somewhat different

Hannover Re

2017

Solvency and Financial Condition Report

hannover re®

Contents

Executive Summary

Key figures

in TEUR	2017	2016
Solvency II Balance Sheet		
Assets	49,885,316	51,437,578
Technical Provisions	30,432,579	31,019,042
Other Liabilities	7,381,498	7,966,706
Excess of Assets over Liabilities	12,071,239	12,451,831
Eligible Own Funds		
Tier 1 Basic Own Funds (unrestricted)	10,635,845	11,179,167
Tier 1 Basic Own Funds (restricted)	534,858	543,095
Tier 2 Basic Own Funds	1,091,286	1,113,021
Tier 3 Own Funds	33,777	-
Eligible Own Funds (SCR)	12,295,766	12,835,283
Capital Requirements		
Solvency Capital Requirement	4,729,028	5,585,884
Minimum Capital Requirement	3,303,225	3,934,289
Coverage Ratio		
Ratio of Eligible Own Funds to SCR (Solvency Ratio)	260%	230%
Ratio of Eligible Own Funds to MCR	358%	318%

Hannover Re Group (hereinafter referred to as “Hannover Re” or “the Group”) fulfils the minimum and solvency capital requirements (hereinafter referred to as MCR and SCR) stipulated by the supervisory authority as at the reporting date 31 December 2017 and in the financial year 2017. The coverage ratio of the SCR ranges above 200% during the entire financial year.

Please note that this report represents a voluntary publication of the Hannover Re Group.

Please note that rounding differences can occur in the presented tables.

A. Business and Performance

With a gross premium volume of TEUR 17,790,506 (2016: TEUR 16,353,622), Hannover Re is the third-largest reinsurer in the world. Hannover Re transacts all lines of Property & Casualty and Life & Health reinsurance. Its global presence and activities across all lines of reinsurance business allows the company to achieve an efficient risk diversification.

We are thoroughly satisfied with the development of business in the 2017 financial year. With Group net income of TEUR 958,555 (TEUR 1,171,229) we actually surpassed the anticipated level of at least EUR 950 million.

The situation in property and casualty reinsurance was little changed in the year under review. The fiercely competitive state of the market initially continued unabated; reinsurance capacity was still substantially in excess of demand. Additional capacities from the insurance-linked securities (ILS) market added to the sustained pressure on prices and conditions. Nevertheless, profitable business opportunities also opened up in the various rounds of treaty renewals.

Against this backdrop gross premium rose by 16.4% to TEUR 10,710,944 (TEUR 9,204,554). At constant exchange rates growth would have reached 18.7%. It thus clearly surpassed our expectations. After a moderate loss experience in the first half of the year, the third quarter was dominated by three severe hurricanes as well as other natural catastrophe events. As anticipated, the combined ratio of 99.8% (93.7%) was higher than our targeted maximum figure of 96.0%.

In the aftermath of a challenging year we are thoroughly satisfied with the result in Property & Casualty reinsurance, even though the underwriting result of TEUR -2,312 fell well short of the previous year (TEUR 479,093) owing to the heavy burden of catastrophe losses.

The business performance in life and health reinsurance was shaped by both positive and negative developments. Our financial solutions business, which further increased its profit contribution, was thoroughly gratifying. We were less satisfied with the development of our US mortality business – and in particular with the portfolio assumed in 2009, which continues to show a mortality in excess of expectations. In addition, we booked a non-recurring negative effect of around EUR 45 million. This one-time charge was attributable to the recapture of a reinsurance treaty in order to avoid higher losses over the long term. The operating profit (EBIT) fell by 28.6% to TEUR 245,210 (TEUR 343,267) due to the situation described above in US mortality business and the one-off effect.

Bearing in mind the challenging market environment, we are highly satisfied with the development of our investments as at 31 December 2017. Despite the low level of interest rates, ordinary investment income excluding interest on funds withheld and contract deposits surpassed the previous year at TEUR 1,289,033 (TEUR 1,161,976). Net realised gains on investments as at 31 December 2017 increased sharply from TEUR 206,295 to TEUR 377,093. This can be attributed in large measure to the liquidation of our equity portfolio. The impairments taken in the year under review were again only minimal. Income from assets under own management climbed 26.3% to TEUR 1,538,973 (TEUR 1,218,271). The resulting annual return amounted to 3.8% (3.0%). We had forecast a level of 2.7% and subsequently revised this target higher to 3.0% in November 2017. Investment income including interest on funds withheld and contract deposits rose to TEUR 1,773,889 (TEUR 1,550,420), an increase of 14.4% relative to the previous year. Interest on funds withheld and contract deposits totalled TEUR 234,915 (TEUR 332,149).

B. System of Governance

Hannover Re has an effective system of governance, which provides for sound and prudent management. Written guidelines are in place for all significant business events. The key functions pursuant to Section 26 and Sections 29-31 of the Insurance Supervision Act (VAG) have been set up, entrusted with the tasks described and equipped with appropriate resources.

In 2017, there have been no significant changes to the system of governance. The focus was on revisions and improvements of existing guidelines including the Sanction Directive and the Outsourcing Guideline.

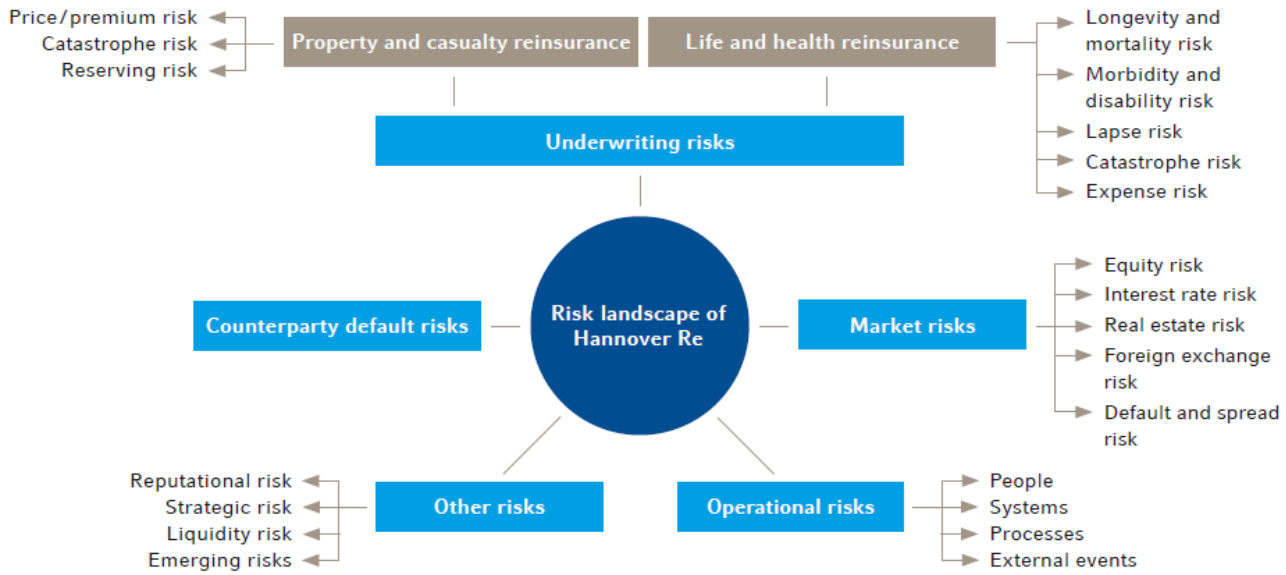
The Executive Board has established a committee which supports the assessment of the system of governance. Based on the assessment conducted by the committee, the Executive Board has reached the conclusion that the system of governance of Hannover Re is, in terms of its type, scope and complexity, appropriate for the inherent risks of its business activities.

The individual elements of the System of Governance at Hannover Re are explained in Section B.

C. Risk Profile

In the context of its business operations Hannover Re enters into a broad variety of risks. These risks are deliberately accepted, steered and monitored. They specifically concern underwriting risks pertaining to Property & Casualty, Life & Health, as well as capital market risks, liquidity risks and counterparty default risks. Operational, strategic and reputational risks also arise in the course of business operations. We describe the cause of these risks and how we deal with them in Section C. We also explain how we handle potential future risks (emerging risks).

Risk landscape of Hannover Re



Hannover Re received approval from the regulatory authorities to calculate its solvency requirements using a partial internal capital model with effect from the entry into force of Solvency II on 1 January 2016 which covers for underwriting risk P&C and L&H, market risk and counterparty default risk. In

2017 the Hannover Re Group additionally received permission from the Federal Financial Supervisory Authority (BaFin) to calculate the operational risk on the Group level using the internal model and now has a full internal model.

The capital requirements as of 31 December 2017 is shown in the following table.

Solvency Capital Requirement (SCR)
in TEUR

Solvency Capital Requirement	2017	2016
Underwriting risk - Property & Casualty	3,485,449	3,552,928
Underwriting risk - Life & Health	2,354,658	2,117,854
Market risk	3,462,193	4,225,423
Counterparty default risk	281,958	296,495
Operational risk	637,035	677,088
Diversification	−3,710,212	−3,398,633
Total risk (pre-tax)	**6,511,081**	**7,471,154**
Deferred tax	1,782,052	1,885,270
Total risk (post-tax)	**4,729,028**	**5,585,884**

The required capital is calculated based on the approved internal model. The capital requirements for prior year were based on the partial internal model, where the required capital for operational risks was calculated according to the Solvency II standard formula.

At the present time our most significant risks are the default and spread risks within the market risks, the reserving and catastrophe risks within the underwriting risks of property and casualty reinsurance and the risk of changes in mortality within the underwriting risks of life and health reinsurance. With regard to mortality risks, as a general principle annuity portfolios are impacted by improvements in mortality while death benefit portfolios are adversely affected by deteriorations in mortality.

Overall the required capital decreases in the course of the year. A key driver of the reduction is the stronger Euro against our major currencies, especially the US dollar, and the associated lower foreign-currencies volumes underlying the risks, including for example the volume of investments. In addition, lower market risks led to a decrease in the risk capital. Last year's reduction of the equity quota in the investment portfolio and lower spreads resulted in diminished volatility overall and hence less market risk. The underwriting risks in property and casualty reinsurance decreased primarily as a consequence of the weaker US dollar against the euro and slightly improved diversification within property and casualty reinsurance. The underwriting risks in life and health reinsurance increased owing to higher mortality risks due to strengthening of assumptions and model changes. The decrease in counterparty default risk is principally the result of lower volume of receivables as well as a reduced volatility of the modelled defaults.

The transfer from partial to full internal model, i. e. the use of the internal model instead of standard formula for operational risks also contributed to a decrease in the overall total risk. On a standalone basis operational risk decreases, additionally using the internal model for operational risks leads to a significant increase in diversification benefits. Due to the limited dependency of operational risks with other risk factors there is a substantial diversification benefit with such risk factors in the internal model. In contrast to this, the operational risk according to standard formula had to be added in the calculation of the Solvency Capital Requirement without any diversification benefits. Therefore, the contribution of operational risks to the total risk has decreased significantly.

More details on the risk profile are provided in Section C.

D. Valuation for Solvency Purposes

For the purposes of calculating the eligible own funds, Hannover Re values the assets and liabilities pursuant to the provisions of Sections 74 et seq. of the Insurance Supervision Act (VAG) The valuation method is described in detail in Section D. In the first part, the valuation of the assets and other liabilies is described. The second part is broken down into two sub-sections, in which the valuation of the technical provisions for Property & Casualty reinsurance and Life & Health reinsurance are explained separately.

The valuation for Solvency purposes is set in principle at the fair value (market value). Insofar as IFRS values appropriately reflect the fair value, they are applied.

Technical provisions pursuant to Solvency II differentiate significantly from the definition of provisions pursuant to the International Financial Reporting Standards (IFRS), both in terms of structure and in relation to the calculation rules. A comparison of IFRS and Solvency II Technical Provisions is shown as well as a comparison of current Technical Provisions under Solvency II and those calculated last year.

E. Capital Management

Hannover Re’s Solvency Ratio has improved from 230% at year-end 2016 to 260% at year-end 2017. Main reasons are the approval of the internal model for operational risk and overall lower market risks.

Hannover Re endeavours at all times to maintain a Solvency Ratio of at least 180%, and thus exceeds the requirements of 100% stipulated by the supervisory authority. In addition, a threshold value of 200% has been defined. If the Solvency Ratio falls below this threshold value Hannover Re will adopt capital measures aimed at either strengthening the company's equity or reducing the risk capital, or both.

The Solvency Ratio is continuously monitored and also assessed as part of planning activities and in the event of large transactions. During the financial year 2017, the Solvency Ratio ranges at any point in time considerably above the threshold value of 200%. Further information on the calculation of the Solvency Ratio can be found in Section E.

Own funds in the Solvency II balance sheet consist of basic own funds, which comprise the excess of assets over liabilities and subordinated loans. Ancillary own funds were not in use by Hannover Re as at 31 December 2017.

Over 90% of all available capital is assigned to the highest quality level (tier 1).

Hannover Re uses an approved full internal model for the purposes of calculating the Solvency Capital Requirement (SCR). The individual risk categories are aligned with the risk modules of the standard formula. The internal model is applied in a broad range of company management and decision-making processes. The future development of Solvency- and Minimum Capital Requirements are forecast at regular intervals as part of the planning process.

A. Business and Performance

A.1 Business

A.1.1 Business Model

With a gross premium volume of TEUR 17,790,506, 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: "Long-term success in a competitive business". Our entire business operations are geared to our goal of being the best option for our business partners when they come to choose their reinsurance provider. It is for this reason that our clients and their concerns form the focus of our activities.

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

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

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

We transact primary insurance in selected market niches as a complement to our core reinsurance activities. In this context, we always work together with partners from the primary insurance sector.

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

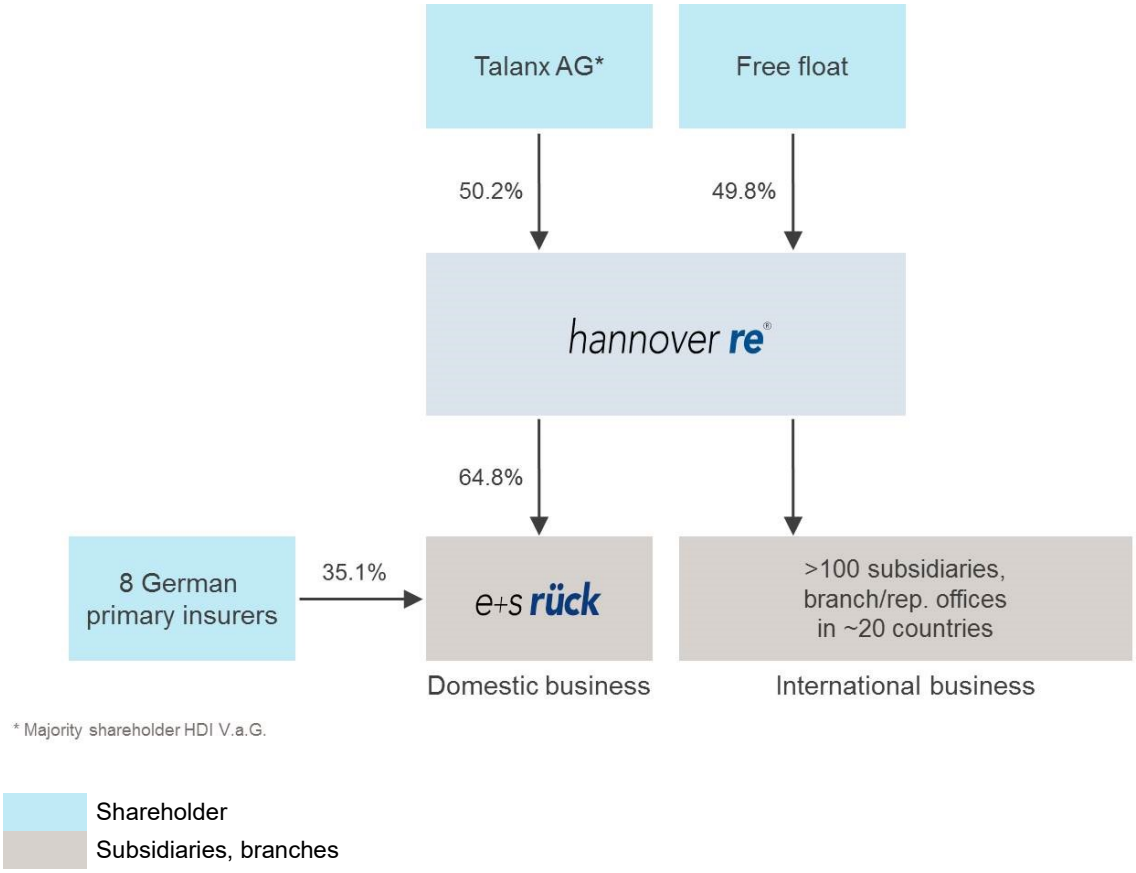
In the Property & Casualty reinsurance business group we consider ourselves to be a reliable, flexible and innovative market player that ranks among the best in any given market. Cost leadership, effective cycle management and superlative risk management are the key elements of our competitive positioning.

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

A.1.2 Headquarters, Supervisors and Auditors

Hannover Rück SE – as the parent company of the Hannover Re Group – is a European stock corporation, Societas Europaea (SE), with its headquarters located in Karl-Wiechert-Allee 50, 30625 Hannover, Germany and has been entered in the Commercial Register of the District Court of Hannover under the number HR Hannover B 6778. A rounded 50.2% of Hannover Rück SE shares are held by Talanx AG, Hannover, which in turn is majority-owned – with an interest of 79.0% – by HDI Haftpflichtverband der Deutschen Industrie V.a.G. (HDI), Hannover.

Shareholder, subsidiaries and branches



Hannover Re as well as Talanx and HDI are subject to the Federal Financial Supervisory Authority (BaFin), located in Graurheindorfer Straße 108, 53117 Bonn, Postfach 1253, 53002 Bonn, phone 0228/4108-0, fax 0228/4108-1550, e-mail: poststelle@bafin.de, De-Mail: poststelle@bafin.de-mail.de.

