consist of a defined contribution retirement plan, which only takes the form of a final salary pension commitment for one member of the Executive Board. Altogether, a pension expense for the active members of the Executive Board amounting to EUR 0.8 million (EUR 1.3 million) was recognised for 2022.

The total remuneration of former members of the Executive Board and their surviving dependants, for whom 16 (16) pension commitments existed, amounted to EUR 1.9 million (EUR 1.8 million) in the year under review. Altogether, a provision of EUR 24.7 million (EUR 31.2 million) has been set aside for pension commitments.

The exclusively short-term total remuneration of the Supervisory Board of Hannover Re amounted to EUR 1.1 million (EUR 1.1 million). Of this, EUR 0.8 million (EUR 0.8 million) was fixed remuneration; a variable component no longer existed in 2021. In addition, remuneration of EUR 0.2 million (EUR 0.2 million) was paid for committee work together with EUR 0.1 million (EUR 0.1 million) in attendance allowances. A further EUR 0.1 million (EUR 0.1 million) arose in connection with supervisory board remuneration at Group companies. There are no pension commitments for former members of the Supervisory Board or their surviving dependants.

Remuneration of the members of the governing bodies N 99

in EUR million	2022	2021
Short-term incentives	4.6	4.0
Other long-term incentives	0.1	0.1
Post-employment benefits	1.9	1.8

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 2022 amounted to 0.00318% (0.00314%) of the issued shares, i. e. 3,835 (3,787) shares. These shares do not form part of the remuneration but were purchased privately on a voluntary basis.

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 granted any remuneration or benefits for personally rendered services.

8.3 Share-based payment

In the year under review a share-based payment plan with cash settlement existed within the Hannover Re Group (Share Award Plan – valid since 2011):

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 Annual General Meeting 2021 modified and expanded the share awards for the Executive Board with effect from the 2021 financial year (“performance shares”).

The Share Award Plan replaced the cancelled Stock Appreciation Rights Plan. 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 15 trading days before to 15 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 20 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 60% and for senior executives 40% or 35% – depending on management level – of the defined variable remuneration shall be granted in the form of share awards. Since the 2021 financial year the calculation of share awards for the Executive Board has been based on the target amount, which – depending on the entrepreneurial and personal target achievement – produces an allocation value that is at most 200% of the target amount.

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 amount paid out for the performance shares is additionally influenced by the development of the Total Shareholder Return (TSR). The TSR captures the share price performance as well as the dividends during the vesting period. The TSR of Hannover Re is considered in relation to the unweighted average TSR of a peer group, comprised of Munich Re, Swiss Re, Everest Re, RGA and SCOR, and produces the relative TSR. The base amount paid out derived from the share price and dividends is multiplied by this TSR, producing the final amount paid out – which is at most 200% of the base amount paid out.

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 100

	Allocation year								
	2022	2021		2020		2019		2018	
	Anticipated allocation	Final allocation 2022 for 2021	Anticipated allocation	Final allocation 2021 for 2020	Anticipated allocation	Final allocation 2020 for 2019	Anticipated allocation	Final allocation 2019 for 2018	Anticipated allocation
Valuation date									
Executive Board	30.12.2022	15.03.2022	30.12.2021	17.03.2021	30.12.2020	18.03.2020	30.12.2019	14.03.2019	28.12.2018
Senior Executives	30.12.2022	22.03.2022	30.12.2021	24.03.2021	30.12.2020	25.03.2020	30.12.2019	21.03.2019	28.12.2018
Valuation per share award in EUR									
Executive Board	185.50	148.86	167.15	150.42	130.30	139.04	172.30	129.60	117.70
Senior Executives	185.50	159.54	167.15	147.06	130.30	156.39	172.30	129.38	117.70
Number of allocated share awards in the allocation year									
Executive Board	27,658	27,977	25,130	7,851	9,214	7,993	7,278	7,882	9,010
Senior Executives	44,567	40,954	44,477	45,349	53,465	45,426	45,103	58,471	67,421
Other adjustments [1]	–	–	–	(894)	–	(4,720)	–	(6,190)	–
Total	72,225	68,931	69,607	52,306	62,679	48,699	52,381	60,163	76,431

[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 101**

in EUR thousand	Allocation year 2022	2021	2020	2019	2018	2017	2016	Total
Provision at 31 December 2020	**–**	**–**	**1,902**	**3,293**	**5,951**	**7,608**	**12,095**	**30,849**
Allocation 2021	–	2,638	1,863	2,688	3,500	3,595	1,227	15,511
Utilisation 2021	–	–	–	–	–	–	13,322	13,322
Release 2021	–	–	–	655	710	608	–	1,973
Provision at 31 December 2021	**–**	**2,638**	**3,765**	**5,326**	**8,741**	**10,595**	**–**	**31,065**
Allocation 2022	2,982	3,098	2,569	2,622	3,377	132	–	14,780
Utilisation 2022	–	–	–	–	–	10,602	–	10,602
Release 2022	–	131	107	139	41	125	–	543
Provision at 31 December 2022	**2,982**	**5,605**	**6,227**	**7,809**	**12,077**	**–**	**–**	**34,700**

The aggregate provision – recognised under the sundry non-technical provisions – amounted to EUR 34.7 million (EUR 31.1 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 14.8 million (EUR 15.5 million). This consists of the expense for share awards of the 2021 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 1.3 million (EUR 1.0 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 8,257 share awards of the Executive Board finally allocated in 2017 with a value of EUR 148.86 each plus the dividend entitlement of EUR 20.25 were paid out to the eligible members of the Executive Board. The 51,165 share awards of the senior executives for the 2017 financial year were paid out in 2022 with a value of EUR 159.54 each plus the dividend entitlement of EUR 20.25.

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 3,433 (3,298). As at the balance sheet date altogether 3,519 (3,346) staff were employed by the Hannover Re Group, with 1,537 (1,477) employed in Germany and 1,982 (1,869) working for the consolidated Group companies abroad.

Personnel information **N 102**

	2022					2021	
	31.3.	30.6.	30.9.	31.12.	Average	31.12.	Average
Number of employees (excluding members of the Executive Board)	3,411	3,435	3,452	3,519	3,433	3,346	3,298

Annual financial statements

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 103

in EUR thousand	2022	2021
a) Wages and salaries	342,637	302,594
	342,637	**302,594**
b) Social security contributions and expenditure on provisions and assistance		
ba) Social security contributions	26,481	25,144
bb) Expenditures for pension provision	31,311	29,028
bc) Expenditures for assistance	5,679	4,750
	63,471	**58,922**
Total	**406,108**	**361,516**

8.5 Earnings per share and dividend proposal

Calculation of the earnings per share N 104

	2022	2021
Group net income in EUR thousand	1,406,734	1,231,334
Weighted average of issued shares	120,596,910	120,597,003
Basic earnings per share in EUR	11.66	10.21
Diluted earnings per share in EUR	11.66	10.21

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 26,927 (15,766) 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 693.4 million (EUR 542.7 million) was paid in the year under review for the 2021 financial year.

It will be proposed to the Annual General Meeting on 3 May 2023 that a dividend of EUR 5.00 and a special dividend of EUR 1.00 per share should be paid for the 2022 financial year. This corresponds to a total distribution of EUR 723.6 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.

Arbitration procedures are pending with several cedants in connection with the rate increases sought by Hannover Re for a portfolio of US life reinsurance treaties. Should these arbitration procedures be decided in favour of Hannover Re, this would give rise to income altogether in the mid-double-digit millions at the time of the arbitration ruling. Negative implications for earnings would not, however, arise if the outcome of the procedures were not in Hannover Re's favour.

The other lawsuits concluded and still 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 debt issued by Hannover Finance (Luxembourg) S.A. in the 2012 financial year in an amount of EUR 500.0 million.

The guarantee given by Hannover Rück SE for the subordinated debt attaches if the issuer fails to render payments due under the bonds. The guarantee covers the nominal amount as well as interest due until the repayment dates. Given the fact that interest on the bond 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 4,165.8 million (EUR 4,305.4 million) and EUR 460.5 million (EUR 295.9 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 3,973.3 million (EUR 3,947.1 million) in the form of so-called "single trust funds". This amount includes a sum equivalent to EUR 3,323.0 million (EUR 3,131.8 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 3,046.8 million (EUR 3,210.1 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 2,988.6 million (EUR 2,646.8 million) and with various terms maturing at the latest in 2026.

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 1,423.5 million (EUR 1,264.2 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 and net assets" subsection of the management report, page 53 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 33.7 million (EUR 41.9 million) as collateral for existing derivative transactions. We received collateral with a fair value of EUR 89.9 million (EUR 14.4 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 1,344.2 million (EUR 922.4 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 1,038.7 million (EUR 1,588.2 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 11.9 million in favour of the pension fund "The Congregational & General Insurance Plc Pension and Life Assurance Scheme" 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 Leases

Leased properties

Hannover Re leases various office premises, technical facilities, office equipment and vehicles. A long-term land lease agreement also exists in connection with investment property.