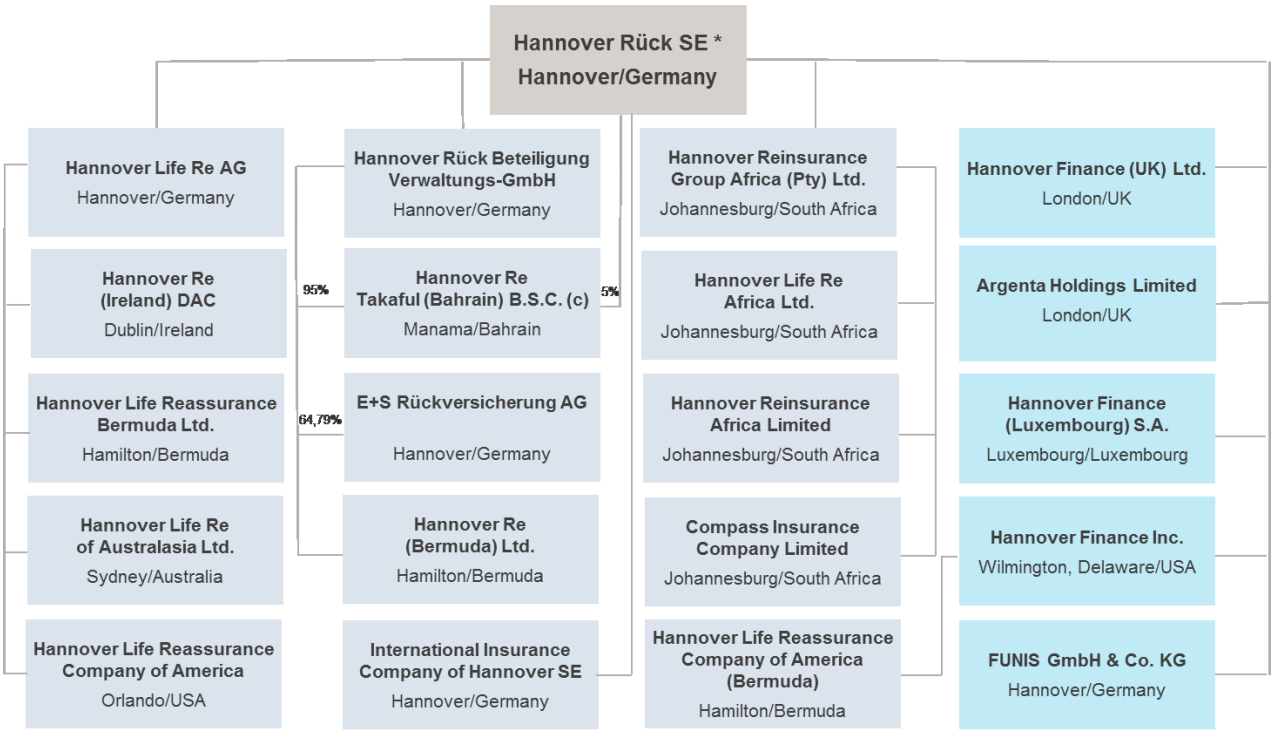
The Group auditor appointed for Hannover Re within the meaning of Section 318 of the German Commercial Code (HGB) is KPMG AG Wirtschaftsprüfungsgesellschaft (KPMG AG), located in Prinzenstraße 23, 30159 Hannover.

A.1.3 Group structure

Hannover Rück SE (hereinafter referred to as "Hannover Rück") and its subsidiaries (collectively referred to as the "Hannover Re Group" or "Hannover Re") transact all lines of Property & Casualty and Life & Health reinsurance. We are present on all continents.

The company's network consists of more than 100 subsidiaries, affiliates, branches and representative offices worldwide with roughly 3,200 staff. The Group's German business is conducted by the subsidiary E+S Rückversicherung AG.

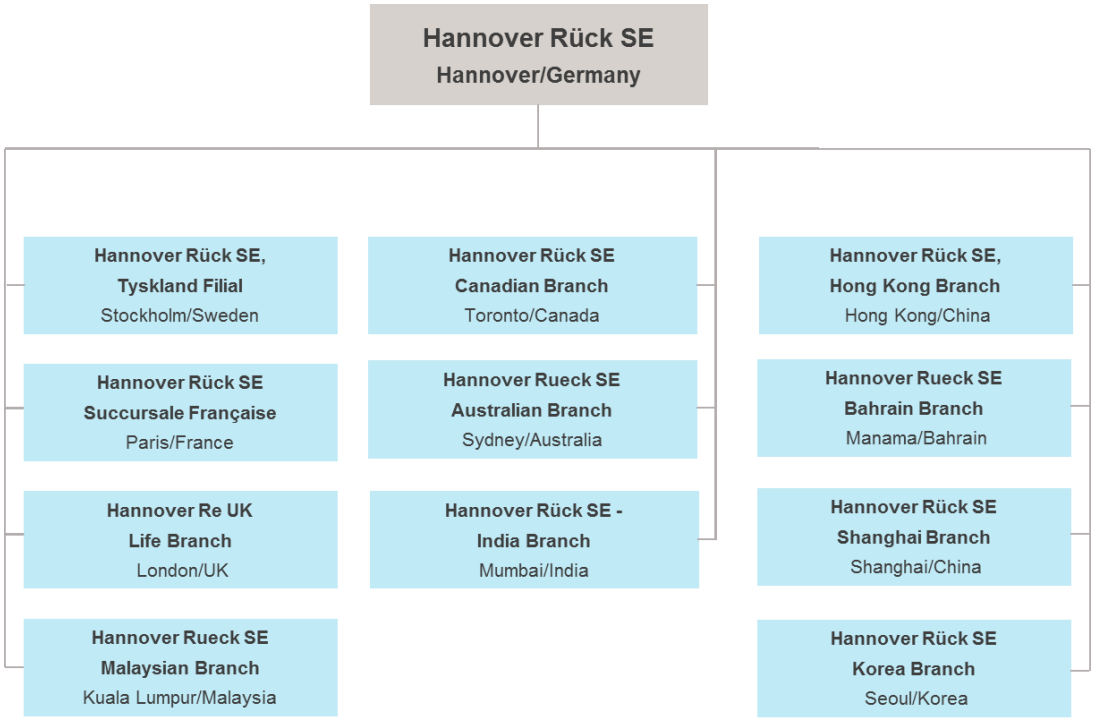
Subsidiaries of Hannover Rück



Unless otherwise stated, the shareholding is 100%.

Insurance companies
Non-insurance companies

Branches of Hannover Rück



A.2 Performance

The development of business in 2017 was shaped by exceptionally heavy losses in the third quarter. As a result, the large loss budget of EUR 825 million that we had earmarked for the full year had already been exceeded as at 30 September 2017. Further large losses in the fourth quarter pushed the total expenditure higher to altogether EUR 1,127.3 million.

It is therefore all the more pleasing that we were able to generate very good Group net income of EUR 958.6 million. While this is lower than our original guidance of more than EUR 1 billion, it clearly exceeds the EUR 800 million that we had forecast in November 2017. This performance should also be viewed extremely favourably in comparison with our competitors. Our result was assisted by exceptionally gratifying investment income as well as by the release of reserves established for loss events of prior years that were no longer required.

In the aftermath of a challenging year we are thoroughly satisfied with the result in property and casualty reinsurance, even though the underwriting result of EUR -2.3 million fell well short of the previous year (EUR 479.1 million) owing to the heavy burden of catastrophe losses.

The business performance in life and health reinsurance was shaped by both positive and negative developments. The Group net income booked for our Life & Health reinsurance business group totalled EUR 172.6 million (EUR 252.9 million).

Bearing in mind the challenging market environment, we are highly satisfied with the development of our investments as at 31 December 2017. Our portfolio of investments under own management contracted to EUR 40.1 billion (31 December 2016: EUR 41.8 billion). This was driven above all by negative exchange rate effects – especially associated with the weaker US dollar – as well as slightly reduced hidden reserves and the dividend distribution.

In addition, the following table shows the performance targets for the business years 2017 and the attained results.

Business group	Key data	Targets for 2017	2017
Group	Investment return[1]	≥ 2.7%	3.8%
	Return on equity[2]	≥ 9.8%	10.9%
	Growth on earnings per share (year-on-year comparison)	≥ 6.5%	-18.2%
	Value creation per share[3]	≥ 7.5%	1.5%
Property & Casualty reinsurance	Gross premium growth	3-5%[4]	18.7%
	Combined ratio	≤ 96%[5]	99.8%
	EBIT margin[6]	≥ 10 %	12.2%
	xRoCA[7]	≥ 2%	1.1%
Life & Health reinsurance	Gross premium growth	5-7%[8]	1.4%
	Value of New Business (VNB)[9]	≥ EUR 220 million	EUR 364 million
	EBIT margin[6] Financial Solutions / Longevity	≥ 2%	13.2%
	EBIT margin[6] Mortality / Morbidity	≥ 6%	0.0%
	xRoCA[7]	≥ 3%	-8.5%

[1] Excluding effects from ModCo derivatives
[2] After tax; target value: 900 basis points above the 5-year average return on 10-year German government bonds
[3] Growth in book value per share including dividend paid
[4] Average over the reinsurance cycle; at constant exchange rates
[5] Including major loss budget of EUR 825 million
[6] EBIT / net premium earned
[7] Excess return on allocated economic capital
[8] Organic growth only; annual average growth (5 years); at constant exchange rates
[9] Based on Solvency II principles and pre-tax reporting

For further information regarding our performance please refer to our Annual Report. You can receive the Annual Report at Hannover Rück SE, Karl-Wiechert-Allee 50, 30625 Hannover or via download from our homepage (https://www.hannover-re.com/1230463/annual-report-2017.pdf).

B. System of Governance

B.1 General information on the System of Governance

Hannover Re has an effective system of governance in place which provides for sound and prudent management. The elements of the System of Governance are described in the following sections.

B.1.1 Governance structure

B.1.1.1 Our Administrative, Management or Supervisory Body

Our administrative, management or supervisory body consists of the Executive Board and the Supervisory Board.

Executive Board

The Executive Board consists of no less than two persons. Furthermore it is up to the Supervisory Board to determine the number of members of the Executive Board. The members of the Executive Board are appointed by the Supervisory Board for a term of five years.

The following overview shows the allocation of the areas of responsibility to the members of the Executive Board.

Members of the Executive Board

Chairman	Chief Financial Officer	Property & Casualty Reinsurance			Life & Health Reinsurance	
Ulrich Wallin	**Roland Vogel**	**Dr. Michael Pickel**	**Sven Althoff**	**Jürgen Gräber**	**Claude Chèvre**	**Dr. Klaus Miller**
Innovation Management Compliance Controlling Human Resources Management Internal Auditing Risk Management & Actuarial Corporate Development Corporate Communi-cations	Finance and Accounting Information Technology Investment and Collateral Management Facility Management	Group Legal Services Run-Off Solutions Target Markets in Property & Casualty Reinsurance: North America, Continental Europe	Specialty Lines Worldwide: Marine, Aviation, Credit, Surety and Political Risks, UK, Ireland, London Market and Direct Business Facultative Reinsurance	Coordination of Property & Casualty Business Group Global Reinsurance: Worldwide Treaty Reinsurance, Catastrophy XL, Structured Reinsurance and Insurance-Linked Securities Quotations Retrocessions	Life & Health Reinsurance: Africa, Asia, Australia/New Zealand, Latin America, Western and Southern Europe, Longevity Solutions	Life & Health Reinsurance: UK, Ireland, North America, Northern, Eastern and Central Europe

The four (Solvency II) key functions are allocated to the Chairman of the Executive Board. For further information on key functions (Solvency II) please refer to chapters B.3-B.6.

Supervisory Board

The Supervisory Board shall consist of nine members appointed by the General Meeting. Of these nine members, three shall be appointed on recommendation by the employees. The General Meeting shall be bound by these recommendations for the appointment of the employees' representatives. Other than that, the General Meeting shall not be bound to proposed candidates. In the event that legal provisions concerning involvement of employees in a European Association (SE Beteiligungsgesetz – SEBG Employees Involvement Act) provide for a different appointment procedure for representatives of the employees to the Supervisory Board, the employees' representatives shall be appointed according to the agreed appointment procedure.

Every member of the Supervisory Board can resign from his membership by adhering to a notice period of one month even without an important reason by written notice to the Company, represented by the Management Board and the Chairman of the Supervisory Board (if notice is given by the Chairman himself, to his deputy). The Chairman of the Supervisory Board may choose to forgo adherence to this notice period.

Appointment for a successor of a member who has resigned prior to termination of his term shall be for the remaining period of the term of the resigned member.

As of 31 December the Supervisory Board consists of the following members:

Members of the Supervisory Board and membership in committees

Members of the Supervisory Board	Standing Committee	Finance and Audit Committee (AC)	Independent financial expert on the AC	Nomination Committee	Staff representative
Herbert K. Haas, Chairman	X	X		X	
Dr. Klaus Sturany, Deputy Chairman	X				
Wolf-Dieter Baumgartl	X	X		X	
Frauke Heitmüller					X
Otto Müller					X
Dr. Andrea Pollak				X	
Dr. Immo Querner					
Dr. Erhard Schipporeit		X	X		
Maike Sielaff					X

The Supervisory Board may form committees from among its members and authorise them to pass resolutions, as far as permitted by law.

The Supervisory Board considered at length during the 2017 financial year the position and development of the company and its major subsidiaries. It advised the Executive Board on the direction of the company and monitored the management of business on the basis of written and verbal reports from the Executive Board. The Supervisory Board of Hannover Rück SE held four regular meetings in order to adopt the necessary resolutions after appropriate discussion. With the

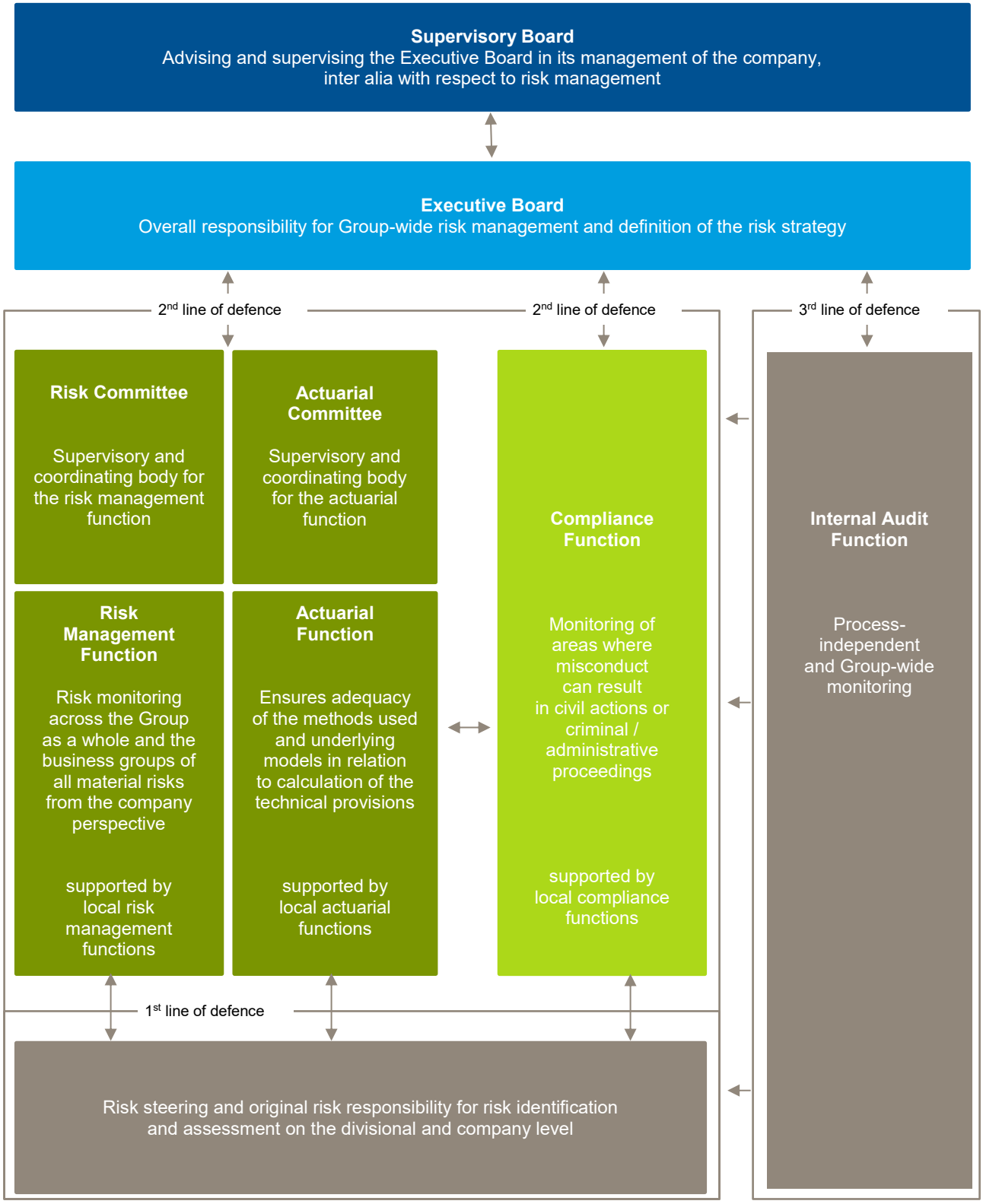
exception of one meeting that one member of the Supervisory Board did not attend, all nine Supervisory Board members took part in each of the Supervisory Board meetings held in 2017. Two representatives of the Federal Financial Supervisory Authority participated in one meeting on a routine basis. In addition, the Supervisory Board was informed by the Executive Board in writing and orally about the course of business and the position of the company and the Group on the basis of the quarterly financial statements. The quarterly reports with the quarterly financial statements and key figures for the Hannover Re Group constituted an important source of information for the Supervisory Board.

As in every year, the Supervisory Board was regularly updated on the work of the Supervisory Board committees and given a description of the major pending legal proceedings.

Of the committees formed by the Supervisory Board within the meaning of § 107 Para. 3 German Stock Corporation Act, the Finance and Audit Committee met on four occasions, the Standing Committee met two times and the Nomination Committee met two times. The Chairman of the Supervisory Board updated the full Supervisory Board on the major deliberations of the committee meetings at its next meeting and provided an opportunity for further questions.

B.1.1.2 Key functions

The following graph gives an overview of the main tasks and the interaction of the key functions:



Hannover Re has set up risk management functions and bodies Group-wide to safeguard an efficient risk management system. The organisation and interplay of the individual functions in risk management are crucial to our internal risk steering and control system. The central functions of risk management are closely interlinked in our system and the roles, tasks and reporting channels are clearly defined and documented in terms of the so-called “3 lines of defence”. The first line of defence consists of risk steering and the original risk responsibility on the divisional or company level. Risk management ensures the second line of defence – risk monitoring. It is supported in this regard by the actuarial function and the compliance function. The third line of defence is the process-independent monitoring performed by the internal audit function.

All key functions are equipped with appropriate resources and skills. The reporting lines to one another and to the Board Member responsible for the division respectively to the Executive Board have been clearly defined.

B.1.2 Remuneration policy

B.1.2.1 Remuneration of the Executive Board

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

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

The profit- and performance-based remuneration (variable remuneration) is contingent on certain defined results and the attainment of certain set targets. The set targets vary according to the function of the Board member in question. The variable remuneration consists of a profit bonus and a performance bonus. The variable remuneration is defined at the Supervisory Board meeting that approves the consolidated financial statement for the financial year just ended.