The following items were recognised in the balance sheet as at 31 December 2022 in connection with leases.

Leases in the balance sheet N 105

in EUR thousand	2022	2021
Investment property	35,023	33,391
Own-use property	62,759	68,636
Fixtures, fittings and equipment	98	140
Sundry assets	1,376	1,159
Lease liabilities	111,665	112,553

The allocation to the right-of-use assets amounted to EUR 8.7 million (EUR 35.7 million) in the financial year. The increase can be attributed primarily to the long-term leasing of new office space.

The following amounts were recognised in the statement of income in connection with leases.

Amortisation of right-of-use assets in connection with leases **N 106**

in EUR thousand	2022	2021
Investment property	463	413
Own-use real estate	12,702	11,728
Fixtures, fittings and equipment	49	51
Sundry assets	891	891
Total	14,105	13,083

The interest expenses for lease liabilities totalled EUR 3.9 million (EUR 3.7 million). Expenses in connection with short-term leases were recognised in an amount of EUR 1.1 million (EUR 0.4 million). The total amounts payable for leases came to EUR 14.4 million (EUR 14.5 million).

Rented properties

Future minimum lease payments receivable **N 107**

in EUR thousand	Amounts receivable
2023	128,270
2024	114,909
2025	99,112
2026	90,649
2027	75,741
Subsequent years	221,574

The rental payments receivable result from the long-term renting out of properties by the Group's real estate companies. The leases in question are operating leases. The rental income received in the financial year amounted to EUR 166.5 million (EUR 137.0 million).

8.9 Fee paid to the auditor

The Supervisory Board of Hannover Re first 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) at its meeting on 8 March 2018.

On the recommendation of the Supervisory Board, the Annual General Meeting selected PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft (PwC GmbH) on 4 May 2022 as the independent auditor. 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 108**

	2022		2021	
in EUR thousand	PwC worldwide	thereof PwC GmbH	PwC worldwide	thereof PwC GmbH
Services relating to auditing of the financial statements	19,432	6,519	9,474	3,067
Other assurance services	201	57	225	135
Other services	644	575	301	190
Total	20,277	7,151	10,000	3,392

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 as well as audit services relating to the Supervisory Board's audit focus with respect to auditing support for the adoption of IFRS 17.

The fees for other assurance services relate to legally or contractually required reviews. The fees for other services encompass, for example, consultancy services in connection with implementation of the Supervisory Requirements for IT in Insurance Undertakings (VAIT).

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 first served as the engagement partner responsible for the audit of the annual and consolidated financial statements effective 31 December 2018.

8.10 Events after the balance sheet date

A number of large loss events have already occurred in the early weeks of 2023. They include, most notably, an earthquake that caused massive devastation in large parts of Turkey and Syria as well as severe flooding due to extreme rainfall in the Auckland region of New Zealand. A cyclone also caused extensive damage across parts of New Zealand. The amount of the insured losses and our participation in them cannot yet be reliably estimated. At this point in time, it is our assumption that the loss expenditure for Hannover Re from these events will be in the order of our pro-rata major loss budget for the first quarter of 2023.

Hannover, 7 March 2023

Executive Board

Henchoz	Althoff	Chèvre	Jungsthöfel
Dr. Miller	Ooi	Dr. Pickel	Sehm

Independent Auditor's Report

To Hannover Rück SE, Hannover

Report on the audit of the consolidated financial statements and of the group management report

Audit Opinions

We have audited the consolidated financial statements of Hannover Rück SE, Hannover, and its subsidiaries (the Group), which comprise the consolidated statement of financial position as at 31 December 2022, and the consolidated statement of comprehensive income, consolidated statement of profit or loss, consolidated statement of changes in equity and consolidated statement of cash flows for the financial year from 1 January to 31 December 2022, and notes to the consolidated financial statements, including a summary of significant accounting policies. In addition, we have audited the group management report of Hannover Rück SE including the remuneration report pursuant to § [Article] 162 AktG [Aktiengesetz: German Stock Corporation Act], including the related disclosures, included in section „Compensation Report" for the financial year from 1 January to 31 December 2022. In accordance with the German legal requirements, we have not audited the content of those parts of the group management report listed in the "Other Information" section of our auditor's report.

In our opinion, on the basis of the knowledge obtained in the audit,

- the accompanying consolidated financial statements comply, in all material respects, with the IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. [paragraph] 1 HGB [Handelsgesetzbuch: German Commercial Code] and, in compliance with these requirements, give a true and fair view of the assets, liabilities, and financial position of the Group as at 31 December 2022, and of its financial performance for the financial year from 1 January to 31 December 2022, and
- the accompanying group management report as a whole provides an appropriate view of the Group's position. In all material respects, this group management report is consistent with the consolidated financial statements, complies with German legal requirements and appropriately presents the opportunities and risks of future development. Our audit opinion on the group management report does not cover the content of those parts of the group management report listed in the "Other Information" section of our auditor's report.

Pursuant to § 322 Abs. 3 Satz [sentence] 1 HGB, we declare that our audit has not led to any reservations relating to the legal compliance of the consolidated financial statements and of the group management report.

Basis for the Audit Opinions

We conducted our audit of the consolidated financial statements and of the group management report in accordance with § 317 HGB and the EU Audit Regulation (No. 537/2014, referred to subsequently as "EU Audit Regulation") in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer [Institute of Public Auditors in Germany] (IDW). We performed the audit of the consolidated financial statements in supplementary compliance with the International Standards on Auditing (ISAs). Our responsibilities under those requirements, principles and standards are further described in the "Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report" section of our auditor's report. We are independent of the group entities in accordance with the requirements of European law and German commercial and professional law, and we have fulfilled our other German professional responsibilities in accordance with these requirements. In addition, in accordance with Article 10 (2) point (f) of the EU Audit Regulation, we declare that we have not provided non-audit services prohibited under Article 5 (1) of the EU Audit Regulation. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions on the consolidated financial statements and on the group management report.

Key Audit Matters in the Audit of the Consolidated Financial Statements

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements for the financial year from 1 January to 31 December 2022. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our audit opinion thereon; we do not provide a separate audit opinion on these matters.

In our view, the matters of most significance in our audit were as follows:

(1) Fair value measurement of certain financial instruments
(2) Measurement of provisions for claims outstanding in the property reinsurance business segment
(3) Measurement of premium reserves
(4) Calculation of estimated gross premium

Our presentation of these key audit matters has been structured in each case as follows:

(a) Matter and issue
(b) Audit approach and findings
(c) Reference to further information

Hereinafter we present the key audit matters:

(1) Fair value measurement of certain financial instruments

(a) In the Company's consolidated financial statements financial instruments amounting to EUR 68,478.4 million (78.8% of total assets) are reported.

Of these financial instruments, financial assets amounting to EUR 47,781.0 million are measured at fair value. Of those financial instruments in turn, the fair value of EUR 44,744.5 million is calculated using valuation models or based on third-party value indicators. The measurement of financial instruments whose fair value must be determined based on valuation models and third-party value indicators is subject to uncertainty because the most recent market data or comparable figures are not always available and therefore estimated values and parameters that cannot be currently observed on the market are also used. Financial instruments measured using models are subject to an increased measurement risk due to their lower objectivity and the underlying judgments, estimates and assumptions of the executive directors. Since the estimates and assumptions, in particular with regard to interest rates and cash flows, and the valuation methods applied could materially affect the measurement of these financial instruments and the assets, liabilities and financial performance of the Group and also extensive disclosures in the note to the consolidated financial statements on measurement methods and scope of judgments are necessary, this matter was of particular significance in the context of our audit.

(b) During our audit,we analyzed the financial instruments based on valuation models and third-party value indicators, with the focus on measurement uncertainties. Thereby, we assessed the appropriateness and effectiveness of the relevant controls for the measurement of these financial instruments and the model validation.Therewith, we evaluated, among other things, the integrity of the underlyingdata and the process for at the determination of the assumptions and estimatesused in the valuation.

With the help of our internal financial mathematics specialists, we alsoassessed the appropriateness of the methods applied by the executive directors to test the assets for impairment and the inputs used for that purpose.We have compared the methods and assumptions used to calculate valuation adjustments in the financial year with recognized practices and industry standards and ascertained to what extent these are suitable for determining an appropriate accountingtreatment.

Based on our audit procedures performed, we were able to satisfy ourselves that the methods and assumptions used by the executive directors to measure certain financial instruments (valued based on models and third-party value indicators) are suitable overall and that the disclosures contained in the notes to the consolidated financial statements are appropriate.

(c) The Company's disclosures on the measurement of the financial instruments are contained in the sections "Accounting policies" and "Notes to the individual items of the balance sheet", subsection "Assets under own management" of the notes to the consolidated financial statements.

(2) Measurement of provisions for claims outstanding in the property reinsurance business segment

(a) In the consolidated financial statements of the Company technical provisions ("claims provisions") amounting to EUR 46,864.4 million (53.9% of total assets) are reported under the "Provisions for unsettled claims" balance sheet item. Of that amount, EUR 41,006.6 million was attributable to the Property reinsurance segment.