The total remuneration received by the Executive Board of Hannover Re on the basis of its work for Hannover Rück SE and the companies belonging to the Group amounts to TEUR 8,017.

B.1.2.2 Remuneration of the Supervisory Board

The remuneration of the Supervisory Board is determined by the Annual General Meeting of Hannover Rück SE and regulated by the Statute of Hannover Rück SE.

The total remuneration received by the Supervisory Board of Hannover Rück SE amounts to TEUR 959.

B.1.2.3 Remuneration of staff and senior executives

The remuneration scheme for senior executives below the Executive Board (management levels 2 and 3) and for key function holders in Germany belonging as a matter of principle to the ranks of senior executives consists of a fixed annual salary and a system of variable remuneration. This is comprised of a short-term variable remuneration component, the annual cash bonus, and a long-term share-based remuneration component, the Share Award Plan.

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).

B.1.3 Related party transactions

Talanx AG holds an unchanged majority interest of 50.2% in Hannover Rück SE. For its part, HDI Haftpflichtverband der Deutschen Industrie Versicherungsverein auf Gegenseitigkeit (HDI), Hannover, holds a stake of 79.0% in Talanx AG and therefore indirectly holds 39.7% (rounded) of the voting rights in Hannover Rück SE.

The business relationship between Hannover Rück and its subsidiary E+S Rück is based on a cooperation agreement. A retrocession by Hannover Rück to E+S Rück exists in property and casualty reinsurance. The exclusive responsibilities of E+S Rück for German business and of Hannover Rück for international markets have been preserved.

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.

B.2 Fit and proper requirements

B.2.1 Requirements

With a decision dated 17 November 2014, the Executive Board of Hannover Re followed the specifications stipulated by the framework directive of the HDI V.a.G. pertaining to the fulfilment of the Fit & Proper requirements, on the proviso of their continued implementation in the affected group companies and business units, and with the further condition that the framework directive is only applicable to the extent that it is relevant for Hannover Re as a reinsurance company. On 16 October 2015, the framework directive of Hannover Re pertaining to the fulfilment of the Fit & Proper requirements in the Hannover Re Group was decreed by the Executive Board.

B.2.2 Description of requirements

The professional qualification (fitness) of individuals with key functions refers to a professional qualification suitable for the respective position as well as skills and experience, which are necessary for a robust and cautious management approach, and for the fulfilment of the position. The appropriateness is assessed according to the principle of proportionality, and takes into account the company-individual risks along with the type and scope of business operations. Specialist “fitness” requirements stemming from established supervisory practices are to be complied with by those

individuals who actually head up the company, and the members of the Supervisory Board. Collective “fitness” requirements have been established for mutual controlling and monitoring. The requirements placed on the professional qualification of those holding key functions are closely linked with the special features of the respective governance tasks.

Individuals with key functions must, as part of personal reliability (propriety), act responsibly and with integrity, and carry out activities both dutifully and with the necessary level of care. Conflicts of interest must be avoided and the individual must not have demonstrated a lack of responsibility in the form of criminal actions prior to their nomination / appointment. There is no requirement for personal reliability to be positively established. It will be assumed, whenever there are no observable facts indicating the contrary. Unreliability is only to be assumed if personal circumstances according to general life experience give reason to believe that this could undermine the thorough and proper exercising of the function.

For Hannover Re, the circle of individuals entrusted with key tasks consists of persons who

- actually head up the company (Executive Board members) including the authorised representatives of an EU / EEA branch,
- hold other key functions (members of the Supervisory Board, owners of one of the key functions including compliance, internal audit, risk management, actuarial function).

With regard to their various roles, these individuals are required to provide evidence of their professional qualifications in different areas as follows:

- Educational background
- Practical knowledge
- Management experience
- Language skills
- Required specialist nowledge in relation to the relevant key function
- Collective requirements

The required specific knowledge for owners of one of the key functions including compliance, internal audit, risk management, and actuarial mathematics is included in the referred role description.

In the event that key functions are outsourced, general requirements for this are defined within a Group Policy. The onus remains on the side of the outsourcing company to ensure that the individuals deployed by the service provider who are responsible for the key function have suitable professional qualifications and are personally reliable. In accordance with supervisory regulations, the outsourcing company has to appoint an outsourcing officer for this purpose, who, where appropriate, is subject to registration with the regulatory body accordingly as the person responsible for the relevant key function within the company. The overseeing outsourcing official is hereby responsible for the proper fulfilment of the duties associated with the outsourcing of the key function.

No key functions were outsourced in 2017.

B.2.3 Evaluation process

The requirements and reporting processes with respect to the supervisory authority correspond to the current standard processes based on the BaFin information sheets on professional competence and reliability.

Pursuant to the framework directive on the fulfilment of the Fit & Proper requirements, at the preliminary stage of recruiting new members of staff who will actually head up the company or hold other key roles, a detailed curriculum vitae will be submitted and a requirements profile set, which detail and describe the necessary qualifications. The framework directive pertaining to the fulfilment of Fit & Proper requirements contains a checklist in the attachment, which is to be used in the assessment of the Fit & Proper requirements of these individuals. The requirements profile contains evidence of the following minimum requirements:

Description of the position with key functions:

- Performance catalogue (job description)
- Authority to make decisions
- Level of staff responsibility

Professional qualification (general):

- Level of education (commercial or vocational training)
- University degree or professional standard (such as, for example, for auditors or actuaries)
- Knowledge and understanding of business strategy
- Knowledge of the system of governance
- Foreign language skills, minimum of English language and other foreign languages where possible

Professional qualification (depending on the particular position):

- Industry experience
- Knowledge and understanding of the business model
- Ability to interpret accounting and actuarial data
- Knowledge and understanding of the regulatory frameworks affecting the company
- Expertise in personnel management, staff selection, succession planning

The professional and personal requirements for members of the Supervisory Board are comprised in a guideline document since 2017.

The procedure for assessing the transfer of tasks stipulates that, at the preliminary stage of recruiting new members of staff, a detailed curriculum vitae must be submitted and a requirements profile must be set, which contains the verification of predefined minimum requirements. The continual safeguarding of compliance with the relevant requirements is undertaken every five years in the form of an assessment of the requirements profile, undertaken by the responsible organisational unit.

As part of the event-driven assessment, any significant changes in the underlying parameters trigger an assessment of the compliance with the catalogue of requirements. This involves a differentiation of the characteristics deemed necessary in the person and in the position.

The assessment and control procedures are summarised in an overview, which contains the assessment cycle of the requirements profile and the responsibility for the assessment and duty to inform held by those individuals who actually head up the company, and those individuals who have other key functions.

B.3 Risk Management System including the Own Risk and Solvency Assessment

B.3.1 Strategy implementation

Our corporate strategy until end of 2017 encompasses ten guiding principles that safeguard the realisation of our vision “Long-term success in a competitive business” across the various divisions. The following principles of the corporate strategy constitute the key strategic points of departure for our Group-wide risk management:

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

The risk strategy, risk register and central system of limits and thresholds – as integral components of our Risk and Capital Management Guideline – are reviewed at least once a year. In this way we ensure that our risk management system is kept up-to-date.

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

B.3.2 Risk capital

In the interests of our shareholders, clients and employees we strive to ensure that our risks remain commensurate with our capital resources. Our quantitative risk management provides a uniform framework for the evaluation and steering of all risks affecting the company as well as of our capital position. In this context, the internal capital model is our central tool. The internal capital model of the Hannover Re Group is a stochastic enterprise model. It covers all subsidiaries and business groups of the Hannover Re Group. The central variable in risk and enterprise management is the economic capital, which is calculated according to market-consistent measurement principles and also constitutes the basis for calculating the own funds under Solvency II.

Hannover Re calculates the required risk capital as the Value at Risk (VaR) of the economic change in value over a period of one year with a confidence level of 99.97%. This reflects the goal of not exceeding a one-year ruin probability of 0.03%. The internal target capitalisation of the Hannover Re Group is therefore significantly higher than the confidence level of 99.5% required under Solvency II.

In respect of the capitalization under Solvency II, Hannove Re has determined a minimum solvency ratio with a limit of 180% and a threshold of 200%.

The governance of the internal model is defined in a number of documents and policies. In particular, this includes the model change policy and the validation standards for internal models which comprise roles and responsibilities for these processes.

The capitalisation prescribed by regulatory requirements diverges from the capitalisation shown in accordance with the Hannover Re Group's internal capital model. This is due to the fact that non-controlling interests are not fully recognised according to Solvency II parameters.

Hannover Re Group received the approval in 2017 by BaFin to calculate the regulatory capital requirements with a full internal model, including operational risks.

We hold additional capital to meet the requirements of the rating agencies for our target rating and to be able to act flexibly on business opportunities. We strive for a rating from the rating agencies most relevant to our industry that facilitates and secures our access to all reinsurance business worldwide. Hannover Re is analysed by the rating agencies Standard & Poor's and A.M. Best as part of an interactive rating process. The current financial strength ratings are assessed as "AA-" (Very Strong, stable outlook) by Standard & Poor's and "A+" (Superior, stable outlook) by A.M. Best. Standard & Poor's evaluates Hannover Re's risk management as "Very Strong", the best possible rating. In this regard particular mention was made of the company's very good risk management, the consistent and systematic implementation of corporate strategy by management and its excellent capital resources. Hannover Re's internal capital model was also subjected to expert appraisal. As a result of this review, Standard & Poor's factors the results of the Hannover Re Group's internal capital model into the determination of the target capital for the rating.

B.3.3 Organisation of risk management and the tasks of the risk management function

For the fundamental organisational structure please refer to Section B.1.

The risk management function consists of three primary components: the risk committee, the Chief Risk Officer and the risk monitoring function.

Risk committee

The tasks of the risk committee - the body charged with the monitoring and coordination of risk management - are derived from the rules of procedure regarding the risk committee. The scope of decision-making for the risk committee lies within the boundaries of risk appetite set by the Executive Board. Changes, and any instances of increase in risk appetite, require the approval of the Executive Board. Further tasks include quality assurance of the ORSA process and monitoring of the implementation of risk-related measures. The risk committee also receives the model change reports according to the model change policy.

Chief Risk Officer

The Chief Risk Officer is also the head of the risk monitoring function and member of the Risk committee. The Chief Risk Officer coordinates the ORSA process and ensures the framework conditions of an effective risk management system.

Risk monitoring function

The risk monitoring function coordinates and bears responsibililty for comprehensive monitoring (systematic identification, evaluation, monitoring and reporting) of all significant asset- and liability-related risks and the regular execution of the ORSA process. Furthermore, the risk monitoring function develops methods, standards and processes for the assessment and monitoring of risk.

The risk monitoring function fulfils its tasks objectively and independently for Hannover Re.

B.3.4 Key elements of our risk management system

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

This guideline describes, among other things, the major tasks, rights and responsibilities, the organisational framework conditions and the risk control process. The rules, which are derived from the corporate strategy and the risk strategy, additionally take account of the regulatory minimum requirements for risk management as well as international standards and developments relating to appropriate enterprise management. 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. Beyond that, the requirements by the risk management are stated in guidelines and policies, which are communicated Group-wide.

Risk-bearing capacity concept

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

Risk identification

A key source of information for monitoring risks is the risk identification carried out on a periodic basis. All identified risks are documented in a central register containing all material risks. Risk identification takes the form of, among other things, structured assessments, interviews or scenario analyses. External insights such as recognised industry know-how from relevant bodies or working groups are incorporated into the process. Risk identification is important for ensuring that our risk management consistently remains up-to-date.

Risk analysis and assessment

In principle, every risk that is identified and considered material is quantitatively assessed. Only risk types for which quantitative risk measurement is currently impossible or difficult are qualitatively assessed (e. g. strategic risks, reputational risks or emerging risks). Qualitative assessment can take

the form of, for example, expert evaluations. Quantitative assessment of material risks and the overall risk position is performed using the Hannover Re risk model. The model makes allowance for risk concentration and risk diversification.

Risk steering

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

Risk monitoring

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

Risk communication and risk culture

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

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

Process-integrated / -independent monitoring and quality assurance

Irrespective of internally assigned competencies, the Executive Board is responsible for the orderly organisation of the company's business. This also encompasses monitoring of the internal risk steering and control system. Furthermore, the Executive Board is the owner of the economic capital model and is responsible for the approval of major model changes. Process-independent monitoring and quality assurance of risk management is carried out by the internal audit function and external instances (regulators, independent auditors and rating agencies). Most notably, the independent auditors review the trigger mechanism and the internal monitoring system. The entire system is rounded off with process-integrated procedures and rules, such as those of the internal control system.

B.3.5 Risk landscape

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

The risk landscape of Hannover Re encompasses:

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

At the present time our most significant risks are the credit and spread risks within the market risks, the reserving and catastrophe risks within the underwriting risks of property and casualty reinsurance and the risk of changes in mortality within the underwriting risks of life and health reinsurance. With regard to mortality risks, as a general principle annuity portfolios are impacted by improvements in mortality while death benefit portfolios are adversely affected by deteriorations in mortality. The specific risk characteristics and the principal monitoring and steering mechanisms are described in the following sections.

B.3.6 Own Risk and Solvency Assessment (ORSA)

The ORSA report, which is generated annually in the first half of the year after the completion of the financial year in question, primarily consists of an analysis of current and future risks, which could threaten the continued existence of Hannover Re. Here, the internal model is used – especially for the calculation of solvency requirements in comparison to the allocated risk capital – and its results are displayed. Capital resources are presented, stress tests are executed and a risk and profit forecast is generated – including scenario analysis. The interplay between risk and capital management is highlighted here. Finally, it explains the inclusion of the Executive Board into the ORSA process and its use as one of the controlling instruments at the company's disposal.

The ORSA report is coordinated by the risk management division and is subject to both assessment and approval by the Executive Board. In addition, the report is submitted to the Supervisory Board and the BaFin.

The ORSA cycle mirrors our circuit of planning, action, monitoring und finally enhancement and comprises the elements listed in section B.3.1.4.

Risk reporting

We produce regular reports which demonstrate the company's risk position. To be mentioned are for example the internal and external risk reports, internal model result reports including solvency calculation, actuarial report and the report on mid-term outlook.

All these reports are the basis for the solvency and risk assessments described in the ORSA report. The production of the ORSA report is coordinated by the division Group Risk Management. Therein all employees contributing to the above procedures are involved as data and information suppliers and consulted for quality assurance.

The Executive Board observes the ORSA results for a full accomplishment of defined business targets, changes in the business process take place, if needed. This establishes a surveillance circuit for business enhancements and risk mitigation.

Furthermore, thereby the overall administrative, management or supervisory body (AMSB) can report to BaFin in detail using the ORSA report.

In the event of a necessary ad-hoc ORSA, potentially because of a material change in risk profile as a result of a material risk, Hannover Re has defined specific procedural plans and responsibilities governing the extent to which reporting lines are to be fulfilled and the Executive Board and panels in charge are to be informed, in order that counter-measures can be initiated.

B.4 Internal Control System

B.4.1 Elements of the Internal Control System

We organise our business activities in such a way that they are always in conformity with all legal requirements. The internal control system (ICS) is an important subsystem that serves, among other things, to secure and protect existing assets, prevent and reveal errors and irregularities and comply with laws and regulations. The core elements of Hannover Re's ICS are documented in a guideline that establishes a common understanding of the differentiated execution of the necessary controls. In the final analysis, it is designed to systematically steer and monitor the implementation of our corporate strategy.

The guideline defines concepts, stipulates responsibilities and provides a guide for the description of controls. In addition, it forms the basis for the accomplishment of internal objectives and the fulfilment of external requirements imposed on Hannover Re. The ICS consists of systematically structured organisational and technical measures and controls within the enterprise. This includes, among other things:

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

The proper functioning of the ICS necessitates the involvement of management, executive staff and employees on all levels. The financial reporting of the parent company and the Group must satisfy

international and national financial reporting standards as well as regulatory requirements. This is safeguarded in the area of accounting and financial reporting by processes with integrated controls which ensure the completeness and accuracy of the annual and consolidated financial statements. A structure made up of differentiated criteria, control points and materiality thresholds assures our ability to identify and minimise the risk of material errors in the annual and consolidated financial statements at an early stage.

B.4.2 Compliance function

Implementation of the compliance function

Hannover Re has opted for a decentralised approach towards the implementation of the compliance function, i. e. the tasks of the compliance function will not only be fulfilled by the legal department, but by various departments. The compliance function is therefore located in several departments.

The head of the Legal department is the holder of the key compliance function at the same time.

The Executive Board of Hannover Re has established the compliance division within the Legal department for the fulfilment of some of the tasks of the compliance function. The Compliance Officer is authorised to task further members of staff from the Legal department for the purpose of fulfilling compliance functions, which are executed by the compliance function.

Hannover Re has specified its compliance policy in writing in a manual bearing the title “Corporate Compliance of Hannover Rück and E+S Rück”. This manual is regularly assessed for its topicality and, if necessary, updated - at least once a year - and on an event-driven basis by the members of staff within the compliance function when new developments occur.

There were no significant changes to the compliance policy during the reporting period.

Hannover Re has deemed the following topics to be of particular relevance for compliance, and has determined these to be key areas of compliance:

- Fulfilment of statutory requirements
- Compliance with foreign trade legislation and sanction provisions
- Compliance with company law (including the German Corporate Governance Code)
- Compliance with capital market legal provisions (in particular with obligations pursuant to the Market Abuse Directive [Marktmissbrauchsverordnung], the German Securities Trading Act [WpHG] and the German Securities Acquisition and Takeover Act [WpÜG]), laws relating to insider-trading, director dealings and ad hoc reporting
- Compliance with antitrust and competition provisions
- Compliance with the code of conduct
- Combating corruption / embezzlement / fraud
- Compliance with data protection norms
- Compliance with the regulations stipulated by employment law
- Compliance with tax laws
- Execution of orderly financial reporting

The fulfilment of all statutory reporting requirements is ensured by assigning them to the responsible organisational units.

Tasks

The compliance function ensures compliance with the relevant external provisions by Hannover Re.

These key areas of compliance as mentioned above are monitored by the compliance function at Hannover Re. Therefore, different departments work together. E. g. employment law remains the responsibility of the Human Resources department, tax law falls under the jurisdiction of the Tax department of Hannover Re.