The claims provisions under property reinsurance are estimated taking into account cedant information based on empirical values. The provision is measured based on actuarial methods, which require a sufficiently long data history and stability of the observed data. The mathematical methods use assumptions concerning premiums, ultimate loss ratios and run-off patterns, which are based on an expert estimate derived from past experience and, among other things, also take into account the expected effects of increased inflation rates. The executive directors calculate the amount of the claims provisions taking into account the results of the actuarial methods and other factors in relation to calculation uncertainties.

The determination of the claims provision required the use of judgments, estimates and assumptions by the executive directors. Minor changes to those assumptions or to the methods used may have a material impact on the measurement of this provision.

Against this background and also due to the material significance of the amount of this provision for the assets, liabilities and financial performance of the Group, the measurement of this provision was of particular significance in the context of our audit.

(b) Given the significance of claims provisions, as part of our audit we assessed together with our actuaries the methods used by the Company and the assumptions made by the executive directors. The assessment was based on our industry expertise and experience, among other things.

Among other things, we evaluated the appropriateness of the design ofthe process for recognizing reserves as well as carried out functional tests in order to assess the effectiveness of the internal controls. We focused in particular on controls designed to ensure that the data used are appropriate and complete and that the calculation processis subject to a sufficient form of quality assurance.

Based on the controls testing,we carried out additional analytical and substantive audit procedures relating to the measurement of the claims provision. In light of the significance of the claims provision for the overall business of the Company, our internal measurement specialists assessed the appropriateness of the methods used by the Company. Furthermore, our internal measurement specialists evaluated the models used by the Company and assumptions made by the executive directors based on industry expertise and experience with recognized actuarial practice. Thereby, we verified the valuation methods for consistency of use. In this context, the assessment of the legal representatives regarding increased inflation rates was also acknowledged.

Based on our audit procedures, we were able to satisfy ourselves that the estimates and assumptions made by the executive directors with respect to the claims provisions are appropriate overall.

(c) The Company's disclosures on the property reinsurance claims provisions are contained in the sections "Accounting policies" and "Notes to the individual items of the balance sheet", subsection "technical provisions" of the notes to the consolidated financial statements. Disclosures on risks are contained in the group management report in the section "Risk report", subsection "Technical risks of property reinsurance".

(3) Measurement of premium reserves

(a) In the consolidated financial statements technical provisions amounting to EUR 7.115.8 million (8.2% of total consolidated assets) are reported under the "Premium reserves" balance sheet item. The premium reserves were recognized primarily for the reinsurance activities in the life and health reinsurance segments.

The premium reserve is measured by using actuarial methods to derive the present value of future benefits to cedants, less the present value of premiums still to be paid by cedants in future. The respective policies are initially recognized in accordance with recognized accounting bases. Depending on the structure of the relevant policy and the regular business, the calculation is based either on a combination of available cedant settlements, where necessary adjusted to account for estimates of the course of the policy for settlement periods not yet settled or based on model-driven own calculations of the premium reserve. In so doing, actuarial assumptions must be made with respect to interest rates, investment yields, mortality, invalidity, longevity, costs and future behavior of policy holders.

Annual appropriateness tests are conducted to verify at the level of portfolios subject to standardized management whether the technical provisions calculated as of the reporting date in accordance with the accounting bases used upon initial recognition, and hence the premium reserve in particular, less existing deferred costs of concluding the policy, are sufficient to cover the present value of future benefits as best estimated at the balance sheet date, less the present value of contributions to be paid in connection with the standardized managed portfolios.

The estimate of the sufficiency of the reported premium reserves, the estimates made in the absence of cedant settlements as well as model-driven calculations of the premium reserve is subject to considerable scope for judgment on the part of the executive directors and the associated uncertainties in the estimations made.

Against this background and due to the material significance of the amount of the premium reserves for the assets, liabilities and financial performance of the Group as well as the complexity of the underlying calculations, this matter was of particular significance in the context of our audit.

(b) Given the significance of premium reserves, as part of our audit we assessed together with our actuaries the methods used by the Company and the assumptions made by the executive directors. The assessment was based on our industry expertise and experience, among other things.

For the purposes of the assessment, we also evaluated the design and effectiveness of the controls established by the Company for the purpose of calculating and recording the premium reserves. We focused in particular on controls designed to ensure that new products and policies are correctly classified and that changes in assumptions are correctly implemented in the systems.

Based on the controls testing,we carried out additional analytical and substantive audit procedures relating to the measurement of the premium reserves. With the help of our actuaries, we have compared the respective actuarial methods applied and the material assumptions with generally recognized actuarial practices and industry standards and ascertained to what extent these are appropriate for the valuation. In our tests of details procedures we evaluated the correct and proper use of the available cedant settlements for calculating the premium reserves. Thereby,we also assessed the appropriateness of the material assumptions by analyzing how the actuarial methods applied were derived.

Based on the tests of appropriateness conducted, we assessed whether the accounting bases and methods were appropriately applied. Where market rates of interest were used in the valuation, we verified the appropriateness of the discount rates used by comparing these with observable market parameters. Given the significance of the business for the Group, we focused in particular on the appropriateness test for the business of covering mortality risks in the USA in the Mortality Solutions division. Furthermore, we analyzed the development of premium reserves as compared to the previous year, particularly in light of the fact that the assumptions consistently correspond to the currently available cedant information, current business developments of the cedants and our expectations based on market observations.

Based on our audit procedures, we were able to satisfy ourselves that the methods and assumptions used by the executive directors for measuring the premium reservesare appropriate overall.

(c) The Company's disclosures on the premium reserve are contained in the sections "Accounting policies" and "Notes to the individual items of the balance sheet", subsection "technical provisions" of the notes to the consolidated financial statements. Disclosures on risks are contained in the group management report in the section "Risk report", subsection "Technical risks of personal reinsurance".

(4) Calculation of estimated gross premium

(a) In its consolidated financial statements, the Company reported gross premiums of EUR 33,275.5 million in the income statement.

Acquired reinsurance premiums are accounted for in accordance with the terms and conditions of the reinsurance policies. In the absence of settlements of cedants, the Company made supplementary or complete estimates of the contributions. The estimates were based on assumptions and are therefore subject to considerable uncertainties and scope of judgment.

Due to the material significance of the amount of the estimated premiums for the assets, liabilities and financial performance of the Group as well as the considerable scope for judgment on the part of the executive directors and the associated uncertainties in the estimations made, this matter was of particular significance in the context of our audit.

(b) For the assessment of the estimated gross premium, we first conducted a design testing of the contribution and estimation process. In that connection, we identified the material key controls and analyzed their design. Based on that analysis, we conducted a functional testing regarding the effectiveness of the key controls implemented in the process and assessed the appropriateness of the material assumptions by verifying and analyzing the calculating method for deriving the estimated gross premium.

In context of our tests of details procedures, we critically questioned the material assumptions underlying an estimate and had the Company explain to us the reasons for such estimates. Based on information on the contributions expected in the previous year,we reconciled the expectations against the actual results and thus were able to draw conclusions as to the qualityof the estimates.

Based on our audit procedures, we were able to satisfy ourselves that the calculation procedures applied by the executive directors to derivethe estimated gross premium are appropriate overall.

(c) The Company's disclosures on the recognized and estimated gross premiums are contained in the sections "Accounting policies" and "Notes to the individual items of the income statement" of the notes to the consolidated financial statements.

Other Information

The executive directors are responsible for the other information. The other information comprises the following non-audited parts of the group management report:

- the statement on corporate governance pursuant to § 289f HGB and § 315d HGB included in section "Enterprise management" of the group management report
- the non-financial statement to comply with §§ 289b to 289e HGB and with §§ 315b to 315c HGB included in section "Combined non-financial information statement" of the group management report
- the disclosures contained in the management report and marked as unaudited regarding Solvency II reporting

The other information comprises further all remaining parts of the annual report – excluding cross-references to external information – with the exception of the audited consolidated financial statements, the audited group management report and our auditor's report.

Our audit opinions on the consolidated financial statements and on the group management report do not cover the other information, and consequently we do not express an audit opinion or any other form of assurance conclusion thereon.

In connection with our audit, our responsibility is to read the other information mentioned above and, in so doing, to consider whether the other information

- is materially inconsistent with the consolidated financial statements, with the group management report disclosures audited in terms of content or with our knowledge obtained in the audit, or
- otherwise appears to be materially misstated.

If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the Executive Directors and the Supervisory Board for the Consolidated Financial Statements and the Group Management Report

The executive directors are responsible for the preparation of the consolidated financial statements that comply, in all material respects, with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 1 HGB and that the consolidated financial statements, in compliance with these requirements, give a true and fair view of the assets, liabilities, financial position, and financial performance of the Group. In addition, the executive directors are responsible for such internal control as they have determined necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud (i.e., fraudulent financial reporting and misappropriation of assets) or error.