The handling of particularly compliance-relevant topics by the departments, who collectively form the compliance function, comprises at the least the following activities:

- Identification and evaluation of risks, which are associated with the non-compliance of statutory requirements (risk control)
- Evaluation of the possible consequences for the company's activity as a result of changes in legal operating conditions (risk relating to changes in the law / early warning)
- Consultation with regard to compliance with the legal provisions which apply to company activity
- Assessment of the appropriateness of implemented measures in relation to compliance with statutory requirements (monitoring function)

The compliance function has a regular risk review (at least once a year) carried out by the other departments dealing with particularly compliance-relevant issues, outlining which non-compliance risks have been identified and what measures are being deployed in these departments to minimise these risks. This ensures that all issues being handled within the compliance function are monitored and dealt with.

The appointed Compliance Officer for Hannover Re bears particular responsibility for the following tasks:

The Compliance Officer monitors changes made to legal provisions and standards made by legislators, as well as case law. He assesses the new developments for their relevance and communicates pertinent innovations and changes to the respective departments and the Executive Board. The compliance function also holds regular training sessions for members of staff, in particular with regard to legislative reforms, announcements by the insurance supervisory authority or other changes.

By way of continuous monitoring, the Compliance Officer and the members of staff of the compliance function contribute to ensuring compliance by the executive bodies (Executive Board and Supervisory Board) and the members of staff of Hannover Re with legal and regulatory operating conditions.

The Compliance Officer advises members of the Executive Board and members of staff of Hannover Re upon request regarding compliance topics.

Every year, the Compliance Officer generates a compliance plan for the following year. The Compliance Officer also created a compliance plan together with the members of staff of the compliance function for the year 2017. This plan determines where the key areas of compliance activity should be in the subsequent year.

The Compliance Officer and the members of staff of the compliance function assess compliance reports submitted by the company branches, and generate the Hannover Re compliance report for the previous calendar year until the balance committee meeting of the Supervisory Board. The report contains information on compliance-relevant topics such as, for example, specific details regarding

significant breaches of compliance which have surfaced, as well as proposed and implemented measures relating to their elimination, current assessments pertaining to compliance risks, proposed measures aimed at limiting compliance risks etc.

Reporting lines

As the holder of the key compliance function, the Compliance Officer reports directly to the members of the Executive Board responsible for the Legal and Compliance Department.

Reports are provided on relevant compliance incidents and are completed in written, verbal or electronic form, although verbal reports are, as a rule, subsequently backed up in writing.

Depending on the seriousness of the incident, the reporting can be performed within a regular annual report or on an ad hoc basis.

B.5 Internal Audit Function

Implementation of the Internal Audit Function

The company's internal audit function is executed by the department of Group Auditing (GA). GA renders independent, objective auditing services including evaluations and recommendations, which play a key role in safeguarding the external and internal compliance of processes, the internal control system and other areas of the company, as well as identifying potential areas for improvement and thus generating added value. In addition to its auditing role, GA operates as an internal advisor generating valuable impetus as part of network collaboration with other units and functions within the company.

The Executive Board ensures that GA is not subject to instruction regarding audit planning, audit execution, reporting and the assessment of audit results. For the purposes of safeguarding autonomy, the head of GA, who is simultaneously the key function holder for the company's internal audit function pursuant to Sections 30 and 47 No. 1 of the Act on the Supervision of Insurance Undertakings (VAG), reports directly to the Chairman of the Executive Board in all professional and disciplinary matters. Members of the internal audit staff are exclusively employed in GA and only execute tasks which are in line with the GA Internal Audit Policy. This policy was released by the Executive Board and specifies the authorities of the internal audit function.

The GA team unites people of different educational backgrounds as well as different university and vocational degrees in order to cover the wide range of audit tasks. The employees hold a comprehensive professional experience, gained internally (especially from underwriting) as well as externally (in particular from external auditing and consulting). If a specific need for additional resources or skills arises, GA can involve internal peers or external capacities.

Tasks

GA supports the Executive Board in the attainment of company targets by assessing all business areas, processes and systems within the company in a targeted, independent and objective way, through the use of a systematic, risk-oriented approach as part of audit planning and execution, while also contributing to the company's further development. Auditing results are reported directly to the Executive Board. The assessment of individual findings and the overall assessment of the audit results is undertaken exclusively by GA. The underlying classification scheme defined by GA ensures an objectification of the estimations made.

Reporting lines

The internal audit function reports its auditing results and recommendations to the Executive Board continuously in the form of written audit reports, and / or immediately in the event of serious deficiencies, as well as once a year in the form of the GA annual report. The implementation of agreed recommendations and measures in the audits is monitored by GA up until the determined deadlines.

B.6 Actuarial Function

Implementation of the Actuarial Function

Tasks and responsibilities of the Actuarial Function (AF) are defined in the AF policy which has been approved by the Executive Board. The owner of the AF coordinates the tasks of the AF.

The AF is organised in a decentral way. Main tasks are fulfilled by departments of the central division Group Risk Management.This reflects the common understanding between the two key functions of AF and the Risk Management Function (RMF) that a broad exchange of information and a competent support of each other's function is useful to fulfil their individual tasks in an effective and efficient way.

With respect to an opinion on the underwriting policy, the AF is supported by those departments assigned to the risk management, which are concerned with premium risk and with the measurement of underwriting risk respectively. For the evaluation of the retrocession and the accompanying risks, there is a close collaboration between respective departments within the risk management. In addition those departments which coordinate the retrocession program of the company are involved.

Tasks

The tasks of the AF are inter alia:

- Coordination and validation of the calculation of the Solvency II technical provisions (TP)
- Ensure the appropriateness of the applied methods, the underlying models and assumptions
  - used for the calculation of the TP for solvency as well as for accounting purposes
  - used as a basis for the appropriate recognition of the inherent risks of these methods, models and assumptions in the internal model
- Evaluation of the uncertainty associated with the estimations made in the calculation of the TP
- Regular review and assessment of the underlying data in terms of sufficiency and quality
- Regular comparison of best estimates against experience
- Reconciliation of TP between local accounting principles and Solvency II
- External validation and quality checks by actuarial consulting companies in addition to the internal validation of the TP
- Recommendations on improving processes and models used for the calculation of the TP, including data collection, if deficiencies have been observed, and monitoring of their implementation
- In the context of the contribution to the RMF inter alia
  - Support of the internal model, especially with respect to underwriting risks (delivery / validation of models, data, parameters)
  - Monitoring of the reserve level within the scope of the system of limits and thresholds
  - Analysis of large transactions and new types of business
- Preparation of the AF report containing inter alia the following topics
  - Tasks of the AF

- Activities of the AF in the reporting period
- Methods, results and sensitivity analyses in respect of TP
- Opinion on the underwriting policy, and
- Opinion on the retrocession policy

Reporting Lines

In addition to the annual AF report, the responsible owner of the AF reports regularly directly to the Executive Board and to the Actuarial Committee, which is the responsible committee for the information exchange with the AF. If necessary, the AF reports to the Board or the Actuarial Committee on an ad hoc basis or upon requests and vice versa any requests of these two bodies were directed to the responsible owner of the AF. These direct reporting lines ensure the independence of the AF from the other key functions and the operational management.

The Actuarial Committee consists of the CEO, CFO, and the Board member who is responsible for the coordination of Property and Casualty reinsurance, the head of the AF and the head of the AF for Life & Health reinsurance business.

B.7 Outsourcing

Hannover Re has an outsourcing policy in place which is approved by the Executive Board. The outsourcing policy describes all statutory, regulatory and internal requirements imposed on the outsourcing of (re-)insurance activities and functions. Here, the entire outsourcing management process is described, which consists of the following five process steps:

- Planning and classification
- Risk analysis and due diligence
- Contract management and notification
- Steering and monitoring
- Renewal and termination

All relevant stakeholder groups are involved in the outsourcing management process. Intra-Group outsourcings are also integrated into the outsourcing management process.

Among others, Hannover Re has currently outsourced the asset and investment management, this on an intra-Group basis to Talanx Asset Management GmbH, located in Cologne (Germany). This matter concerns the only so-called important outsourcing on Group basis.

B.8 Any other information

Evaluating the appropriateness of the system of governance

On an annual basis, the Executive Board receives an opinion from the System of Governance Assessment Committee regarding the past financial year. This opinion presented by the committee dated 12 March 2018 was assessed and approved by the Executive Board.

The committee is made up of the Heads of key functions, the Head of Corporate Development and the Head of Human Resources, and convenes at least once a year. Guests are invited on an event-

driven basis. The basis for the assessment of the system of governance includes, among other things, the annual reports submitted by the key functions.

Based on the assessment of the committee, the Executive Board has reached the conclusion that the system of governance of Hannover Re is, in terms of its type, scope and complexity, appropriate for determining the inherent risks of its business activities.

C. Risk Profile

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

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
- other risks, such as reputational and strategic risks.

At the present time our most significant risks are the default and spread risks within the market risks, the reserving and catastrophe risks within the underwriting risks of property and casualty reinsurance and the risk of changes in mortality within the underwriting risks of life and health reinsurance. The general annuity portfolios are adversely impacted by improvements in mortality while death benefit portfolios are adversely affected by deteriorations in mortality.

Retrocession has a particular significance within risk appetite and risk reduction. Business which does not remain in deductibles is retroceded to third parties in order to protect the capital of the Hannover Re Group. The process of strategic retrocession placement for the Group, subsidiaries or branches is determined by the respective Board member and overseen by the Executive Board.

In the course of the mid-term planning we monitor the business development over a time horizon of five years. Besides the basic scenario we also behold alternative scenarios in respect of macro-economic developments and evolution of (re)insurance markets. Under the assumptions within the mid-term business plan, the risk profile and the capitalisation of Hannover Re Group remains comfortable.

Large transactions are assessed in regards of the influence on the risk profile, the capitalisation and the defined limits for different risk categories. Therewith we secure that the risks develop in line with our risk appetite.

New reinsurance and investment products are analysed under a dedicated process (New Products Process, NPP). In addition to analysing the risk profile, integration into all internal processes, such

as accounting and risk monitoring, is also defined. In 2017, four NPPs were completed and the products were approved by the Board.

C.1 Underwriting risk

C.1.1 Underwriting risk Property and Casualty

Risk management in property and casualty reinsurance has defined various overall guidelines for efficient risk steering. These include the use of retrocessions to reduce volatility and conserve capital. It is also crucial to steer the acceptance of risks systematically through the existing central and local underwriting guidelines. Our conservative reserving level is a key factor in our risk management. We make a distinction between risks that result from business operations of past years (reserve risk) and those stemming from activities in the current or future years (price / premium risk). In the latter case, special importance attaches to the catastrophe risk.

The risk capital with a confidence level of 99.5% for underwriting risks in property and casualty reinsurance breaks down as follows:

Solvency Capital Requirement for underwriting risks in property and casualty reinsurance

in TEUR	2017	2016
Premium risk (incl. catastrophe risk)	2,472,013	2,470,429
Reserve risk	2,253,826	2,281,808
Diversification	−1,240,390	−1,199,310
Underwriting risk property and casualty	**3,485,449**	**3,552,928**

The underwriting risks in property and casualty reinsurance decreased primarily as a consequence of the weaker US dollar against the Euro and slightly improved diversification within property and casualty reinsurance.

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.

C.1.1.1 Risks arising from natural disasters

The largest share of the required risk capital for the premium risk is attributable to risks from natural disasters. The following table shows the required risk capital for our four largest natural hazards scenarios:

Solvency Capital Requirement for the four largest natural hazards scenarios

in TEUR	2017	2016
Hurricane US / Caribbean	1,605,569	1,477,278
Earthquake US West Coast	1,071,202	1,035,793
Winter storm Europe	665,146	698,751
Earthquake Japan	613,908	750,415

The higher capital requirements for Hurricane US / Caribbean and Earthquake US West Coast compared to last year are primarily due to an increase of US business. The decrease of the capital requirement for Earthquake Japan is mainly a consequence of exchange rate effects, i. e. a stronger Euro compared to Yen.

For the purpose of assessing our catastrophe risks from natural hazards, especially earthquake, windstorm and flood, we use licensed scientific simulation models, supplemented by the expertise of our own specialist departments, that deliver probability distributions for losses from natural catastrophes. The monitoring of the risks resulting from natural hazards is complemented by scenario analyses.

Stress tests for natural catastrophes after retrocessions
Effect on forecast net income

in TEUR	2017	2016
Winter storm Europe		
100-year loss	−378,188	−391,392
250-year loss	−542,502	−541,356
Hurricane US / Caribbean		
100-year loss	−921,034	−850,346
250-year loss	−1,274,814	−1,139,421
Typhoon Japan		
100-year loss	−183,095	−223,933
250-year loss	−256,601	−281,889
Earthquake Japan		
100-year loss	−282,208	−363,065
250-year loss	−521,994	−623,547
Earthquake US West Coast		
100-year loss	−420,173	−440,627
250-year loss	−921,658	−795,411
Earthquake Australia		
100-year loss	−154,362	−201,031
250-year loss	−445,318	−432,304

Within the scope of this natural catastrophy risk management process, the Executive Board defines the risk appetite for natural perils once a year on the basis of the risk strategy by specifying the portion of the economic equity that is available to cover risks from natural perils. This is a key basis for our underwriting approach in this segment and served to significantly cushion, for example, the strain from this risk category in 2017. As part of our holistic approach to risk management across business groups, we take into account numerous relevant scenarios and extreme scenarios, determine their effect on portfolio and performance data, evaluate them in relation to the planned figures and identify alternative courses of action.

For the purposes of risk limitation, maximum amounts are also stipulated for various extreme loss scenarios and return periods in light of profitability criteria. Risk management ensures adherence to these maximum amounts. The Executive Board, Risk Committee and P&C Executive Committee are kept regularly updated on the degree of capacity utilisation.The limits and thresholds for the 200-year aggregate loss as well as the utilisation thereof are set out in the following table:

Limit and threshold for the 200-year aggregate annual loss as well as utilisation thereof
Loss relative to the underwriting result

in TEUR	Limit 2017	Threshold 2017	Actual utilisation (July 2017)
All natural catastrophe risks			
200-year aggregate annual loss	1,815,325	1,633,793	1,409,420

C.1.2 Reserve risk

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

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

Our own actuarial calculations regarding the adequacy of the reserves are also subject to annual quality assurance reviews conducted by external firms of actuaries and auditors.

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

In 2017 the remaining exposure has been further mitigated by a loss portfolio transfer of reserves and IBNR to an external company. Therefore compared to last year the case reserves and IBNR have been reduced while maintaining a high survival ratio for the rest of the portfolio.

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

in TEUR	Individual loss reserve	IBNR reserve	Survival Ratio in years
Asbestos-related claims/pollution damage	20,082	155,326	27.2

In order to partially hedge inflation risks Hannover Re holds securities in its portfolio with inflation-linked coupons and redemption amounts. An inflation risk exists particularly inasmuch as the liabilities (e. g. loss reserves) could develop differently than assumed at the time when the reserve was

constituted because of inflation. The specified bonds protect these parts of the loss reserves against inflation risks.

C.1.3 Risk mitigation techniques Property & Casualty

C.1.3.1 Strategic aims and key figures

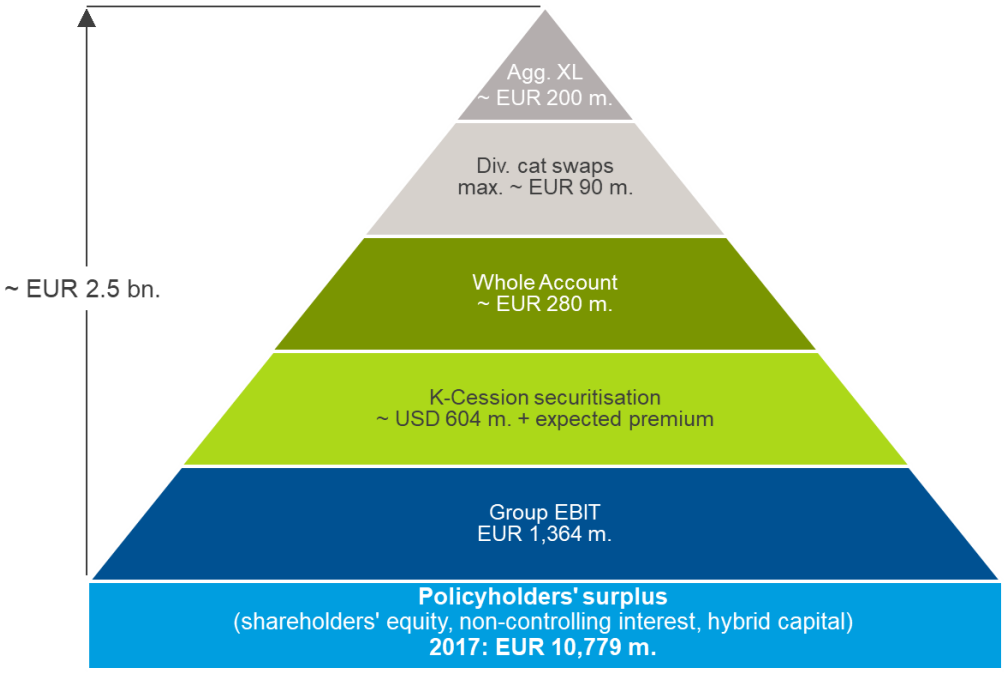
The strategic aims in relation to the placement of retrocessions are determined by the placing unit and the relevant member of the Executive Board. The Executive Board oversees the placement of the retrocessions as a whole, in particular the limits, premiums and contractual terms.

The Executive Board derives the risk budget for natural perils from the global risk budget. Many risk tolerances are based on net metrics, i. e. the placement of retrocessions plays a key role in adhering to the limits.

Capacities are derived from the global and local risk tolerances on a per scenario and market sector basis. The capacity matrix forms the operational management tool and ensures a consistent top-down approach.

During the planning phase in September and October every year, the Executive Board decides on the capacities for the following year. The aim of the planning process is the utilisation of all risk tolerances up to the respective thresholds. An under-utilisation would correspond to an under-utilisation of the allocated capital.

The resulting multilevel protection increases the reinsurance capacity for natural catastrophes and thus provides additional revenues with a defined risk appetite.



As at March 2018

The main retrocessions are described below.

C.1.3.2 Description of main types of cover against natural perils

Details on the individual forms of reinsurance covers are described below.

Whole Account Protection 2017

The Whole Account Protections cover all property, motor hull and engineering business of the Hannover Re Group, i. e. business recorded in Hannover and through subsidiaries or branch offices. The protections are placed on a gross claim basis.

Large Loss Aggregate XL 2017

The Large Loss Aggregate XL is an aggregate protection and cover the whole P&C book of the Hannover Re Group.

K-quota share and K-aggregate XLs 2017

The portfolio covered under the K-quota share consists of the following segments and regions of the Cat XL business of the Hannover Re Group:

- Natural perils in Australia, Japan, Canada and USA (mainly wind and earthquakes)
- Natural perils in northern Europe (mainly wind, earthquakes, hail and floods)
- Natural perils in New Zealand (mainly earthquakes)
- Aviation (all XL contracts) and Marine & Energy (all XL contracts)

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. A large part of the total volume of the “K Cession” was securitised via structured entities. 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 structured entities are in most cases fully funded by contractually defined investments in the form of cash and equivalent liquid assets.