In preparing the consolidated financial statements, the executive directors are responsible for assessing the Group's ability to continue as a going concern. They also have the responsibility for disclosing, as applicable, matters related to going concern. In addition, they are responsible for financial reporting based on the going concern basis of accounting unless there is an intention to liquidate the Group or to cease operations, or there is no realistic alternative but to do so.

Furthermore, the executive directors are responsible for the preparation of the group management report that, as a whole, provides an appropriate view of the Group's position and is, in all material respects, consistent with the consolidated financial statements, complies with German legal requirements, and appropriately presents the opportunities and risks of future development. In addition, the executive directors are responsible for such arrangements and measures (systems) as they have considered necessary to enable the preparation of a group management report that is in accordance with the applicable German legal requirements, and to be able to provide sufficient appropriate evidence for the assertions in the group management report.

The supervisory board is responsible for overseeing the Group's financial reporting process for the preparation of the consolidated financial statements and of the group management report.

The executive directors and the supervisory board are further responsible for the preparation of the remuneration report, including the related disclosures, which is included in a separate section of the group management report and complies with the requirements of § 162 AktG. They are also responsible for such internal control as they determine is necessary to enable the preparation of a remuneration report, including the related disclosures, that is free from material misstatement, whether due to fraud or error.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements and of the Group Management Report

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and whether the group management report as a whole provides an appropriate view of the Group's position and, in all material respects, is consistent with the consolidated financial statements and the knowledge obtained in the audit, complies with the German legal requirements and appropriately presents the opportunities and risks of future development, as well as to issue an auditor's report that includes our audit opinions on the consolidated financial statements and on the group management report.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with § 317 HGB and the EU Audit Regulation and in compliance with German Generally Accepted Standards for Financial Statement Audits promulgated by the Institut der Wirtschaftsprüfer (IDW) and supplementary compliance with the ISAs will always detect a material misstatement. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements and this group management report.

We exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements and of the group management report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our audit opinions. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls.
- Obtain an understanding of internal control relevant to the audit of the consolidated financial statements and of arrangements and measures (systems) relevant to the audit of the group management report in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an audit opinion on the effectiveness of these systems.
- Evaluate the appropriateness of accounting policies used by the executive directors and the reasonableness of estimates made by the executive directors and related disclosures.
- Conclude on the appropriateness of the executive directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in the auditor's report to the related disclosures in the consolidated financial statements and in the group management report or, if such disclosures are inadequate, to modify our respective audit opinions. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to be able to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements present the underlying transactions and events in a manner that the consolidated financial statements give a true and fair view of the assets, liabilities, financial position and financial performance of the Group in compliance with IFRSs as adopted by the EU and the additional requirements of German commercial law pursuant to § 315e Abs. 1 HGB.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express audit opinions on the consolidated financial statements and on the group management report. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinions.
- Evaluate the consistency of the group management report with the consolidated financial statements, its conformity with German law, and the view of the Group's position it provides.
- Perform audit procedures on the prospective information presented by the executive directors in the group management report. On the basis of sufficient appropriate audit evidence we evaluate, in particular, the significant assumptions used by the executive directors as a basis for the prospective information, and evaluate the proper derivation of the prospective information from these assumptions. We do not express a separate audit opinion on the prospective information and on the assumptions used as a basis. There is a substantial unavoidable risk that future events will differ materially from the prospective information.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with the relevant independence requirements, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter.

Other legal and regulatory requirements

Report on the Assurance on the Electronic Rendering of the Consolidated Financial Statements and the Group Management Report Prepared for Publication Purposes in Accordance with § 317 Abs. 3a HGB

Assurance Opinion

We have performed assurance work in accordance with § 317 Abs. 3a HGB to obtain reasonable assurance as to whether the rendering of the consolidated financial statements and the group management report (hereinafter the "ESEF-documents") contained in the electronic file HannoverRueckSE_KA_KLB_2022-12-31.zip and prepared for publication purposes complies in all material respects with the requirements of § 328 Abs. 1 HGB for the electronic reporting format ("ESEF format"). In accordance with German legal requirements, this assurance work extends only to the conversion of the information contained in the consolidated financial statements and the group management report into the ESEF format and therefore relates neither to the information contained within these renderings nor to any other information contained in the electronic file identified above.

In our opinion, the rendering of the consolidated financial statements and the group management report contained in the electronic file identified above and prepared for publication purposes complies in all material respects with the requirements of § 328 Abs. 1 HGB for the electronic reporting format. Beyond this assurance opinion and our audit opinion on the accompanying consolidated financial statements and the accompanying group management report for the financial year from 1 January to 31 December 2022 contained in the "Report on the Audit of the Consolidated Financial Statements and on the Group Management Report" above, we do not express any assurance opinion on the information contained within these renderings or on the other information contained in the electronic file identified above.

Basis for the Assurance Opinion

We conducted our assurance work on the rendering of the consolidated financial statements and the group management report contained in the electronic file identified above in accordance with § 317 Abs. 3a HGB and the IDW Assurance Standard: Assurance Work on the Electronic Rendering, of Financial Statements and Management Reports, Prepared for Publication Purposes in Accordance with § 317 Abs. 3a HGB (IDW AsS 410 (06.2022)) and the International Standard on Assurance Engagements 3000 (Revised). Our responsibility in accordance therewith is further described in the "Group Auditor's Responsibilities for the Assurance Work on the ESEF-Documents" section. Our audit firm applies the IDW Standard on Quality Management 1: Requirements for Quality Management in the Audit Firm (IDW QS 1).

Responsibilities of the Executive Directors and the Supervisory Board for the ESEF Documents

The executive directors of the Company are responsible for the preparation of the ESEF-documents including the electronic renderings of the consolidated financial statements and the group management report in accordance with § 328 Abs. 1 Satz 4 Nr. [number] 1 HGB and for the tagging of the consolidated financial statements in accordance with § 328 Abs. 1 Satz 4 Nr. 2 HGB.

In addition, the executive directors of the Company are responsible for such internal control as they have considered necessary to enable the preparation of ESEF-documents that are free from material non-compliance with the requirements of § 328 Abs. 1 HGB for the electronic reporting format, whether due to fraud or error.

The supervisory board is responsible for overseeing the process for preparing the ESEF-documents as part of the financial reporting process.

Group Auditor's Responsibilities for the Assurance Work on the ESEF Documents

Our objective is to obtain reasonable assurance about whether the ESEF-documents are free from material non-compliance with the requirements of § 328 Abs. 1 HGB, whether due to fraud or error. We exercise professional judgment and maintain professional skepticism throughout the assurance work. We also:

- Identify and assess the risks of material non-compliance with the requirements of § 328 Abs. 1 HGB, whether due to fraud or error, design and perform assurance procedures responsive to those risks, and obtain assurance evidence that is sufficient and appropriate to provide a basis for our assurance opinion.
- Obtain an understanding of internal control relevant to the assurance work on the ESEF documents in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing an assurance opinion on the effectiveness of these controls.
- Evaluate the technical validity of the ESEF-documents, i.e., whether the electronic file containing the ESEF-documents meets the requirements of the Delegated Regulation (EU) 2019/815 in the version in force at the date of the consolidated financial statements on the technical specification for this electronic file.
- Evaluate whether the ESEF-documents provide an XHTML rendering with content equivalent to the audited consolidated financial statements and to the audited group management report.
- Evaluate whether the tagging of the ESEF-documents with Inline XBRL technology (iXBRL) in accordance with the requirements of Articles 4 and 6 of the Delegated Regulation (EU) 2019/815, in the version in force at the date of the consolidated financial statements, enables an appropriate and complete machine-readable XBRL copy of the XHTML rendering.

Further Information pursuant to Article 10 of the EU Audit Regulation

We were elected as group auditor by the annual general meeting on 4 May 2022. We were engaged by the supervisory board on 4 July 2022. We have been the group auditor of the Hannover Rück SE, Hannover, without interruption since the financial year 2018.

We declare that the audit opinions expressed in this auditor's report are consistent with the additional report to the audit committee pursuant to Article 11 of the EU Audit Regulation (long-form audit report).

Reference to an Other Matter – use of the Auditor's Report

Our auditor's report must always be read together with the audited consolidated financial statements and the audited group management report as well as the assured ESEF-documents. The consolidated financial statements and the group management report converted to the ESEF format – including the versions to be filed in the company register – are merely electronic renderings of the audited consolidated financial statements and the audited group management report and do not take their place. In particular, the "Report on the Assurance on the Electronic Rendering of the Consolidated Financial Statements and the Group Management Report Prepared for Publication Purposes in Accordance with § 317 Abs. 3a HGB" and our assurance opinion contained therein are to be used solely together with the assured ESEF-documents made available in electronic form.

German public auditor responsible for the engagement

The German Public Auditor responsible for the engagement is Mathias Röcker.

Hannover, 7 March 2023

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

sgd. Mathias Röcker	sgd. Dennis Schnittger
Wirtschaftsprüfer	Wirtschaftsprüfer
(German Public Auditor)	(German Public Auditor)

Independent Practitioner's Report on a Limited Assurance Engagement on Non-financial Reporting

(PricewaterhouseCoopers GmbH has performed a limited assurance engagement on the German version of the combined non-financial statement and issued an independent practitioner`s report in German language, which is authoritative. The following text is a translation of the independent practitioner`s report.)

To Hannover Rück SE, Hannover

We have performed a limited assurance engagement on the combined non-financial statement of Hannover Rück SE, Hannover, (hereinafter the "Company") for the period from 1 January to 31 December 2022 (hereinafter the "Combined Non-financial Statement") included in section "Combined Non-financial Statement" of the combined management report.

Not subject to our assurance engagement are the external sources of documentation or expert opinions mentioned in the Combined Non-financial Statement.

Responsibilities of the Executive Directors

The executive directors of the Company are responsible for the preparation of the Combined Non-financial Statement in accordance with §§ (Articles) 315c in conjunction with 289c to 289e HGB ("Handelsgesetzbuch": "German Commercial Code") and Article 8 of REGULATION (EU) 2020/852 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18. June 2020 on establishing a framework to facilitate sustainable investment and amending Regulation (EU) 2019/2088 (hereinafter the "EU Taxonomy Regulation") and the Delegated Acts adopted thereunder, as well as for making their own interpretation of the wording and terms contained in the EU Taxonomy Regulation and the Delegated Acts adopted thereunder, as set out in section "Disclosures under Article 8 of the EU Taxonomy Regulation" of the Combined Non-financial Statement.

This responsibility includes the selection and application of appropriate non-financial reporting methods and making assumptions and estimates about individual non-financial disclosures of the Group that are reasonable in the circumstances. Furthermore, the executive directors are responsible for such internal controls as the executive directors consider necessary to enable the preparation of a Combined Non-financial Statement that is free from material misstatement whether due to fraud or error.

The EU Taxonomy Regulation and the Delegated Acts issued thereunder contain wording and terms that are still subject to considerable interpretation uncertainties and for which clarifications have not yet been published in every case. Therefore, the executive directors have disclosed their interpretation of the EU Taxonomy Regulation and the Delegated Acts adopted thereunder in section "Disclosures under Article 8 of the EU Taxonomy Regulation" of the Combined Non-financial Statement. They are responsible for the defensibility of this interpretation. Due to the immanent risk that indeterminate legal terms may be interpreted differently, the legal conformity of the interpretation is subject to uncertainties.

Independence and Quality Control of the Audit Firm

We have complied with the German professional provisions regarding independence as well as other ethical requirements.

Our audit firm applies the national legal requirements and professional standards – in particular the Professional Code for German Public Auditors and German Chartered Auditors ("Berufssatzung für Wirtschaftsprüfer und vereidigte Buchprüfer": "BS WP/vBP") as well as the Standard on Quality Control 1 published by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany; IDW): Requirements to quality control for audit firms (IDW Qualitätssicherungsstandard 1: Anforderungen an die Qualitätssicherung in der Wirtschaftsprüferpraxis – IDW QS 1) – and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Responsibility of the Assurance Practitioner

Our responsibility is to express a conclusion with limited assurance on the Combined Non-financial Statement based on our assurance engagement.

We conducted our assurance engagement in accordance with 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 to obtain limited assurance about whether any matters have come to our attention that cause us to believe that the Company's Combined Non-financial Statement, other than the external sources of documentation or expert opinions mentioned in the Combined Non-financial Statement, are not prepared, in all material respects, in accordance with §§ 315c in conjunction with 289c to 289e HGB and the EU Taxonomy Regulation and the Delegated Acts issued thereunder as well as the interpretation by the executive directors disclosed in section "Disclosures under Article 8 of the EU Taxonomy Regulation" of the Combined Non-financial Statement.

In a limited assurance engagement the procedures performed are less extensive than in a reasonable assurance engagement, and accordingly a substantially lower level of assurance is obtained. The selection of the assurance procedures is subject to the professional judgement of the assurance practitioner.

In the course of our assurance engagement, we have, amongst other things, performed the following assurance procedures and other activities:

- Gain an understanding of the structure of the Group's sustainability organisation and stakeholder engagement
- Inquiries of the executive directors and relevant employees involved in the preparation of the Combined Non-financial Statement about the preparation process, about the internal control system relating to this process and about disclosures in the Combined Non-financial Statement
- Identification of likely risks of material misstatement in the Combined Non-financial Statement
- Analytical procedures on selected disclosures in the Combined Non-financial Statement
- Reconciliation of selected disclosures with the corresponding data in the consolidated financial statements and combined management report
- Evaluation of the presentation of the Combined Non-financial Statement
- Evaluation of the process to identify taxonomy-eligible economic activities and the corresponding disclosures in the Combined Non-financial Statement

In determining the disclosures in accordance with Article 8 of the EU Taxonomy Regulation, the executive directors are required to interpret undefined legal terms. Due to the immanent risk that undefined legal terms may be interpreted differently, the legal conformity of their interpretation and, accordingly, our assurance engagement thereon are subject to uncertainties.

Assurance Opinion

Based on the assurance procedures performed and evidence obtained, nothing has come to our attention that causes us to believe that the Combined Non-financial Statement of the Company for the period from 1 January to 31 December 2022 is not prepared, in all material respects, in accordance with §§ 315c in conjunction with 289c to 289e HGB and the EU Taxonomy Regulation and the Delegated Acts issued thereunder as well as the interpretation by the executive directors disclosed in section "Disclosures under Article 8 of the EU Taxonomy Regulation" of the Combined Non-financial Statement. We do not express an assurance opinion on the external sources of documentation or expert opinions mentioned in the Combined Non-financial Statement.

Restriction of Use

We draw attention to the fact that the assurance engagement was conducted for the Company's purposes and that the report is intended solely to inform the Company about the result of the assurance engagement. Consequently, it may not be suitable for any other purpose than the aforementioned. Accordingly, the report is not intended to be used by third parties for making (financial) decisions based on it. Our responsibility is to the Company. We do not accept any responsibility to third parties. Our assurance opinion is not modified in this respect.

Frankfurt am Main, 7 March 2023

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

Nicolette Behncke	ppa. Christopher Hintze
Wirtschaftsprüferin	Wirtschaftsprüfer
[German public auditor]	[German public auditor]

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, 6 March 2023

Executive Board

Henchoz	Althoff	Chèvre	Jungsthöfel
Dr. Miller	Ooi	Dr. Pickel	Sehm

Supervisory Board

Report by the Supervisory Board

of Hannover Rück SE

In the 2022 financial year the Supervisory Board fulfilled its tasks and duties in accordance with the law, the Articles of Association and its Rules of Procedure. In our function as the Supervisory Board we considered at length 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 regular written and verbal reports. The Supervisory Board of Hannover Rück SE held four regular meetings in order to adopt the necessary resolutions after appropriate discussion. In conformity with the applicable safeguards to reduce the risk of infection with Covid-19 the meetings were held in a hybrid format, i. e. with partially physical and partially virtual attendance. All the members took part in the meetings of the Supervisory Board and its committees held in 2022. In addition, two representatives of the Federal Financial Supervisory Authority attended one meeting of the Supervisory Board. The individual participation in the meetings is shown in the following table:

	Participation rate	
	Number of meetings	in %
Participation in full meetings of the Supervisory Board		
Torsten Leue (Chairman)	4/4	100
Herbert K. Haas	4/4	100
Natalie Bani Ardalan	4/4	100
Frauke Heitmüller	4/4	100
Ilka Hundeshagen	4/4	100
Dr. Ursula Lipowsky	4/4	100
Dr. Michael Ollmann	4/4	100
Dr. Andrea Pollak	4/4	100
Dr. Erhard Schipporeit	4/4	100
Participation in meetings of the Finance and Audit Committee		
Torsten Leue	4/4	100
Herbert K. Haas	4/4	100
Dr. Ursula Lipowsky (Chairwoman)	4/4	100
Participation in meetings of the Standing Committee		
Torsten Leue (Chairman)	3/3	100
Herbert K. Haas	3/3	100
Dr. Erhard Schipporeit	3/3	100

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. With regard to reports on topics that fall under the responsibility of key functions, we had an opportunity to engage directly in a dialogue with the respective function holders. The quarterly reports with the components of the financial statements and the key figures for the Hannover Re Group constituted an important source of information for the Supervisory Board. We also held discussions without the presence of the Executive Board, inter alia regarding personnel matters on the level of the Executive Board and regularly in relation to matters of the Supervisory Board's internal organisation.

We received an analysis of the 2021 results in property & casualty and life & health reinsurance as well as a presentation from the Executive Board covering the profit expectations for the 2022 financial year and the operational planning for the 2023 financial year. Outside the meetings, too, the Chairman of the Supervisory Board was constantly kept informed by the Chairman of the Executive Board of major developments and impending decisions as well as of the company's risk situation. The full Supervisory Board was also kept informed of major events outside the meetings in writing. Dr. Lipowsky, since 1 April 2022 Chairwoman of the Finance and Audit Committee, and prior to her Mr. Haas in the same role as Chairman, engaged in a regular dialogue during 2022 with the Chief Financial Officer and the independent auditor on the topics of financial reporting, auditing of the financial statements and the internal control system. 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 2022 financial year.