E+S Nat Cat UNL protection

In addition to the Hannover Re retrocessions, there is a specific cover for E+S Rück. The so-called E+S Nat Cat UNL covers all natural perils: wind, hail, flood and earthquake. Covered area is Europe incl. Turkey.

C.1.4 Underwriting risk Life and Health

All risks directly connected with the life of an insured person are referred to as biometric risks. They include in particular the miscalculation of mortality, life expectancy, morbidity and occupational disability. Biometric risks are the material risks for our company in the area of life and health reinsurance. Our goal is to strike a balance between biometric risks. Furthermore, we are exposed to lapse risks because the cash flows resulting from our reinsurance treaties are in part dependent on lapse rates among policyholders. Counterparty default risks are also material since we partly

prefinance our cedants' new business acquisition costs. Furthermore, we are exposed to catastrophe risks, especially events involving a high number of fatalities in our insurance portfolio.

The reserves are determined on the basis of secure biometric actuarial bases in light of the information provided by our clients. The biometric actuarial bases used and the lapse assumptions are continuously reviewed with an eye to their adequacy and if necessary adjusted. This is done using the company's own empirical data as well as market-specific insights. Our current risk profile in life and health reinsurance is dominated by mortality and longevity risks. This is due to the fact that under some of our contracts we pay death benefits, while under others we pay survival benefits. The volume of our annuity portfolio contributes to diversification within life and health reinsurance. We calculate the diversification effect between mortality and longevity risks prudently in view of the fact that the contracts are normally taken out for different regions, age groups and individuals. The required risk capital with a confidence level of 99.5% for underwriting risks in life and health reinsurance breaks down as follows:

Required risk capital for underwriting risks life and health reinsurance
Required riks capital at a confidence level of 99.5%

in TEUR	2017	2016
Mortality risk	1,921,991	1,637,395
Longevity risk	1,531,409	1,331,564
Morbidity and disability risk	632,404	395,008
Lapse risk	422,697	603,200
Expense risk	217,057	271,731
Diversification	−2,370,900	−2,121,045
Underwriting risk life and health	**2,354,658**	**2,117,854**

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.

The underwriting risks in life and health reinsurance increased owing to higher mortality risks due to more robust assumptions and model changes.

A risk concentration in Life and Health reinsurance business is primarily present due to mortality risks. In addition, the risk of a pandemic event governs an essential fraction of our solvency capital requirement for life and health business with regard to concentration risks. To govern our risks we regularly monitor our exposure regarding potential pandemic events in the context of internal model runs. More detailed information is also available in Section D.2.2.2.

Through our quality assurance measures we ensure that the reserves established by ceding companies in accordance with local accounting principles satisfy all requirements with respect to the calculation methods used and assumptions made (e. g. use of mortality and morbidity tables, assumptions regarding the lapse rate). In addition, the assumptions are continuously reviewed on the basis of empirical data and modified if necessary. New business is written in all regions in compliance with underwriting guidelines applicable worldwide, which set out detailed rules governing the type, quality, level and origin of risks and how these considerations are factored into the pricing. These global guidelines are revised annually and approved by the Executive Board. Special underwriting guidelines give due consideration to the particular features of individual markets. By monitoring compliance with these underwriting guidelines we minimise the risk of an inability to pay or of deterioration in the financial status of cedants. Regular reviews and holistic analyses (e. g. with

an eye to lapse risks) are carried out with respect to new business activities and the assumption of international portfolios. Large transactions are also examined by our risk management department. Individual actuarial reports and documentation ensure that regular scrutiny also takes place on the level of the subsidiaries. The interest rate risk, which in the primary sector is important in life business owing to the guarantees that are given, is of only minimal relevance to our company thanks to the design of our reinsurance treaties. We have confidence in the entrepreneurial abilities of our underwriters and grant them the most extensive possible powers. In our decentralised organisation we manage risks where they arise using a consistent Group-wide approach in order to obtain an overall view of the risks in life and health reinsurance. Our global underwriting guidelines provide underwriters with an appropriate framework for this purpose.

C.1.4.1 Risk mitigation techniques Life & Health Reinsurance

In the Life & Health business group, retrocessions for the purpose of risk reduction are only used on an limited basis.

An index-based pandemic cover was structured in 2013 as a swap and, since then, has been placed with different investors in various tranches. The overall capacity placed is flexibly collateralised, such that the level of collateralisation can be increased depending on the current WHO pandemic alert phases.

Some large longevity deals are retroceded proportionally and on a regular premium basis in order to reduce the volatility of the longevity portfolio with regards to particular large contracts. Two sided collateral provisions ensure that future liabilities will be collateralised if receivables from or to the retrocessionaires are projected to exceed an agreed threshold. The retrocession of some large longevity deals are recaptured effective on 31 December 2017. The existing pool retrocessions for high sum assured individual policies mainly originate from times when a lower per life retention applied for the Hannover Re Group. For risk reduction reasons, they are no longer necessary and have been placed in run-off unless the retrocession is subject to attractive terms.

In Australia, Hannover Life Re of Australasia Ltd. writes group life insurance both as primary insurer and reinsurer. The proportional retrocession or reinsurance of large contracts to local reinsurers serves to reduce volatility, validates our pricing which finally protects the equity of the subsidiary and results in turn in the assumption of business from these local reinsurers. Getting credit for retrocessions to overseas companies, including the parent company, is subject to limits under Australian regulation.

Other existing retrocessions are not placed for reasons of active risk reduction, but rather to maintain existing customer relationships, to get access to attractive inwards business or they are a part of existing transactions where redundant reserves of our US American business are reduced.

The effectiveness of our risk reduction retrocessions is closely linked to the default risk of the retrocessionaires. The monitoring of the default risk of retrocessionaires is performed across all business segments of Hannover Re in a standardised way, using standard systems and methods which are described in C.3.

C.2 Market risk

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

guided by the principles of a balanced risk / return profile and broad diversification. Based on a risk-averse asset mix, the investments reflect both the currencies and durations of our liabilities. Market price risks include equity risks, interest rate risks, foreign exchange risks, real estate risks, default and spread risks. Our portfolio currently consists in large part of fixed-income securities, and hence default and spread risks account for the bulk of the market risk. We minimise interest rate and foreign exchange risks through the greatest possible matching of payments from fixed-income securities with the projected future payment obligations from our insurance contracts. Market risks derive from the investments managed by Hannover Re itself and from investment risks of ceding companies that we assume in connection with insurance contracts. The following table shows the risk capital with a confidence level of 99.5% for the market risks from investments under own and third-party management.

Required risk capital for market risks
Including private equity

in TEUR	2017	2016
Credit and spread risk	2,403,180	2,827,876
Interest rate risk	1,038,437	1,179,085
Foreign exchange risk	901,104	1,296,528
Equity risk	820,555	1,283,476
Real estate risk	549,456	526,333
Diversification	−2,250,537	−2,887,875
Market risk	**3,462,193**	**4,225,423**

Last year's reduction of the equity quota in the investment portfolio and lower spreads – along with volume effects driven by exchange rate movements – resulted in diminished volatility overall and hence less risk. The relevance of equities to our investments decreased sharply in the year under review, however, because we liquidated our holdings of non-strategic listed equities and equity funds at the end of the third quarter in response to the hurricane events in the Caribbean and the United States as well as the earthquakes in Mexico. In this way we not only made the most of the favourable state of the market, we also reduced our general risk position and freed up capital for potential risk reallocations. Our exposure to the private equity market remains unchanged.

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

Interest rate and spread markets were relatively stable over the course of the year under review. Despite its conservative posture our investment portfolio benefited modestly from the market movements. Primarily due to lower risk premiums on corporate bonds and declining US dollar interest rates in the long maturities, a significant increase in hidden reserves for fixed-income securities was thus booked over the year as a whole.

At no time were the escalation levels of the trigger system reached in this connection.

The short-term loss probability measured as the VaR (Value at Risk) is another vital tool used for monitoring and managing market price risks. It is calculated on the basis of historical data, e. g. the volatility of the securities positions under own management and the correlation between these risks.

As part of these calculations the decline in the fair value of our portfolio is simulated with a certain probability and within a certain period. The VaR of the Hannover Re Group determined in accordance with these principles specifies the decrease in the fair value of our securities portfolio under own management that with a probability of 95% will not be exceeded within ten trading days. A multi-factor model is used to calculate the VaR indicators for the Hannover Re Group. It is based on time series of selected representative market parameters (equity prices, yield curves, spread curves, exchange rates, commodity prices and macro-economic variables). All asset positions are mapped on the level of individual positions within the multi-factor model; residual risks (e. g. market price risks that are not directly explained by the multi-factor model) can be determined through back-calculation and are incorporated into the overall calculation. The model takes into account interest rate risks, default and spread risks, systematic and specific equity risks, commodity risks and option-specific risks. Against the backdrop of what was still a difficult capital market environment, the volatilities of fixed-income assets, in particular, and hence the market price risks increased in the year under review relative to the previous year. Based on continued broad risk diversification and the orientation of our investment portfolio, our Value at Risk was nevertheless clearly below the Value at Risk upper limit defined in our investment guidelines. It amounted to 0.8% as at the end of the reporting period.

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

		Portfolio change on a fair value basis	
in TEUR	Scenario	2017	2016
Equity securities and private equity	Share prices -10 %	-81,384	-168,730
	Share prices -20 %	-162,769	-337,460
	Share prices +10 %	+81,384	+168,730
	Share prices +20 %	+162,769	+337,460
Fixed-income securities	Yield increase +50 basis points	-848,386	-903,468
	Yield increase +100 basis points	-1,652,088	-1,760,118
	Yield decrease -50 basis points	+880,337	+934,638
	Yield decrease -100 basis points	+1,802,918	+1,912,288
Real Estate	Real estate market values -10 %	-213,917	-194,400
	Real estate market values +10 %	+213,917	+194,400

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. 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.

Equity risks derive from the possibility of unfavourable changes in the value of equities, equity derivatives or equity index derivatives in our portfolio. Their relevance to our investments decreased sharply in the year under review, however, because we liquidated our holdings of non-strategic listed equities and equity funds at the end of the third quarter in response to the hurricane events in the Caribbean and the United States as well as the earthquakes in Mexico. In this way we not only made the most of the favourable state of the market, we also reduced our general risk position and freed up capital for potential risk reallocations. 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.

By far the largest part of our assets under own management is invested in fixed-income securities. They are exposed to the interest rate risk. Declining market yields lead to increases and rising market yields to decreases in the fair value of the fixed-income securities portfolio. The credit spread risk should also be mentioned. The credit spread refers to the interest rate differential between a risk-entailing bond and risk-free bond with the same maturity. Changes in these risk premiums, which are observable on the market, result – analogously to changes in pure market yields – in changes in the fair values of the corresponding securities. We minimize the interest rate risk by largely gearing the payments from our fixed income portfolio to the forecasted future payments for technical liabilities.

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

Real estate risks result from the possibility of unfavourable changes in the value of real estate held either directly or through fund units. They may be caused by a deterioration in particular qualities of a property or by a general downslide in market values. Real estate risks continued to grow in importance for our portfolio owing to our ongoing involvement in this sector. We spread these risks through broadly diversified investments in high-quality markets of Germany, Europe as a whole, the United States and Asia; 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. As in the previous year, a portion of our cash flows from the insurance business as well as foreign exchange risks was hedged using forward exchange transactions because currency matching could not be efficiently achieved. Hannover Re holds further derivative financial instruments to hedge interest rate risks from loans taken out to finance real estate. In addition, Hannover Re has taken out hedges in the form of equity swaps to hedge price risks in connection with the stock appreciation rights granted in 2014 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.

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.

C.3 Credit risk

The credit risk or counterparty default risk consists primarily of the risk of complete or partial failure of the counterparty and the associated default on payment. The following table shows the required risk capital for counterparty defaults as at 31 December. This includes counterparty risk from retrocessionaires, cedants and short-term money held at banks but not credit risk from investments. The latter is covered under market risk, see previous section.

Required risk capital (confidence level 99.5%)

in TEUR	2017	2016
Counterparty default risk	281,958	296,495

The decrease in counterparty default risks is principally the result of a lower volume of receivables due from ceding companies and retrocessionaires as well as reduced volatility of the modelled losses.

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

Gross written premium reteined

in %	2017	2016
Hannover Re Group	90.5	89.3
Property and casualty reinsurance	89.7	88.5
Life and health reinsurance	91.7	90.4

Alongside traditional retrocessions in property and casualty reinsurance we also transfer risks to the capital market. Please refer also to chapter C.1.3.

Counterparty default risks are also relevant to in life and health reinsurance, among other things because we finance acquisition costs for our ceding companies. Our clients, retrocessionaires and broker relationships as well as our investments are therefore carefully evaluated and limited in light of credit considerations and are constantly monitored and controlled within the scope of our system of limits and thresholds.

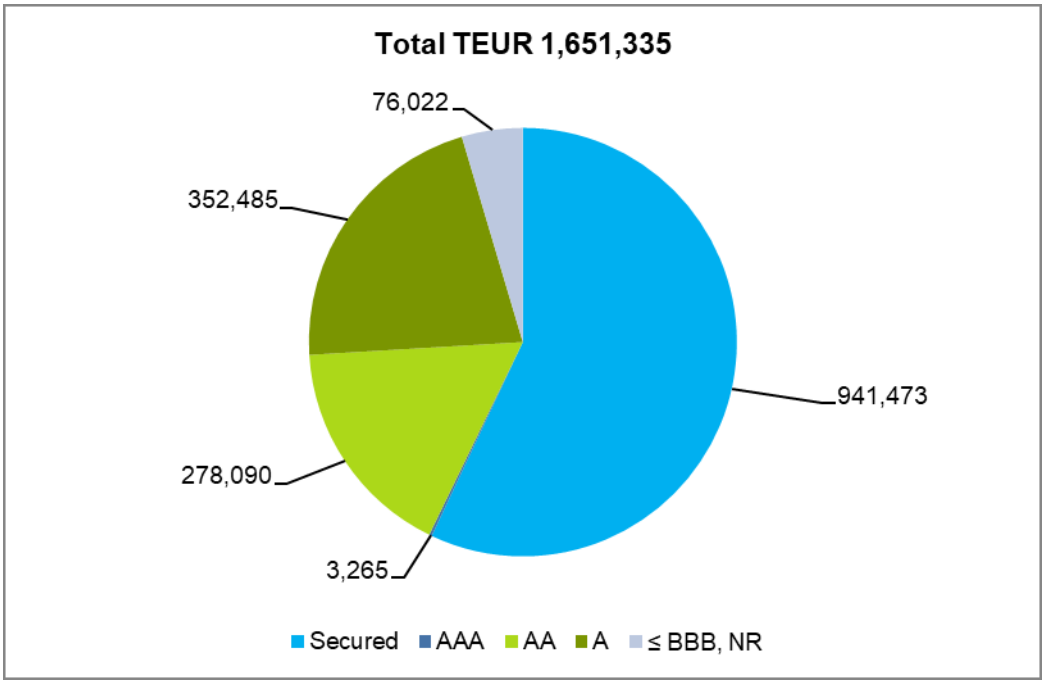
57.0% of our recoverables from reinsurance business are secured by deposits or letters of credit. For many of our retrocessionaires we also function as reinsurer, meaning that in most cases recoverables can potentially be set off against our own liabilities.

The average default rate from retrocessions over the past four years was 0.06%.

Retrocession gives rise to claims that we hold against our retrocessionaires. These reinsurance recoverables – i. e. the reinsurance recoverables on unpaid claims – amounted to TEUR 1,651,335 (TEUR 1,506,292) at the balance sheet date.

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

Reinsurance recoverables as at the balance sheet date
in TEUR



C.4 Liquidity risk

The liquidity risk refers to the risk of being unable to meet our financial obligations when they become due. The liquidity risk consists of the refinancing risk (necessary cash could not be obtained or could only be obtained at increased costs) and the market liquidity risk (financial market transactions could only be completed at a poorer price than expected due to a lack of market liquidity). Core elements of the liquidity management of our investments are, in the first place, management of the maturity structure of our investments on the basis of the planned payment profiles arising out of our technical liabilities and, secondly, regular liquidity planning as well as the asset structure of the investments. Above and beyond the foreseeable payments, unexpected and exceptionally large payments may pose a threat to liquidity. In reinsurance business, however, significant events (major losses) are normally paid out after a lead time that can be reliably planned. As part of our liquidity management we have nevertheless defined asset holdings that have proven to be highly liquid – even in times of financial stress such as the 2008 financial crisis. Our holdings of unrestricted German, UK and US government bonds as well as cash during the year under review were larger than possible disbursements for assumed extreme events, which means that our liquidity is assured even in the unlikely case of financial crises coinciding with an extreme event that needs to be paid out quickly. In addition, we manage the liquidity of the portfolio by checking on each trading day the liquidity of the instruments contained therein. These measures serve to effectively reduce the liquidity risk.

For the “total amount of the expected profit included in future premiums” required by Art. 295 (5) of the Delegated Regulation 2015/35 please refer to the Quantitative Reporting Template S.23.01.01, item R0790. We do not use this figure for our liquidity management.

C.5 Operational risk

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

With the aid of the Self-Assessment for Operational Risks we determine the maturity level of our operational risk management system and define action fields for improvements. The assessment is carried out, for example, by assessing the maturity level of the respective risk management function or of the risk monitoring and reporting. The system enables us, among other things, to prioritise operational risks. In order to calculate the capital commitment in our internal capital model we perform extensive scenario analyses and use the findings as a basis for specifying the parameters for the stochastic model. The following tables shows the required risk capital for the operational risk as at 31 December.

Required risk capital (confidence level 99.5%)

in TEUR	2017	2016
Operational risk	637,035	677,088

Note that we compare the standard formula as of year-end 2016 with the internal model as of year-end 2017. So, the decrease does not reflect a change in the risk profile. The internal model is built upon a significant number of explicit scenarios which lead to operational losses. The most significant scenarios related to fines due to unintended regulatory or compliance breaches as well as to inefficiencies in internal steering and valuation processes.

Within the overall framework of operational risks we consider, in particular, business process risks including risks associated with deficient data quality, compliance risks including tax risks, risks associated with the outsourcing of functions, fraud risks, personnel risks, information and IT security risks and business interruption risks.

Business process risks are associated with the risk of deficient or flawed internal processes, which can arise as a consequence of an inadequate process organisation. We have defined criteria to evaluate the maturity level of the material processes, e. g. for the reserving process. This enables us to ensure that process risks are monitored. In cooperation with the process participants, the process owner evaluates the risks of the metaprocess and develops measures for known, existing risks. Data quality is a highly critical success factor in this regard. It is monitored inter alia by way of regular automated analyses.