Key points of deliberation in the full meetings of the Supervisory Board

In 2022 we regularly discussed developments in the global economy and on financial markets with the Executive Board, as well as the direct and strategic implications for the company. Particularly noteworthy here are the Covid-19 pandemic, the war in Ukraine, rising inflation and weather events.

At its meeting on 8 March 2022 the Supervisory Board discussed in detail the audited annual and consolidated financial statements as well as the Executive Board's proposal for the appropriation of the disposable profit for the 2021 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. The independent auditors presented the results of the audit and elaborated on the audit procedure. The assurance report on the non-financial information statement was also discussed. The Executive Board outlined the prospects for the current 2022 financial year, with particular attention focused on the outbreak of war in Ukraine and the initial assessment of the resulting impacts. The insights gained from the important renewals in property and casualty reinsurance as at 1 January 2022 were also described, providing us with a good impression of the development of market conditions and Hannover Re's positioning. We also exchanged views with the Executive Board on the current strategy cycle 2021–2023 and the status of target achievement. We discussed the major findings from the compliance, audit and risk reports. The respective function holders of the key functions were available to answer questions for this purpose. We adopted a resolution on the annual revision of the investment guidelines, in which regard no significant change to the general investment strategy was proposed. Additionally, 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 individual targets for the 2021 financial year. In this context, as usual, we factored the findings of external remuneration surveys into our deliberations for the purpose of making a market comparison. In preparation for the Annual General Meeting on 4 May 2022 the agenda was discussed and approved, and in view of the protracted uncertainties connected with the pandemic we opted to hold the General Meeting virtually with no in-person attendance. In terms of content, the remuneration report for the Executive Board was to be submitted to the General Meeting for approval pursuant to § 120 a Para. 4 Stock Corporation Act (AktG). Details of the remuneration systems can be found in the Declaration on Corporate Governance on pages 107 et seq. and the remuneration report for 2022 on pages 114 et seq. At the recommendation of the Finance and Audit Committee, we proposed to the General Meeting that PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft should again be commissioned and mandated to conduct the audit of the annual financial statements. After extensive deliberations we also decided that with effect from 1 April 2022 Dr. Lipowsky should take over the chair of the existing Finance and Audit Committee after some years under the leadership of Mr. Haas. Given that, with Dr. Lipowsky, the chair of the committee is now held by a member of the Supervisory Board deemed independent under the German Corporate Governance Code from 1 April 2022 onwards, we updated the Declaration of Conformity with the Code at this date.

At the meeting held on 3 May 2022 the Executive Board reported on the first quarter of 2022. We explored the overall results of the previous year in greater depth, with the quality and adequacy of the loss reserves in property and casualty reinsurance considered in detail. Both internal and external experts were available to answer our questions in this regard. In addition to the outlook for the current financial year, which continued to be shaped by the war in Ukraine and resulting economic effects, the examination of the Own Risk and Solvency Assessment (ORSA) report on the previous year 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 report were explained. We also received the audit report on the Solvency II balance sheet. A capital measure to be adopted within the Group was another focus of discussions. In conformity with § 111 Para. 5 Stock Corporation Act (AktG), the targets for women on the Executive Board and Supervisory Board were explored and defined. The current values can be found in the Declaration on Corporate Governance on page 107 et seq. Furthermore, we used the meeting as an opportunity to have the updated Code of Conduct presented to us. The Code of Conduct has now been published on the company's website (https://www.hannover-re.com/50943/code-of-conduct.pdf). With regard to the annually conducted self-assessment of the Supervisory Board's areas of expertise, the Supervisory Board decided that in 2023 the current list of topics – which already goes beyond the regulatory requirements – will be expanded to include the important areas of "ESG (Environmental, Social, Governance)", "auditing of financial statements" and "digitalisation".

On 3 August 2022, in a meeting that lasted the entire day, the Executive Board reported on the first half of 2022, describing as usual key performance indicators from the underwriting and non-underwriting side and outlining the progress made in attaining the strategic targets. The potential repercussions of the war in Ukraine remained a primary focus. We discussed the major insights from the risk report and the Chief Risk Officer presented at our request the internal cyber exposure management, including the report on Realistic Disaster Scenarios. Another key topic at the meeting was the discussion of and reporting on the status of implementation of the current IT strategy. Based on a separate item of the reporting, we also looked at the strategy of the property and casualty reinsurance segment in the United States. Furthermore, an account of related party transactions was routinely provided. It was concluded that there were no transactions in the reporting period that fall under the legal requirements governing mandatory approval (§ 111b Stock Corporation Act (AktG)) or compulsory disclosure (§ 111c Stock Corporation Act (AktG)). Within the subject area of corporate governance we explored the recommendations set out in the German Corporate Governance Code, which was revised in the year under review.

We were again provided with reports on the latest developments in sustainability and the company's measures and action fields. We shall engage in a regular dialogue about ESG topics, especially those of a strategic nature, in the meetings of the full Supervisory Board and have therefore nominated Dr. Andrea Pollak from among our own ranks as an expert in matters of ESG and sustainability.

On 30 August 2022 all the members of the Supervisory Board came together for a special meeting dedicated exclusively to the functioning and internal implementation of the new accounting regime (IFRS 17 and IFRS 9). Extensive training materials with illustrative examples had been prepared for the Supervisory Board for this purpose.

At the last meeting of the year held on 2 November 2022, we deliberated at length on the key preliminary results in the business performance and the outlook for the current financial year. The above-average large loss expenditure in 2022, which again confronted the entire industry with exceptional challenges in the year under review, was our primary focus. In addition, we discussed with the Executive Board the impacts of inflation and the protracted war in Ukraine. The Executive Board also presented to us the operational planning for 2023, which we considered in detail and subsequently approved. We discussed the latest insights from the risk report, including a special report on climate risks, and were informed of the status of major pending legal proceedings. The Executive Board provided routine reporting on employee capacities and the elaboration of the remuneration system for senior executives pursuant to § 3 Para. 5 of the Regulation on the Supervisory Law Requirements for Remuneration Schemes in the Insurance Sector (VersVergV). At this meeting we also adopted the resolution on issuance of subordinated debt. The bond was successfully issued on 14 November 2022 in the planned volume and with a coupon of 5.875% p.a. (https://www.hannover-re.com/1914419/bonds). Furthermore, the Supervisory Board explored the possible contribution of part of the company's private equity portfolio to a joint venture.

A significant part of the meeting was also devoted to corporate governance matters. Based on the findings of the "Fit and Proper" self-assessment that had been conducted among the Supervisory Board members, the Supervisory Board engaged in an extensive exchange of views on a development plan for the entire Supervisory Board. It was again the case this year that the individual members of the Supervisory Board attended advanced training measures in relation to various core topics; the costs incurred in this connection were paid by the company. Topics covered in 2022 included IFRS and ESG. We also approved the Supervisory Board's current competency profile in the form of a skills matrix. This is published as part of the Declaration on Corporate Governance (page 113). In addition, we nominated Dr. Lipowsky and Mr. Haas as "financial experts" in accordance with §100 Para. 5 Stock Corporation Act (AktG), with Dr. Lipowsky having the necessary expertise particularly in accounting matters and Mr. Haas in particular when it comes to the auditing of financial statements. With these further advances in corporate governance, we were then able to join the Executive Board in issuing an unqualified Declaration of Conformity pursuant to § 161 Stock Corporation Act (AktG) regarding compliance with the German Corporate Governance Code. We also discussed and approved as the full Supervisory Board the individual targets for the members of the Executive Board for 2023. The focus here was on the findings of the Organisational Health Check, sustainability and the strategic objectives.

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 and the Standing Committee met three times in 2022. The committee chairs updated the full Supervisory Board on the major deliberations of the committee meetings at its next meeting and provided an opportunity for further questions. In the case of activities conducted by the committees preparatory to adoption of a resolution, we have consistently taken care to ensure that the full Supervisory Board remains extensively informed in order to fulfil its duties of due diligence.

The Finance and Audit Committee considered inter alia the consolidated financial statement and the quarterly reports drawn up in accordance with IFRS and the annual 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 years, 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 as well as reports of the key functions 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. The review of the quality of the auditing was carried out using the system put in place in previous years. In one meeting the Committee focused on the development of the company's major equity participations. The important topic of ESG/sustainability was also discussed by the Committee on multiple occasions, including in connection with the current reporting framework. The Committee again opted for an external audit of the non-financial information statement 2022 and commissioned PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft to conduct this. The implementation of the new financial reporting standard (IFRS 17) was another point of emphasis in the Committee's deliberations in the financial year. On 31 August 2022 the Committee came together for additional, more in-depth training following the meeting of the full Supervisory Board. At each meeting the Chief Risk Officer gave an account of the latest developments in risk management and answered questions about the risk report. We were able to discuss special topics, such as climate change, with him. The Committee also explored further matters relating to the internal control system. In addition, the Committee regularly engaged with the latest developments in the run-off of losses and exchanged views on this with the Executive Board. The Committee defined the audit concentrations for the auditing of the annual accounts for the financial year and considered at length the audit plan and the audit approach for the auditing of the annual financial statements. It explored the evaluation of the audit risk and the resulting audit scope with the auditors of the annual financial statements. The Finance and Audit Committee also maintained a dialogue with the auditors independently of the Executive Board.

As in the previous years, the Standing Committee reviewed the adequacy of the remuneration system for the members of the Executive Board, determined the variable remuneration of the members of the Executive Board for the 2021 financial year based on the findings pertaining to attainment of their respective targets and examined the remuneration for the Board members who were due for review, among other things. With regard to all these matters the Committee drew up corresponding recommendations for the full Supervisory Board. In the context of the extensions of the terms of office for individual members of the Executive Board that were up for discussion in 2022, we engaged in an ongoing dialogue on medium- and long-term succession arrangements. The Committee further addressed the enlargement of the Executive Board from seven to eight members and the preparations for appointment of the new member of the Executive Board. Furthermore, the individual targets of the members of the Executive Board for 2023 were defined on the basis of the updated remuneration system and prepared for adoption of a resolution by the full Supervisory Board.

The Nomination Committee was not convened in 2022.

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 auditor was chosen by the General Meeting following the recommendation of the Supervisory Board; the Chairman of the Supervisory Board awarded the audit mandate. The auditor's independence declaration was received. Along with the audit concentrations defined by the European Securities and Markets Authority and the Federal Financial Supervisory Authority, auditing activities relating to the implementation of IFRS 17 were also included in the scope of the audit. The mandate for the review report by the independent auditors on the Half-yearly Financial Report and the audit of the Solvency II balance sheet 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 in March 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 2022 – and have no objections in this regard; nor do we have any objections to the statement made by the Executive Board at the end of the report on relations with affiliated companies.

The Supervisory Board 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 2022 is in accordance with that of the Executive Board.

We considered the report by the Executive Board on non-financial matters (cf. pages 59 et seq. of the combined management report in the present Annual Report) and examined it. PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft also reviewed the information statement with limited assurance in accordance with the audit standard ISAE 3000 (Revised) (see here the Independent Practitioner's Report on a Limited Assurance Engagement on Non-financial Reporting on pages 270 et seq.).

Changes on the Supervisory Board and the Executive Board

There were no changes in the composition of the Supervisory Board or its committees in the year under review. The term of office of the company's Supervisory Board ends pursuant to § 10 (3) of the Articles of Association of Hannover Rück SE at the end of the General Meeting that ratifies the acts of management for the 2023 financial year.

Nor were any changes made to the composition of the Executive Board in 2022. At its meeting in August 2022, however, the Supervisory Board appointed Ms. Sharon Ooi as a member of the Executive Board of Hannover Rück SE with effect from 11 January 2023, thereby expanding the body from seven to eight members. This decision was based on extensive deliberations by the Standing Committee and the full Supervisory Board. In a direct exchange with the candidate the Supervisory Board had assured itself of her fit and proper qualifications. Ms. Ooi will be responsible for property and casualty reinsurance in the Asia-Pacific region. An appropriate on-boarding programme has been set up for Ms. Ooi by the Executive Board.

Word of thanks to the Executive Board and members of staff

Thanks to the extraordinary performance and prudent management of the Executive Board in this and past years and even though the 2022 financial year once again presented enormous challenges, Hannover Rück SE generated a good result. A great debt of gratitude is owed here in particular to the employees of the company and the Group for their dedication and their considerable flexibility.

The Supervisory Board would like to express its recognition and special appreciation to the Executive Board and above all to the employees for their efforts.

Hannover, 8 March 2023

For the Supervisory Board

Torsten Leue
Chairman of the
Supervisory Board of
Hannover Rück SE

Supervisory Board of Hannover Rück SE

Torsten Leue [1, 2, 3]
Hannover
(since 7 May 2018) [4]
Chairman
Chief Executive Officer of HDI Haftpflichtverband der Deutschen Industrie V.a.G., Hannover
Chief Executive Officer of Talanx AG, Hannover

Herbert K. Haas [1, 2, 3]
Burgwedel
(since 24 May 2002) [4]
Deputy Chairman
Former Chief Executive Officer of Talanx AG and HDI Haftpflichtverband der Deutschen Industrie V.a.G., Hannover

Natalie Bani Ardalan [5]
Springe
(since 8 May 2019) [4]
Employee

Frauke Heitmüller [5]
Hannover
(since 3 May 2012) [4]
Employee

Ilka Hundeshagen [5]
Hannover
(since 8 May 2019) [4]
Employee

Dr. Ursula Lipowsky [2]
Munich
(since 7 May 2018) [4]
Member of various supervisory boards

Dr. Michael Ollmann
Hamburg
(since 8 May 2019) [4]
Member of various supervisory boards

Dr. Andrea Pollak [3]
Vienna, Austria
(since 3 May 2011) [4]
Independent management consultant

Dr. Erhard Schipporeit [1]
Hannover
(since 3 May 2007) [4]
Member of various supervisory boards

1 Member of the Standing Committee
2 Member of the Finance and Audit Committee
3 Member of the Nomination Committee
4 Date when member was first appointed/elected to the company's Supervisory Board. Current term of office for the entire Supervisory Board commenced at the end of the Annual General Meeting on 8 May 2019.
5 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

Australia

Hannover Life Re of Australasia Ltd
Tower 1, Level 33
100 Barangaroo Avenue
Sydney NSW 2000
Tel. +61 2 9251-6911
Fax +61 2 9251-6862
CEO:
Gerd Obertopp

Hannover Rueck SE Australian Branch
Tower 1, Level 33
100 Barangaroo Avenue
Sydney NSW 2000
Tel. +61 2 8373-7580
Fax +61 2 9274-3033
Managing Director:
Michael Eberhardt

Bahrain

Hannover ReTakaful B.S.C. (c)
17th Floor Zamil Tower
Government Avenue
Manama Center 305
Manama
Tel. +973 1757-4766
Fax +973 1757-4667
Managing Director:
Adham El-Muezzin

Hannover Rueck SE Bahrain Branch
17th Floor Zamil Tower
Government Avenue
Manama Center 305
Manama
Tel. +973 1757-4766
Fax +973 1757-4667
Managing Director:
Adham El-Muezzin

Bermuda

Hannover Life Reassurance Company of America (Bermuda) Ltd.
Purvis House, First Floor
29 Victoria Street
Hamilton, HM 10
Tel. +1 441 294-3240
President & CEO:
Peter R. Schaefer

Hannover Re (Bermuda) Ltd.
Victoria Place, 2nd Floor,
31 Victoria Street
Hamilton, HM 10
Tel. +1 441 294-3110
Fax +1 441 296-7568
CEO:
Chantal Cardinez

Brazil

Hannover Rück SE Escritório de Representação no Brasil Ltda.
Praia de Botafogo, n°. 228
15° Floor, wing B, Botafogo
CEP 22250-145
Rio de Janeiro
Tel. +55 21 2217-9500
Fax +55 21 2217-9500
Representative:
Joao Caproni

China

Hannover Rück SE Hong Kong Branch
2008 Sun Hung Kai Centre
20th Floor
30 Harbour Road
Wanchai, Hong Kong
Tel. +852 2519-3208
Fax +852 2588-1136
General Manager:
Marian Leung

Hannover Rück SE Shanghai Branch
6th Floor, KAISA Finance Center
1188 Minsheng Road,
Pudong New Area
200135 Shanghai
Tel. +86 21 2035-8999
Fax +86 21 5820-9396
Director:
Fook-Kong Lye

France

Hannover Rück SE Succursale Française
28 avenue Victor Hugo
75116 Paris
Tel. Life & Health
+33 1 4561-7300
Tel. Property & Casuality
+33 1 4561-7340
Fax +33 1 4561-7360
General Manager:
Raphaël Rimelin

United Kingdom

Argenta Holdings Limited
5th Floor
70 Gracechurch Street
London EC3V 0XL
Tel. +44 20 7825-7200
Fax +44 20 7825-7212
Managing Director & CEO:
Nick J. Moore

Hannover Re UK Life Branch
20 Gracechurch Street
London EC3V 0BG
Tel. +44 20 3206-1700
Managing Director:
Debbie O'Hare

Hannover Services (UK) Limited
20 Gracechurch Street
London EC3V 0BG
Tel. +44 20 7015-4290
Managing Director:
Debbie O'Hare

India

Hannover Rück SE – India Branch
Unit 604, 6th Floor B Wing, Fulcrum
Sahar Road
Andheri (East)
Mumbai 400 099
Tel. +91 22 6138-0808
Fax +91 22 6138-0810
General Manager:
GLN Sarma