Compliance risks are associated with the risk of breaches of standards and requirements, non-compliance with which may entail lawsuits or official proceedings with not inconsiderable detrimental implications for the business activities of the Hannover Re Group. Compliance with regulatory standards, the company's Code of Conduct, tax regulations, data privacy requirements as well as the stipulations of anti-trust and competition law have been defined as issues of particular relevance. We use sanctions screening software on parts of the Hannover Re Group's portfolio to filter out individuals who are subject to sanctions on account of a criminal or terrorist background. Suitable steps are taken if such individuals are identified. Business partners are also screened in this way. Responsibilities within the compliance organisation are regulated and documented Group-wide and interfaces with risk management have been put in place. The set of tools is rounded off with regular compliance training programmes.

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

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

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

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

Information and IT security risks arise, inter alia, out of the risk of the inadequate integrity, confidentiality or availability of systems and information. By way of example, losses and damage resulting from the unauthorised passing on of confidential information, the malicious overloading of important IT systems or from computer viruses are material to the Hannover Re Group. Given the

broad spectrum of such risks, a diverse range of steering and monitoring measures and organisational standards, including for example the requirement to conclude confidentiality agreements with service providers, have been put in place. In addition, our employees are made more conscious of such security risks through practically oriented tools provided online in the intranet, by way of training opportunities and through a staff information campaign.

When it comes to reducing business interruption risks, the paramount objective is the quickest possible return to normal operations after a crisis, for example through implementation of existing contingency plans. Guided by internationally accepted standards, we have defined the key framework conditions and – among other measures – we have assembled a crisis team to serve as a temporary body in the event of an emergency. The system is complemented by regular exercises and tests. A leaflet is available setting out the correct behaviour in the event of a business interruption; this condenses in compact form the key information that all employees need to know, such as the information channels to use in a crisis situation.

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

C.6 Other material risks

Of material importance to our company in the category of other risks are primarily emerging risks, strategic risks and reputational risks. Furthermore we are monitoring the contagion risk between single entities of the Hannover Re Group and in respect of the relation to the Talanx Group.

C.6.1 Emerging risks

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

C.6.2 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. Such an imbalance might be caused, for example, by incorrect strategic policy decisions, a failure to consistently implement the defined strategies and business plans or an incorrect allocation of resources. We therefore regularly review our corporate strategy in a multi-step procedure and adjust our processes

and the resulting guidelines as and when required. We have defined performance criteria and indicators for operational implementation of the strategic principles and objectives; these are authoritative when it comes to determining fulfilment of the various targets. With the “Strategy Cockpit” the Executive Board and responsible managers have at their disposal a strategy tool that assists them with the planning, elaboration and management of strategic objectives and measures and safeguards their overall perspective on the company and its strategic risks. The process for the management of strategic risks continues to be assessed annually as part of the monitoring of business process risks.

Hannover Re writes business in many jurisdictions and is thus exposed to legal and regulatory changes in these jurisdictions. Prominent current aspects are the UK withdrawal from the EU and the change of the US tax legislation.

In view of the slow progress of negotiations in 2017, it is increasingly likely that the status of legal relations between the European Union and United Kingdom will not be entirely resolved by the withdrawal date of 30 March 2019. Consequently, the Hannover Re Group must also be prepared for a “hard” Brexit and the associated workload and expenses. With this in mind, Hannover Re has set up a Group-wide working group to address readiness measures. The major impacts will be felt by our entities in the United Kingdom. The Hannover Re UK Life Branch and International Insurance Company of Hannover SE (UK Branch) write significant premium volumes in life reinsurance as well as property and casualty insurance respectively. The legal status of a locally authorised entity in the United Kingdom in the form of a “third-country branch” will be sought in order to continue operations after a hard Brexit. This would be necessary in the event of the United Kingdom not recognising EU supervision and / or the Solvency II regulatory regime in the future. This will, however, entail an increased regulatory workload and capital expenditure. Argenta Holdings plc (Argenta) is a stand-alone subsidiary in the United Kingdom and already authorised as a member of Lloyd’s. Furthermore, the business volume transacted with the EU is minimal with a premium share of less than 5%. Argenta will therefore be affected only marginally. We also write business in the United Kingdom through Group companies in Hannover and Ireland. In this regard we do not anticipate any significant changes as a result of Brexit.

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

The changes in tax legislation adopted by the US administration at the end of 2017 entered into force on 1 January 2018. They provide for new tax regulations that have far-reaching implications for subsidiaries operating in the United States. On the one hand, the reform cuts the corporate tax rate from 35% to 21%. On the other hand, the legislative package includes the introduction of the so-called “Base Erosion and Anti-Abuse Tax” (BEAT). In this connection, premiums for ceded insurance risks within the corporate group are also included in the taxable base and will in future be taxed at a rate of 5% - 12.5% (rising over the next nine years). We have already undertaken some restructuring activities within the Group and initiated further steps in order to avert this increased burden of taxation.

C.6.3 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 jeopardise the business foundation of the Hannover Re Group. A good corporate reputation is therefore an indispensable prerequisite for our core business as a reinsurer. Reputational risks may arise out of all business activities conducted by the Hannover Re Group. Reputational damage may be caused, inter alia, by a data mishap that becomes public knowledge or financial difficulties on account of an

underwriting risk. In addition to the risk identification methods already described, we use a number of different techniques for risk minimisation, such as our defined communication channels (e. g. Crisis Communication Guideline), a professional approach to corporate communications, tried and tested processes for specific crisis scenarios as well as our established Code of Conduct.

C.6.4 Contagion risks

Contagion risk refers to the risks originated by interactions between individual entities of Hannover Re Group, or in respect of the ultimate parent of Hannover Re, the HDI Group. More precisely, contagion risk is the propagation of the effect of a failure or financial distress of an institution in a sequential manner to other institutions, markets or systems, or to other parts of a financial group or financial conglomerate.

D. Valuation for Solvency purposes

A valuation principle assigns monetary values to sets of rights and obligations in a structured way. The decision on what rights and obligations need to be considered is one of the distinguishing features of the valuation principles. Hannover Re's internal valuation approaches are based on economic valuation principles. In principle economic valuation assigns to each right or obligation the price at which this right or obligation would be traded in an arms-length transaction between willing and knowledgeable parties. This principle has the advantages of being:

- Objective, since transaction prices can (in theory) be simply observed and do not require any further input,
- Comprehensive, since a transaction would incorporate all potential cash flows arising from those rights or obligations. In particular there can be no off-balance sheet items within an economic valuation framework,
- Risk-adjusted, since trades between risk-adverse parties will always incorporate the price of risk.

Depending on the specific position being valued and the state of the market at the time of valuation, two different and mutually exclusive levels of valuation can be distinguished:

Mark-to-market: This is the prototypical and simplest level of economic valuation. It is applicable if the positions to be valued are quoted in an active market. In that case, the value of the position is just the market price. Examples for positions, which can be valued on a mark-to-market basis are US treasuries, blue chips or futures with standard maturities on broad indices, such as the S&P 500. In general, everything traded in a deep and liquid market can be valued on a mark-to-market basis.

Market-consistent valuation (mark-to-model): This principle applies if neither prices themselves nor all inputs required for generally accepted pricing models can be observed in active markets. Accordingly, at least some parameters and inputs will be based on judgmental, and thus subjective, decisions. The valuation of many investments and most insurance contracts falls within this category, which is why this level of valuation is the most important one within the internal model. For consistency of the valuation with mark-to-market principles, it is required that

1. Observable prices and model parameters derived from them are used wherever available,
2. Parameter estimates are unbiased and derived according to sound techniques based on statistics or expert judgment,
3. Unavoidable risk must be allowed for in the valuation, consistent with the prevailing market price of risk. For this, it does not matter whether the risk is caused by the cash flows themselves or due to uncertainties in models or parameter estimates. This allowance for risk is called the market value margin.

Unavoidable risk is defined as the risk, which cannot be replicated completely by instruments with mark-to-market or mark-to-model valuation. If it can be replicated by such instruments, the risk can be avoided by investing in the replicating portfolio and the price of the position will be identical to the price of the replicating portfolio. This follows from the law of one price which is valid under certain assumptions on the markets. Of course, the liquidity of the replicating portfolio is crucial for this argument to hold.

Many risks are hedgeable in principle but some positions in the resulting hedge portfolios might not be quoted in active markets. One example is credit risk of smaller or non-listed obligors, where in theory OTC CDS are available from certain counterparties but observable market prices are not. In addition, if the position cannot be replicated perfectly, i. e. if basis risk remains, this residual risk is still considered unavoidable and requires a market value margin.

On the other hand, a position might be valued on a mark-to-market basis although it is not hedgeable, examples being long positions in small caps or mutual funds. These can neither be shorted nor are derivatives on the underlying available. The terms unavoidable and non-hedgeable will be used synonymously below.

Non-hedgeable risk is allowed for in Hannover Re's economic valuation framework by decreasing assets and / or increasing liabilities with a risk margin. Hannover Re defines the risk margin for non-hedgeable risk as the market cost of capital required for the orderly run-off of all its rights and obligations.

Fair value hierarchy according to IFRS

The fair value hierarchy according to IFRS, which reflects characteristics of the price data and inputs used for measurement purposes, is similar to Solvency II valuation methods and 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.

General valuation principles

The primary objective is an economic, market-consistent approach to the valuation of assets and liabilities. According to the risk-based approach in the internal steering processes as well as under Solvency II, when valuing balance sheet items on an economic basis, the risks that arise from a particular balance sheet item need to be considered, using assumptions that market participants would use in valuing the asset or the liability.

According to this approach, assets and liabilities should be valued as follows:

- Assets should be valued at the amount for which they could be exchanged between knowledgeable willing parties in an arm's length transaction.
- Liabilities should be valued at the amount for which they could be transferred, or settled, between knowledgeable willing parties in an arm's length transaction.

- The time value of money should be reflected, i. e. all cash flows are discounted.
- When valuing liabilities no adjustment to take account of the own credit standing of the insurance or reinsurance undertaking shall be made.
- Assets and liabilities shall be valued based on the assumption that the undertaking will pursue its business as a going concern.
- Individual assets and liabilities are valued separately.
- The application of materiality, whereby the omissions or misstatements of items are material if they could, individually or collectively, influence the economic decisions that users make on the basis of the Solvency II balance sheet. Materiality depends on the size and nature of the omission or misstatement judged in the surrounding circumstances. The size or nature of the item, or a combination of both, could be the determining factor.
- The application of simplifications is feasible when the method is proportionate to the nature, scale and complexity of the risks inherent.

Unless otherwise stated, assets and liabilities other than technical provisions shall be recognised in conformity with the international accounting standards, as endorsed by the Commission in accordance with Regulation (EC) No 1606/2002.

- Valuation of assets and liabilities other than technical provisions shall be carried out, unless otherwise stated, in conformity with international accounting standards, as endorsed by the Commission in accordance with Regulation (EC) No 1606/2002 provided that those standards include valuation methods that are consistent with the valuation approach set out in Article 75 of Directive 2009/138/EC. If those standards allow for more than one valuation method, only valuation methods that are consistent with Article 75 of Directive 2009/138/EC can be used.
- Where the valuation methods included in international accounting standards, as endorsed by the Commission in accordance with Regulation (EC) No 1606/2002 are either temporarily or permanently not consistent with the valuation approach set out in Article 75 of Directive 2009/138/EC, insurance and reinsurance undertakings shall use the other valuation methods that have been deemed to be consistent with Article 75 of Directive 2009/138/EC.
- When valuing liabilities using fair value, the adjustment to take account of the own credit standing as required by IFRS 13 Fair Value Measurement has to be eliminated. When valuing financial liabilities this only applies to the subsequent adjustment after initial recognition.
- As a Guidance for marking-to-market and marking-to-model the guidance on fair value measurement within IFRS 13 may be used, for example the characteristics of inactive markets described in IFRS 13.

IFRS do not always require an economic valuation as envisaged by Article 75 of Directive 2009/138/EC.

D.1 Solvency II balance sheet

Difference in valuation

in TEUR	Item	Solvency II	IFRS
Assets			
Intangible assets	R0030	86,567	196,998
Deferred tax assets	R0040	308,574	466,564
Pension benefit surplus	R0050		
Property, plant & equipment held for own use	R0060	100,606	93,760
Investments (other than assets held for index-linked and unit-linked contracts)	R0070	39,645,771	39,207,133
Property (other than for own use)	R0080	1,765,048	1,583,728
Holdings in related undertakings, including participations	R0090	235,728	229,049
Equities	R0100	19,166	19,064
Equities - listed	R0110	19,064	19,064
Equities - unlisted	R0120	102	
Bonds	R0130	33,151,146	34,131,029
Government Bonds	R0140	16,336,012	18,874,552
Corporate Bonds	R0150	15,645,261	14,091,558
Structured notes	R0160	251,974	246,456
Collateralised securities	R0170	917,898	918,463
Collective Investments Undertakings	R0180	3,486,585	2,224,792
Derivatives	R0190	8,141	88,833
Deposits other than cash equivalents	R0200	847,615	799,208
Other investments	R0210	132,343	131,430
Assets held for index-linked and unit-linked contracts	R0220		
Loans and mortgages	R0230	16,750	14,639
Loans and mortgages to individuals	R0250		
Other loans and mortgages	R0260	16,750	14,639
Reinsurance recoverables from:	R0270	1,667,155	2,714,571
Non-life and health similar to non-life	R0280	975,361	1,541,327
Non-life excluding health	R0290	970,147	1,517,525
Health similar to non-life	R0300	5,214	23,802
Life and health similar to life, excluding health and index-linked and unit-linked	R0310	695,329	1,173,244
Health similar to life	R0320	447,475	348,106
Life excluding health and index-linked and unit-linked	R0330	247,854	825,139
Life index-linked and unit-linked	R0340	−3,536	
Deposits to cedants	R0350	3,279,539	10,902,865
Insurance and intermediaries receivables	R0360	3,481,171	3,800,886
Reinsurance receivables	R0370	135,656	20,238
Receivables (trade, not insurance)	R0380	214,205	493,663
Own shares (held directly)	R0390		
Cash and cash equivalents	R0410	819,440	835,706
Any other assets, not elsewhere shown	R0420	129,883	129,883
Total assets	**R0500**	**49,885,316**	**61,196,846**

in TEUR	Item	Solvency II	IFRS
Liabilities			
Technical provisions – non-life	R0510	21,992,793	27,625,146
Technical provisions – non-life (excluding health)	R0520	20,179,288	25,248,555
TP calculated as a whole	R0530		
Best Estimate	R0540	19,644,836	
Risk margin	R0550	534,452	
Technical provisions - health (similar to non-life)	R0560	1,813,505	2,376,591
TP calculated as a whole	R0570		
Best Estimate	R0580	1,764,009	
Risk margin	R0590	49,496	
Technical provisions - life (excluding index-linked and unit-linked)	R0600	8,473,751	13,667,000
Technical provisions - health (similar to life)	R0610	2,430,464	2,686,783
TP calculated as a whole	R0620		
Best Estimate	R0630	2,235,457	
Risk margin	R0640	195,006	
Technical provisions – life (excluding health and index-linked and unit-linked)	R0650	6,043,287	10,980,217
TP calculated as a whole	R0660		
Best Estimate	R0670	4,239,107	
Risk margin	R0680	1,804,180	
Technical provisions – index-linked and unit-linked	R0690	−33,966	
TP calculated as a whole	R0700		
Best Estimate	R0710	−44,125	
Risk margin	R0720	10,159	
Contingent liabilities	R0740	6,649	
Provisions other than technical provisions	R0750	181,346	181,346
Pension benefit obligations	R0760	177,786	177,786
Deposits from reinsurers	R0770	479,512	4,923,993
Deferred tax liabilities	R0780	3,085,518	1,819,866
Derivatives	R0790	20,499	264,337
Debts owed to credit institutions	R0800	253,925	252,784
Financial liabilities other than debts owed to credit institutions	R0810	31,493	31,495
Insurance & intermediaries payables	R0820	659,551	973,465
Reinsurance payables	R0830	367,686	6,776
Payables (trade, not insurance)	R0840	362,909	365,863
Subordinated liabilities	R0850	1,626,144	1,491,951
Subordinated liabilities not in BOF	R0860		
Subordinated liabilities in BOF	R0870	1,626,144	1,491,951
Any other liabilities, not elsewhere shown	R0880	128,479	128,480
Total liabilities	**R0900**	**37,814,077**	**51,910,288**
Excess of assets over liabilities	**R1000**	**12,071,239**	**9,286,558**

For general differences in valuation between Solvency II and IFRS please refer to chapter D.