Ireland

Hannover Re (Ireland)
Designated Activity Company
No. 3 Dublin Landings, 6th Floor
North Wall Quay
Dublin 1
D01 C4E0
Tel. +353 1 633-8800
Fax +353 1 633-8804
CEO:
Kathrin Scherff

Italy

Hannover Re Services Italy S.r.l.
Via Dogana, 1
20123 Milan
Tel. +39 02 8068-1311
Fax +39 02 8068-1349
Head of Administration:
Giorgio Zandonella-Golin

Japan

Hannover Re Services Japan
Hakuyo Building, 7th Floor
3–10 Nibancho
Chiyoda-ku
Tokio 102-0084
Tel. +81 3 5214-1101
Fax +81 3 5214-1105
General Manager:
Takayuki Ohtomo

Canada

Hannover Re (Ireland) DAC
Canadian Life Branch
220 Bay Street, Suite 400
Toronto, Ontario M5J 2W4
Tel. +1 416 607-7824
Fax +1 416 867-9728
General Manager:
Louis Kerba

Hannover Rück SE
Canadian Branch
220 Bay Street, Suite 400
Toronto, Ontario M5J 2W4
Tel. +1 416 867-9712
Fax +1 416 867-9728
General Manager:
Paul Carragher
Chief Agent:
Laurel E. Grant

Colombia

Hannover Rück SE
Bogotá Oficina de Representación
Carrera 9 No. 77–67
Floor 5
Bogotá
Tel. +57 1 642-0066
Fax +57 1 642-0273
General Manager:
Miguel Guarín

Korea

Hannover Rück SE
Korea Branch
Room 414, 4th Floor
Gwanghwamun Officia Building
92, Saemunan-ro, Jongno-gu
Seoul 03186
Tel. +82 2 3700-0600
Fax +82 2 3700-0699
General Manager:
Simon Jun Chong

Malaysia

Hannover Rueck SE
Malaysian Branch
Level 32, Mercu 2
No. 3, Jalan Bangsar
KL Eco City
59200 Kuala Lumpur
Tel. +60 3 2687-3600
Fax +60 3 2687-3760
Managing Director:
Ralf Weyand

Mexico

Hannover Services (México)
S. A. de C. V.
Torre Tres Picos. 2nd Floor
Arquimedes 19
Colonia Bosque de Chapultepec
Alcaldía Miguel Hidalgo
11580 Ciudad de México
Tel. +52 55 9140-0800
General Manager:
Alejandra Bautista

Sweden

**Hannover Rück SE,
Tyskland Filial**
Hantverkargatan 25
P.O. Box 22085
10422 Stockholm
Tel. +46 8 617-5400
Fax Life & Health
+46 8 617-5597
Fax Property & Casualty
+46 8 617-5593
Managing Director:
Thomas Barenthein

Spain

**HR Hannover Re,
Correduría de Reaseguros, S. A.**
Parque Empresarial Via Norte
c/Quintanavides 17, Edificio 3, 1°G
28050 Madrid
Tel. +34 91 319-0049
General Manager:
Azucena Lopez

South Africa

Compass Insurance Company Limited
5th floor, 90 Rivonia Rd.
Sandton
Johannesburg 2196
P.O. Box 37226
Birnam Park 2015
Tel. +27 11 745-8333
Fax +27 11 745-8444
www.compass.co.za
Managing Director:
Ismail E. Ismail

Hannover Re South Africa Limited
Rosebank Towers
Office Level 3
15 Biermann Ave
Rosebank
Johannesburg 2196
P.O. Box 85321
Emmarentia 2029
Tel. +27 11 481-6500
Fax +27 11 484-3330/32
CEO:
Achim Klennert
Managing Director L & H:
Wesley Clay
Managing Director P & C:
Randolph Moses

**Hannover Reinsurance
Group Africa (Pty) Ltd.**
Rosebank Towers
Office Level 3
15 Biermann Ave
Rosebank
Johannesburg 2196
P.O. Box 85321
Emmarentia 2029
Tel. +27 11 481-6500
Fax +27 11 484-3330/32
CEO:
Achim Klennert

Taiwan

**Hannover Rück SE
Taipei Representative Office**
Rm. 902, 9F, No. 129, Sec. 3
Minsheng E. Road
Taipeh
Tel. +886 2 8770-7792
Fax +886 2 8770-7735
Representative:
Ryan Chou

USA

Glencar Insurance Company
200 South Orange Avenue
Suite 1900
Orlando, Florida 32801
Tel. +1 800 214-2424
Fax +1 630 735-2341
President:
Patrick Fee

**Hannover Life Reassurance
Company of America**
200 South Orange Avenue
Suite 1900
Orlando, Florida 32801
Tel. +1 407 649-8411
Fax +1 407 649-8322
President & CEO:
Peter R. Schaefer

Charlotte Office
15720 Brixham Hill Avenue,
Suite 300
Charlotte, North Carolina 28277
Tel. +1 704 731-6300
Fax +1 704 542-2757
President & CEO:
Peter R. Schaefer

Denver Office
4500 Cherry Creek Drive South,
Suite 1100
Glendale, Colorado 80246
Tel. +1 303 860-6011
Fax +1 303 860-6032
President & CEO:
Peter R. Schaefer

New York Office
499 Chestnut Street, Suite 215
Cedarhurst, New York 11516
Tel. +1 516 593-9733
Fax +1 516 596-0303
President & CEO:
Peter R. Schaefer

Hannover Re Services USA, Inc.
500 Park Blvd., Suite 805
Itasca, Illinois 60143
Tel. +1 630 250-5529
Fax +1 630 250-5527
General Manager:
Eric Arnst

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.

Asset/liability management: matching of the invested assets with the liabilities arising out of the reinsurance business.

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

Business continuity management: integrated set of processes to maintain business operations

Capital adequacy ratio: the adequacy ratio is derived from the ratio of the available capital (or own funds) to the required capital – the solvency capital requirement (SCR).

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.

Corporate Social Responsibility: the voluntary contribution made by a company to sustainable development

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: personal rider on the basis of which typically a lump-sum cash payment is made in the event of previously defined severe illnesses

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 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.

Dynamic volatility adjustment: long-term insurance guarantees can be dynamically adjusted due to potentially increased volatility in valuations on capital markets

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.

Economic capital model: cf. → internal model

ESG (Environmental, Social, Governance): sustainability risks are all risks involving environmental, social and governance (ESG) issues. It has become common practice to distinguish the risks a company faces (outside-in view) caused by ESG issues and the impacts a company has on people and the environment (inside-out view).

Excess capital: the amount of available capital in excess of the required capital

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, insofar as the latter is written by life insurers.

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 or financial instruments 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: securities or financial instruments that can and are intended to be held until maturity. They are measured at amortised cost.

Other securities, trading: securities or financial instruments that are held solely for short-term trading purposes. They are measured at their fair value at the balance sheet date.

Parametric cover: index-based type of insurance, e. g. to protect against weather risks

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 mostly 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.

Retakaful: reinsurance in accordance with Islamic law (Sharia-compliant). The business model is similar in form to that of mutual insurance and addresses, among other things, the prohibition of interest in Islam.

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 (→ 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.

Risk capital: the capital at risk notionally allocated to a risk category

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.

Silent cyber: unintended coverage of cyber-related losses in traditional reinsurance treaties

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 (SCR): 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.

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

Value-at-Risk: the measure of risk for a company's risk position

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

List of graphs, tables and charts

I Introductory Sections
M Management Report
N Notes

I Introductory Sections

M Management Report

N Notes

Further information

Contact information

Corporate Communications

Gunilla Pendt
Tel. +49 511 5604-0019
gunilla.pendt@hannover-re.com

Media Relations

Oliver Süß
Tel. +49 511 5604-1502
oliver.suess@hannover-re.com

Investor Relations & Rating Agency Relations

Karl Steinle
Tel. +49 511 5604-1500
karl.steinle@hannover-re.com

Investor Relations

Axel Bock
Tel. +49 511 5604-1736
axel.bock@hannover-re.com

For reasons of sustainability Hannover Re does not print or mail out the annual and interim reports. The present Group Annual Report of Hannover Re can be accessed online in English and German as an HTML version and downloaded in PDF format:

www.hannover-re.com

The Annual Report of Hannover Rück SE is also available here in English and German.

Financial calendar 2023/2024

9 March 2023
Publication of the annual financial statements 2022
Annual Results Press Conference

3 May 2023
Annual General Meeting

11 May 2023
Quarterly Statement as at 31 March 2023

9 August 2023
Half-yearly Financial Report 2023

9 November 2023
Quarterly Statement as at 30 September 2023

12 December 2023
26th International Investors' Day

18 March 2024
Publication of the annual financial statements 2023
Annual Results Press Conference

6 May 2024
Annual General Meeting

www.hannover-re.com

Imprint

Published by

Hannover Rück SE

Karl-Wiechert-Allee 50
30625 Hannover, Germany
Tel. +49 511 5604-0

Credits

Werner Bartsch
pages 4, 8/9

www.hannover-re.com