Comparison to prior year

in TEUR	Item	Solvency II 2017	Solvency II 2016
Assets			
Intangible assets	R0030	86,567	1,439
Deferred tax assets	R0040	308,574	274,085
Pension benefit surplus	R0050		
Property, plant & equipment held for own use	R0060	100,606	113,143
Investments (other than assets held for index-linked and unit-linked contracts)	R0070	39,645,771	41,445,439
Property (other than for own use)	R0080	1,765,048	1,559,614
Holdings in related undertakings, including participations	R0090	235,728	213,069
Equities	R0100	19,166	649,443
Equities - listed	R0110	19,064	649,443
Equities - unlisted	R0120	102	
Bonds	R0130	33,151,146	35,655,572
Government Bonds	R0140	16,336,012	18,990,276
Corporate Bonds	R0150	15,645,261	15,482,904
Structured notes	R0160	251,974	284,506
Collateralised securities	R0170	917,898	897,887
Collective Investments Undertakings	R0180	3,486,585	2,418,373
Derivatives	R0190	8,141	29,759
Deposits other than cash equivalents	R0200	847,615	728,731
Other investments	R0210	132,343	190,877
Assets held for index-linked and unit-linked contracts	R0220		
Loans and mortgages	R0230	16,750	
Loans and mortgages to individuals	R0250		
Other loans and mortgages	R0260	16,750	
Reinsurance recoverables from:	R0270	1,667,155	1,502,708
Non-life and health similar to non-life	R0280	975,361	710,264
Non-life excluding health	R0290	970,147	700,735
Health similar to non-life	R0300	5,214	9,529
Life and health similar to life, excluding health and index-linked and unit-linked	R0310	695,329	796,108
Health similar to life	R0320	447,475	505,285
Life excluding health and index-linked and unit-linked	R0330	247,854	290,823
Life index-linked and unit-linked	R0340	−3,536	−3,664
Deposits to cedants	R0350	3,279,539	3,526,247
Insurance and intermediaries receivables	R0360	3,481,171	3,409,379
Reinsurance receivables	R0370	135,656	58,238
Receivables (trade, not insurance)	R0380	214,205	143,720
Own shares (held directly)	R0390		
Cash and cash equivalents	R0410	819,440	848,667
Any other assets, not elsewhere shown	R0420	129,883	114,515
Total assets	**R0500**	**49,885,316**	**51,437,578**

in TEUR	Item	Solvency II 2017	Solvency II 2016
Liabilities			
Technical provisions – non-life	R0510	21,992,793	22,351,386
Technical provisions – non-life (excluding health)	R0520	20,179,288	20,423,854
TP calculated as a whole	R0530		
Best Estimate	R0540	19,644,836	19,730,583
Risk margin	R0550	534,452	693,271
Technical provisions - health (similar to non-life)	R0560	1,813,505	1,927,533
TP calculated as a whole	R0570		
Best Estimate	R0580	1,764,009	1,861,863
Risk margin	R0590	49,496	65,670
Technical provisions - life (excluding index-linked and unit-linked)	R0600	8,473,751	8,724,180
Technical provisions - health (similar to life)	R0610	2,430,464	2,662,298
TP calculated as a whole	R0620		
Best Estimate	R0630	2,235,457	2,461,417
Risk margin	R0640	195,006	200,881
Technical provisions – life (excluding health and index-linked and unit-linked)	R0650	6,043,287	6,061,881
TP calculated as a whole	R0660		
Best Estimate	R0670	4,239,107	4,137,305
Risk margin	R0680	1,804,180	1,924,576
Technical provisions – index-linked and unit-linked	R0690	−33,966	−56,524
TP calculated as a whole	R0700		
Best Estimate	R0710	−44,125	−68,761
Risk margin	R0720	10,159	12,236
Contingent liabilities	R0740	6,649	
Provisions other than technical provisions	R0750	181,346	199,626
Pension benefit obligations	R0760	177,786	180,680
Deposits from reinsurers	R0770	479,512	520,234
Deferred tax liabilities	R0780	3,085,518	3,096,152
Derivatives	R0790	20,499	17,820
Debts owed to credit institutions	R0800	253,925	317,774
Financial liabilities other than debts owed to credit institutions	R0810	31,493	47,411
Insurance & intermediaries payables	R0820	659,551	866,036
Reinsurance payables	R0830	367,686	416,923
Payables (trade, not insurance)	R0840	362,909	487,069
Subordinated liabilities	R0850	1,626,144	1,656,116
Subordinated liabilities not in BOF	R0860		
Subordinated liabilities in BOF	R0870	1,626,144	1,656,116
Any other liabilities, not elsewhere shown	R0880	128,479	160,865
Total liabilities	**R0900**	**37,814,077**	**38,985,748**
Excess of assets over liabilities	**R1000**	**12,071,239**	**12,451,831**

Solvency II recognition, valuation and presentation of balance sheet items follows regulatory requirements. The IFRS balance sheet is taken from Hannover Re Group's annual financial statements. Note that for allocation of investments under own management to Solvency II balance sheet items, detailed EIOPA regulations on classification as well as BaFin regulations (e. g. regarding collective investment undertakings) have to be followed and are not utilised for the IFRS balance sheet items.

Comparing Solvency II and IFRS balance sheets, Hannover Re Group classifies differences in recognition, valuation and presentation into the following categories:

- Adjustments of self-managed investments, which comprise market valuation vs. valuation at amortised cost for several, but not all self-managed investments under IFRS,
- Adjustments of technical items (incl. risk margin), where technical items are revaluated for Solvency II purposes as described in section D.2,
- Adjustments of other balance sheet items (without deferred taxes), which mostly consist of differences in recognition of balance sheet items for Solvency II vs. IFRS (e. g. intangible assets) as well as reclassifications, together with market valuation (e. g. of subordinated liabilities),
- Deferred tax, which comprises the effects on deferred tax assets and deferred tax liabilities when moving from IFRS to Solvency II valuation.

Those adjustments amounted to a difference in excess of assets over liabilities (including minorities) for Solvency II compared to IFRS of TEUR 2,784,682 as at the balance sheet date.

For the Solvency II balance sheet as at the balance sheet date, the principles of recognition, valuation and presentation remained unchanged compared to the previous period.

Applying the same categories as mentioned above to changes of the Solvency II balance sheet from 2016 to 2017, the reduction in excess of assets over liabilities of TEUR -380,591 is driven by the euro becoming stronger against major foreign currencies, especially the US dollar and can be split as follows:

- Changes in investments of TEUR -1,750,658, which are driven by market valuation and acquisitions of property (other than for own use), the sale of listed equities during the third quarter of 2017, and market value movements as well as currency effects,
- Changes in technical items of TEUR 968,348, including the application of the full internal model on group level which lead to a change in risk margin as well as modelling and currency effects,
- Changes in other balance sheet items of TEUR 356,596, which are mostly driven by the underlying movement in the IFRS group financial statements and include an increase in intangible assets recognised for 2017 for the first time based on the acquisition of Argenta Holdings Limited, a decrease in debts owed to credit institutions, a decrease in tax liabilities which form part of "payables (trade, not insurance)" and miscellaneous changes to other liabilities,
- Change of deferred tax of TEUR 45,123, which comprises the change of deferred tax assets and deferred tax liabilities from 2016 to 2017.

D.2 Technical provisions

The technical provision (TP) under Solvency II is determined as the sum of the best estimate liability (BEL) and the risk margin (RM).

Cash flows are discounted with risk-free rates in line with EIOPA requirements. Neither the volatility adjustment nor a matching adjustment is applied. Furthermore, the risk-free yield curves are not adjusted as set out in Art. 308c of the directives 2009/138/EC.

A temporary deduction according to Art. 308d of the directives 2009/138/EC is not applied. Furthermore, the concept of calculating the “TP as a whole” is currently not applied.

For Solvency II purposes, all contracts have to be evaluated over the whole lifetime within the individual contract boundaries (ultimate view). The contract boundary is defined as the future date on which at least one of the following criteria is met:

- The (re)insurance undertaking has an unilateral right to terminate the contract.
- The (re)insurance undertaking has an unilateral right to reject premiums payable under the contract.
- The (re)insurance undertaking has an unilateral right to amend the premiums or benefits payable under the contract in such a way that the premiums fully reflect the risks.

In case no such condition is met, the policies are projected until their natural expiry.

The BEL is shown on a gross basis in the following, i. e. before the reduction of reinsurance recoverables, if not stated otherwise. The RM is shown on a net basis, i. e. reflecting the risk mitigating effect of retrocessions. This is consistent with the methodology used in the Solvency II balance sheet.

Best Estimate Liability (BEL)

The calculation of the BEL is based on the projection of future cash in- and outflows including premiums, claims, and expenses. Best estimate assumptions are used in the calculation of the BEL. The expenses consist of direct administration expenses and costs of on-going operations.

Cash flows in connection with funds withheld (increase, decrease or interest on funds withheld) of the underlying business are usually netted against the liability cash flows. Exceptions from this rule are funds held with significant inherent capital market risk and funds withheld with insufficient offset possibilities with the respective liabilities. The respective amounts are shown separately on the asset side of the balance sheet, if applicable. The netting of the deposits has no impact on the own funds.

According to Solvency II there is a differentiation between business accepted – shown on the liability side - and business ceded – shown on the asset side. According to IFRS, the assignment to the asset and liability side, respectively, partially depends on the sign of the accounting figures.

For the Property & Casualty business, the TP does not include any financial options and guarantees (FOGs). For the Life & Health business, there is an immaterial amount of FOGs for US business. The latter is included in the BEL.

The projections are done separately for assumed and retroceded business using the same bases, methods and assumptions.

Risk Margin (RM)

According to Art. 37 (1) of the delegated acts (EU) 2015/35, a uniform cost-of-capital approach is used for calculating the risk margin.

The Cost of Capital (CoC) factor is 6%. The required capital is the SCR under Solvency II according to Hannover Re's internal model. The allocation of the SCR to the lines of business reflects the contribution to the SCR (Art. 37). The allocated SCR contributions are projected to future periodes using appropriate risk drivers for each line of business.

According to Solvency II principles, the risk margin of all legal entities is calculated on a standalone basis, thus there is no allowance for diversification effects between legal entities. Diversification is taken into account within a legal entity including diversification effects between Property & Casualty and Life & Health.

D.2.1 Technical Provisions of Property and Casualty Reinsurance

This section provides information on the technical provisions held for property and casualty reinsurance and insurance. The next sections shows BEL and RM per line of business and the following section provides further detail on the valuation methods.

D.2.1.1 Value of Technical Provisions

Gross technical provisions property & casualty by lines of business
in TEUR

Line of business	BEL	RM	TP	TP IFRS	Difference SII and IFRS
General liability insurance	2,955,186	72,711	3,027,897	2,850,596	177,301
Workers' compensation insurance	154,777	3,750	158,527	269,677	−111,150
Income protection insurance	312,043	12,198	324,242	383,141	−58,900
Fire and other damage to property insurance	2,660,451	63,577	2,724,028	2,534,064	189,964
Motor vehicle liability insurance	1,334,849	44,435	1,379,283	1,954,758	−575,475
Credit and suretyship insurance	911,849	23,405	935,254	1,292,072	−356,818
Marine, aviation, transport	1,008,521	21,006	1,029,527	887,981	141,547
Other motor insurance	276,925	7,143	284,069	295,049	−10,980
Other insurance	142,167	3,454	145,621	173,599	−27,978
Non-proportional health reinsurance	1,274,228	32,988	1,307,216	2,093,257	−786,041
Non-proportional property reinsurance	2,862,505	86,055	2,948,560	3,867,729	−919,169
Non-proportional marine, aviation and transport	1,018,652	26,253	1,044,905	1,599,228	−554,323
Non-proportional casualty reinsurance	6,496,691	186,974	6,683,665	9,423,996	−2,740,331
Total Non-Life Obligation	**21,408,845**	**583,948**	**21,992,793**	**27,625,146**	**−5,632,352**

The line of business "Other insurance" comprises assistance, legal expenses insurance, medical expense insurance and miscellaneous financial loss.

D.2.1.2 Valuation of Technical Provisions

For the calculation of the BEL under Solvency II the business of the company is split into homogeneous risk groups such that the nature, scale and complexity of the business is adequately taken into account.

In general, there are no deviations regarding the valuation methods between the different lines of business, therefore the valuation methods described in the following paragraphs are valid for all segments of property and casualty reinsurance.

The evaluation of the BEL is based on the estimation of future cash flows, including all expected (future) cash in- and outflows related to existing obligations taking into account the time value of money. The BEL is calculated separately with respect to the best estimate premium provisions and the best estimate claims provisions.

The Solvency II calculations to determine all relevant cash flows for premium and claims provision reflect a best estimate projection. The calculation of the BEL is based on gross data. Cash flows for premiums, claims and costs are modelled separately.

For the calculation, a whole-contract-view (with respect to the contractual agreements) is taken into account, i. e. all cash in- and outflows are projected to the economic ultimate within the contract boundaries.

The BEL comprises the sum of the discounted cash flows and is aggregated to the minimum lines of business according to Solvency II requirements.

For the calculation of the BEL, development pattern and estimated ultimates are applied on the homogeneous risk groups. The pattern and the ultimates are determined on run-off triangles using standard actuarial methods, in particular, variations of the Chain-Ladder-Method. The triangles are generated using up-to-date and trustworthy data.

The cash flows are discounted using the risk-free interest rates provided by EIOPA and converted to the reporting currency EUR using the exchange rate on the valuation date.

Overall, the described valuation bases, methods and assumptions ensure that the calculation of the BEL is proportionate to the nature, scale and complexity of the underlying risks.

Reinsurance Recoverables

In general, the projection of the reinsurance recoverables is undertaken analogously to the principles applied for the calculation of technical (gross) provisions of property and casualty reinsurance.

The reinsurance recoverables are adjusted with regard to the expected loss upon default of the counterparty. This adjustment is determined separately and is based on the valuation of the probability of a default per counterparty over the whole lifetime – whether be it through insolvency or legal dispute – as well as the resulting change in cash flows due to loss per default at the respective time under consideration.

D.2.1.3 Comparison with other provisions

Comparison to IFRS provisions

This section outlines the reconciliation of the net technical provisions from IFRS to the Solvency II.

Reconcilliation Solvency II vs. IFRS
in TEUR

Description	2017
IFRS "net technical provisions" property and casualty (incl. unearned premium reserve)	**26,083,625**
Reclassification / netting of deferred acquisition costs and contract deposits	−2,006,438
Discounting of cash flows	−1,513,416
Risk margin	583,948
Differences in actuarial estimates and business volume differences	−2,135,657
Total revaluation effect from IFRS to Solvency II	**−5,071,563**
Solvency II net technical provisions property and casualty	**21,012,062**

The individual items of the reconciliation refer to the following aspects:

- In „Reclassification“ we summarize items which are presented separate under IFRS but which are included in the technical provisions under Solvency II.
- Solvency II technical provisions are present values of future cash flows discounted at the risk-free interest rate, whereas under IFRS generally annuity reserves are discounted, only.
- The risk margin under Solvency II covers the costs of providing an amount of eligible own funds equal to the Solvency Capital Requirement necessary to support the insurance and reinsurance obligations over the lifetime thereof.
- Solvency II technical provisions are calculated as a probability weighted average, whereas under IFRS the technical provisions represent a more prudent best estimate. In addition, Solvency II takes a homogenous ultimate view while IFRS distinguishes earned and unearned loss and premium reserves. Both effects are presented as item “Differences in actuarial estimates and business volume differences”.

Comparison to BEL of last year

Comparison to prior year

in TEUR	2017	2016
BEL gross	21,408,845	21,592,445
BEL net	20,428,114	20,881,963
RM	583,948	758,941

Compared to year End 2016 the BEL significantly increased for the lines of business fire and other damage to property insurance and non-proportional property reinsurance. The reason for this development is the high impact from major losses, in particular the hurricanes in the USA.

In the lines marine, aviation, transport and non-proportional marine, aviation and transport the BEL decreased significantly. One reason for this is the development of the exchange rate of the USD. Furthermore, there was a significant release of reserves for the underwriting years 1999 – 2001 for one major loss.

The BEL also decreased in the lines of business general liability insurance and non-proportional casualty reinsurance. As a high percentage of this business is written in USD the exchange rate development has a high impact on the BEL. Beside this the discount effect increased for this long-tail business due to the changes in the yield curve.

On the other side there was an increase of the BEL for the non-proportional casualty reinsurance due to the development in the UK motor market. More precisely, there has been a change of discount factors used for the settlement of losses in personal injury insurance, known as Ogden tables.

D.2.2 Technical Provisions Life & Health

In the next section the quantitative information with respect to BEL, RM, TP as well as a comparison with the IFRS liability is provided.

Details with respect to the basis of valuation, the valuation methods, and the main assumptions underlying the calculation of the TP are given in Section „D.2.2.2 Valuation of technical provisions“.

Material differences between the TP and the IFRS liability are explained in Section D.2.2.4.

D.2.2.1 Quantitative Information on Technical Provisions Life & Health

The following companies comprise the Life & Health business for the Hannover Re Group

- Hannover Rück SE, Hannover
- E+S Rückversicherung AG, Hannover
- Hannover Life Reassurance Company of America, Orlando
- Hannover Life Re of Australasia Ltd, Sydney
- Hannover Re (Ireland) DAC, Dublin
- Hannover Life Reassurance Bermuda Ltd, Hamilton
- Hannover Life Reassurance Africa Ltd, Johannesburg.

The following table provides an overview of the liabilities of the segments. The index linked and unit linked business is shown in the life segment. This information is further explained in the following sections.

Technical Provisions Life & Health per line of business
in TEUR

Line of business	BEL	RM	TP	IFRS liability	Comparison IFRS/Solvency II
Life	4,194,983	1,814,339	6,009,322	10,980,217	-4,970,895
Health	2,235,457	195,006	2,430,464	2,686,783	-256,320
Total	**6,430,440**	**2,009,345**	**8,439,785**	**13,667,000**	**-5,227,215**

For certain business, parts of the funds withheld under Solvency II are netted with the best estimate liability (please refer to Section D.2) which significantly reduces the Solvency II gross TP in comparison to the IFRS liability. Furthermore, the segmentation into the Life and Health lines of business is slightly different under Solvency II and IFRS. A reconciliation from the IFRS liability net of reinsurance to the Solvency II TP net of reinsurance is provided in Section D.2.2.4.

D.2.2.2 Valuation of the technical provisions Life & Health

Valuation Basis

All business is valued employing current best estimate assumptions. The general methodology used for calculating the BEL, RM and TP is described in Section D.2.2.

For material treaties the BEL is calculated individually per treaty. Smaller treaties are combined in modelling groups. The calculation is based on weighted model points or - if available and material – based on individual policy data. The portfolio development is modelled using appropriate mortality and morbidity tables, respectively, as well as lapse rates. A certain part of the risk premium basis business is modelled based on a loss-ratio based approach.

Valuation Methods

Based on weighted model points (e. g. tariff, gender mix, entry age, policy term, reinsurance conditions) and policy data, respectively, as well as assumptions for mortality, morbidity, lapse and relevant interest rate curves, the portfolio development and all resulting reinsurance profit items (i. e. premium, commission, benefits, reserve changes, and interest) are projected into the future.

Assumed and retroceded business is projected separately. Management expenses are allocated to treaties / modelling groups and projected into the future. The BEL is calculated in the respective treaty currency and using currency specific interest rate curves.

Solvency II admissible simplified methods are not used for calculating the BEL and RM, respectively.

Material Assumptions for the Life & Health business (excluding Longevity Business)

Business is written all over the world with a wide range of different policy types, tariffs and mortality / morbidity tables.

For treaties projected individually, the calculation of the BEL is initially based on weighted model points (or detailed policy data). The assumptions are monitored when the accounts from the cedants are booked and adjusted, if necessary. The base mortality / morbidity table is usually the table used in pricing. Also here adjustments are made in case that the actual figures materially differ from expectation, or if other relevant information becomes available.

For the majority of the business in the US and UK market, specific mortality and morbidity assumptions are derived from Hannover Re's base standard tables and updated regularly. For financial solution and morbidity risk solution business in the US market, mortality / morbidity assumptions are set using best estimate pricing assumptions. Also they are validated regularly. The projection of structured financial transactions in the US market allows for counterparty recapture assumptions. Rates can be increased for certain health business in the US market. This circumstance is reflected in the projections.

Lapse rates are set from the original pricing basis of the treaty and adjusted for actual experience where credible data exists.

The reinsurance conditions of the treaty are reflected in the calculation of the BEL.

With exception of mortality business in the US, UK and Irish market, no allowance for future mortality improvement is made.

For smaller treaties modelled in groups, more general assumptions are made. Base mortality / morbidity tables are chosen in order to be appropriate for the respective market covered by the

modelling group calculation. Reinsurance conditions are representative for the respective modelling group. The assumptions are monitored based on the booked results per modelling group in the past and adjusted if necessary.

For a small portion of the individually modelled business as well as of the business modelled in groups, expected claims are based on claims ratios. I. e. instead of using explicit mortality / morbidity and lapse rates the claims are estimated via a certain proportion of the premium.

Generally, future management actions are only taken into account for the SCR calculations of certain American and Australian business. Therefore they affect only the RM via the economic capital (determined with the internal model), but not the best estimate projections. There are some exceptions for our US business, most importantly, the US Mortality Solutions business. A detailed management action plan has been implemented to address issues with a US mortality portfolio acquired in 2009. The expected cash flows from in-force management are reflected in the 2017 TP.

Material Assumptions for the Longevity Business

The calculation of the BEL is based on policy data. Best estimate base mortality assumptions are set on a treaty level. Best estimate mortality improvement assumptions are set either by treaty or by country.

The assumptions are monitored when the accounts from the cedants are booked and adjusted, if necessary. Furthermore, detailed mortality studies are carried out to allow for a comparison between expectation and experience and to adjust if necessary.

Assumptions Changes in Comparison to the Previous Reporting Period

The mortality and lapse assumptions for certain US and UK mortality business were analysed and adjusted leading to an increase in BEL. This is buffered by implementing a detailed management action plan to address issues with a US mortality portfolio acquired in 2009 whereby the impacts from this in-force management are reflected in the 2017 TP.

A favourable adjustment of assumptions for certain Australian business and for UK critical illness yields to a reduction in BEL.

Reinsurance Recoverables

For all retrocessions to third party reinsurers where the recoverable represents an asset to Hannover Re, a default adjustment according to their rating was included.

In total the reinsurance recoverables under Solvency II are positive (TEUR 691,793), i. e. this position is to be seen as an asset for Hannover Re and reduces the net Solvency II reserves.

The respective IFRS reinsurance recoverables amount to TEUR 1,173,244. One reason for the difference between Solvency II and IFRS is the netting of the deposits under Solvency II (please refer to Section D.2). Further revaluation steps between IFRS and Solvency II are provided in Section D.2.2.4.

Risk Assessment

The main area of uncertainty around the level of the TP relates to a potential deviation of actual experience from the underlying assumptions and the sensitivity of cash flows to changes in those assumptions. The Risk Margin can serve as an indicator of such uncertainty.

The most material uncertainty comes in the form of the longevity and mortality business. Longevity and mortality risks are the key driver to the overall level of uncertainty. This also becomes evident from the capital requirements under Solvency II presented in Section E.

For the mortality business, small changes in the mortality rates can have significant effects on the claims payments. However, for a significant share of the portfolio, this risk is largely mitigated by profit commission arrangements or by limits regarding the retention of the cedant such that changes in mortality rates would change the underlying cash flow pattern but would have a limited impact on the associated BEL. The mortality rates are well grounded from available data. For longer tailed products, in particular in the US and UK market, mortality improvement and expert setting can also play an important role. The valuation of the US mortality business reflects the expected cash flows from inforce management activity, most notably rate increases pursuant to the contractual rights.

The longevity business is very dependent on the appropriateness of the underlying mortality tables and mortality improvement assumptions in particular due to the long contractual period. While the premiums are known, the expected claim payments are sensitive to the underlying mortality table, and more importantly in the later years, the mortality improvement that is applied to the underlying table. The underlying mortality assumptions are based on copious amounts of data and experience studies, both internally held and industry accepted. However, a certain level of judgment is involved in assessing the applicability of historical mortality improvement observations for forward-looking purposes. In general, changes in the interest rates have little impact as to the cash flows; however, they can have a material impact on the discounting of the cash flows.

Changes in lapse rates are material for certain products as well, with a varying level of confidence based on product design and the experience available. The direction of the lapse effect is dependent on the treaty and type of reinsurance used. In aggregate, an increase in lapse rates would be more adverse in that Hannover Re Group would forgo positive expected future cash flows.

Pandemic risk is a tail risk, i. e. a risk with a low probability of occurrence but a potential high impact. It has no impact on the expected mortality claims used for the calculation of the BEL. However, pandemic risk is one of the key drivers of capital requirements and is therefore allowed for in the Risk Margin.

Morbidity risks, including Australian business, are another driver of uncertainty in the modelling of business.

Financing business is generally not or only moderately exposed to mortality or morbidity risks and thus experiences a low level of uncertainty. Repayment of the outstanding financing amount can diminish on a combination of adverse biometric experience and lapses, but this is accounted for in the Risk Margin. Cedant default risk is also accounted for in the Risk Margin.

D.2.2.3 Comparison of the Technical Provision with the IFRS Liability

In the following, a reconciliation between IFRS and Solvency II liabilities is provided. The reconciliation steps are explained below. The figures are net of reinsurance recoverables.

Reconciliation from IFRS to Solvency II
in TEUR

Reconciliation Step	Explanation	Amount
(0)	**IFRS liability net of reinsurance**	**12,493,755**
(1)	Deferred Acquisition Costs (DAC) and Contract Deposit (CD)	2,322,842
(2)=(0)+(1)	**Technical IFRS liability net of reinsurance**	**14,816,597**
(3)	Deposits are partially netted under Solvency II	-5,888,555
(4)	Risk margin	2,009,345
(5)	Further differences in methods / assumptions	-3,189,395
(6)= (2)+…+(5)	**Solvency II TP net of reinsurance**	**7,747,992**

(1) DAC and CD are not applicable under Solvency II.

(3) Hereunder IFRS deposits are deducted which are netted for Solvency II purposes.

In the following, the sources of the differences in methods and assumptions are described.

(5a) The calculation of the BEL includes all future cash flows. For certain business, this means negative liabilities. In contrast, IFRS does not allow for negative liabilities.

(5b) The IFRS liability includes for certain treaties a provision for the risk of adverse deviation (PAD) in the form of buffers in the assumptions, but no further explicit risk margin like in the Solvency II methodology. The TP includes a risk margin but no buffers.

(5c) The BEL reflects current best estimate assumptions (e. g., regarding mortality, mortality improvements and lapse), whereas the IFRS assumptions are locked-in for certain business (depending on the IFRS / US GAAP FAS type).

(5d) The BEL (and the RM) is discounted with current risk free interest rates, whereas the IFRS liabilities are calculated using locked-in interest rates. The average valuation interest rate is higher than the current swap rates.

(5e) For some treaties the Solvency II contract boundaries (CB) differ from the contract boundaries under IFRS.

(5f) Due to different reporting deadlines under IFRS and Solvency II there may appear differences.

E. Capital Management

This section presents the main elements of Hannover Re's capital management.

E.1 Own Funds

E.1.1 Management of own funds

Hannover Re aims to achieve a capitalisation of at least 180% under Solvency II. In addition, a threshold of 200% is defined. Own funds are managed in such a way that the minimum capitalisation in the planning is not undercut. This is achieved through coordinated planning and management of all own funds components, dividend payments and the risk profile.

The capital management process contains a classification of all own funds components with regard to the Solvency II tiering specifications and an assessment of the availability of the different own funds components.

In general, it is our objective for our hybrid capital instruments to correspond with the tier 2 category requirements. The timing of each issue takes into account the current market conditions and our medium-term growth objectives. In case of a required replacement of a subordinated bond, the detailed replacement planning process normally begins a year before the regular call date.

Hannover Re Group’s economic capital model is used for the evaluation of both the quantitatively measurable individual risks and also the overall risk position. The assumptions and calculation methods for the determination of the risk-bearing capacity of the company are recorded in the documentation of the risk model and in regular reports.

E.1.2 Tiering

The classification of own funds with regard to their ability to cover losses represents a central component of regulatory capital requirements pursuant to Solvency II. The individual components of the own funds will be classified into one of three quality classes (“tiers”).

Own fund items classified under tier 1 possess the highest degree of quality, due to the fact that they are permanently available. They equalise verifiably unexpected losses, both during ongoing business operations and in the event of a company liquidation. Tier 2 refers to basic own funds and ancillary own funds which possess the ability to equalise losses incurred in the event of a company liquidation. Own fund items, which are not categorised under tier 1 or tier 2, are categorised under tier 3.

E.1.3 Basic own funds

The following table displays the composition of basic own funds held by Hannover Re Group as of 31 December 2017.

Basic own funds

in TEUR	2017	2016
Tier 1 unrestricted	10,635,845	11,179,167
Ordinary Share capital	120,597	120,597
Share premium account related to ordinary share capital	880,608	880,608
Reconciliation reserve	10,379,908	10,803,629
Non available minority interests at Group level	−745,268	−625,668
Tier 1 restricted	534,858	543,095
Subordinated liabilities	534,858	543,095
Tier 2	1,091,286	1,113,021
Subordinated liabilities	1,091,286	1,113,021
Tier 3	33,777	-
Net deferred tax assets	33,777	-
Total	**12,295,766**	**12,835,283**

Solvency II imposes restrictions on the availability of own funds to cover SCR. For Hannover Re restrictions arise from non-available minority interests at Group level which relate primarily to the minority interests in E+S Rück.

Tier 3 capital arises as a consequence of net deferred tax assets in subsidiaries of the Hannover Re Group. We have changed presentation compared to 2016 due to a clarification of the Solvency II requirements issued in 2017.

Restrictions may arise from limitations to use tier 2 and tier 3 capital to meet SCR and MCR. Such restrictions do not arise for Hannover Re with respect to SCR coverage but with respect to the availability of tier 2 and tier 3 capital to cover MCR.

Funds which can effectively be used to cover the SCR or MCR are denoted as eligible own funds.

Available and eligible own funds

in TEUR	2017	2016
Available own funds	12,295,766	12,835,283
Eligible own funds to meet SCR	12,295,766	12,835,283
Eligible own funds to meet MCR	11,831,348	12,509,120

The transition from IFRS shareholders's equity to Solvency II own funds is presented in the table below.

Reconciliation of IFRS shareholders' equity to Solvency II own funds

in TEUR	2017	2016
Shareholders' equity IFRS incl. minority interests	**9,286,558**	**9,740,547**
Adjustments Solvency II to IFRS		
Adjustments of investments under own management	502,724	513,429
Adjustments of technical items (incl. risk margin)	3,980,302	3,846,524
Adjustments of other balance sheet items	−274,702	−261,284
Deferred tax	−1,423,642	−1,387,387
Economic shareholders' equity incl. minority interests	**12,071,239**	**12,451,831**
Foreseeable dividends	−656,350	−646,996
Subordinated liabilites	1,626,144	1,656,116
Available economic shareholders' equity incl. minority interests	**13,041,033**	**13,460,950**
Non available minority interests at Group level	−745,268	−625,668
Total amount of basic own funds after deductions	**12,295,765**	**12,835,283**

E.1.3.1 Ordinary share capital

The ordinary share capital (capital stock of Hannover Rück SE) stands at TEUR 120,597 as of the balance sheet date. The shares have been paid up in full. The capital stock is divided into 120,597,134 no-par value registered shares which carry both voting and dividend rights. Every share grants the same right to vote and same dividend entitlement. As at the balance sheet date no treasury shares were held by the company.

No new shares were issued in the reporting period.

The capital stock paid in and the corresponding issue premium in the capital reserve form the own funds bearing the highest degree of quality, which can be relied upon to equalise losses in the course of business operations.

E.1.3.2 Share premium account related to ordinary share capital

The issue premium in relation to the capital stock of Hannover Re Group stands at TEUR 880,608 as of the balance sheet date.

The share premium account is a separate item to which premiums, the amount between the value attained at the point in time of issuance and the value recorded in the capital stock, are transferred in accordance with national statutory provisions.

E.1.3.3 Reconciliation reserve

The reconciliation reserve pursuant to Solvency II represents an item of basic own funds attributable (in unlimited capacity) to category tier 1. It primarily comprises the excess of assets over liabilities, adjusted by the subscribed capital, the capital reserve and shareholder dividend payouts.

At the balance sheet date, the reconciliation reserve was TEUR 10,379,908.

The reconciliation reserve represents reserves (in particular retained earnings) less value adjustments (e. g. ring-fenced funds); it does, moreover, contain the differences between the accounting valuation pursuant to IFRS and the valuation pursuant to the Directive 2009/138/EC.

E.1.3.4 Subordinated own funds

Hannover Re Group holds three subordinated loans in its portfolio at the balance sheet date, which fulfil the criteria stipulated under Solvency II pertaining to subordinated liabilities, and which thus can be categorised under basic own funds.

No new subordinated own funds were issued in the reporting period.

Subordinated own funds

in TEUR	2017	2016
Subordinated debts (Tier 1 – restricted)	534,858	543,095
Subordinated debts (Tier 2)	1,091,286	1,113,021
Total	**1,626,144**	**1,656,116**

On 15 September 2014 Hannover Rück raised a subordinated debt with a nominal value of TEUR 500,000 from capital markets. This debt is classified under Solvency II as “(grandfathered) restricted tier 1” own funds for a transitional period of a maximum of 10 years.

On 20 November 2012 and 14 September 2010, Hannover Rück placed two subordinated debts, each of an amount of TEUR 500,000 in the European capital market via its subsidiary Hannover Finance (Luxembourg) S.A. These subordinated debts are classified under Solvency II as (grandfathered) tier 2 own funds of Hannover Re Group.

E.1.4 Transferability

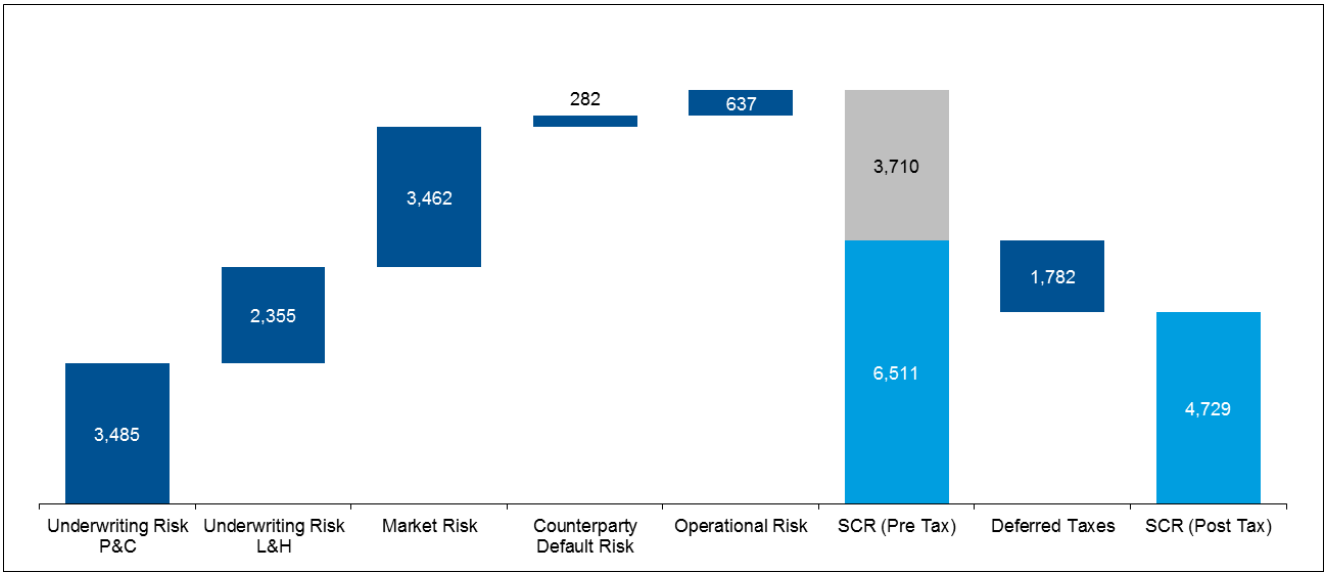
In the period under consideration, no issues were identified that restrict the transferability of the capital for the covering of the solvency capital requirements. The transferability is checked regularly on the basis of stress tests.

E.2 Solvency Capital Requirement and Minimum Capital Requirement

E.2.1 Solvency Capital Requirement per Risk Category

This chapter deals with the Solvency Capital Requirement and its sources. The risk categories of the internal model of Hannover Re are defined in Chapter E.4.1.4. Capital requirements per risk category are shown in the following.

Solvency Capital Requirement – per risk category
in EUR million



Solvency Capital Requirement (SCR)
in TEUR

Solvency Capital Requirement	2017	2016
Underwriting risk - Property & Casualty	3,485,449	3,552,928
Underwriting risk - Life & Health	2,354,658	2,117,854
Market risk	3,462,193	4,225,423
Counterparty default risk	281,958	296,495
Operational risk	637,035	677,088
Diversification	**−3,710,212**	**−3,398,633**
Total risk (pre-tax)	**6,511,081**	**7,471,154**
Deferred tax	1,782,052	1,885,270
Total risk (post-tax)	**4,729,028**	**5,585,884**

The required capital has been calculated based on the approved internal model. The capital requirements for the previous year were based on the partial internal model, where the required capital for operational risks was calculated according to the Solvency II standard formula.

There are no capital add-ons imposed by the regulator.

Overall, the required capital decreases in the course of the year. A key driver of the reduction is the stronger euro against our major currencies, especially the US dollar, and the associated lower foreign-currencies volumes underlying the risks, including for example the volume of investments. In addition, lower market risks led to a decrease in the risk capital. Last year's reduction of the equity quota in the investment portfolio and lower spreads resulted in diminished volatility overall and hence less market risk. The underwriting risks in property and casualty reinsurance decreased primarily as a consequence of the weaker US dollar against the euro and slightly improved diversification within property and casualty reinsurance. The underwriting risks in life and health reinsurance increased owing to higher mortality risks due to strengthening of assumptions and model changes. The decrease in counterparty default risk is principally the result of lower volume of receivables as well as a reduced volatility of the modelled defaults.

The transfer from partial to full internal model, i. e. the use of the internal model instead of standard formula for operational risks also contributed to a decrease in the overall total risk. On a standalone basis operational risk decreases, additionally using the internal model for operational risks leads to a significant increase in diversification benefits. Due to the limited dependency of operational risks with other risk factors there is a substantial diversification benefit with such risk factors in the internal model. In contrast to this, the operational risk according to standard formula had to be added in the calculation of the Solvency Capital Requirement without any diversification benefits. Therefore, the contribution of operational risks to the total risk has decreased significantly.

The following table displays the Solvency Capital Requirement and the ratio of eligible own funds to SCR taking into account tiering restrictions.

Ratio of eligible own funds to Solvency Capital Requirement

in TEUR	2017	2016
Eligible own funds	12,295,766	12,835,283
SCR	4,729,028	5,585,884
Ratio of eligible own funds to SCR	**260%**	**230%**

E.2.2 Minimum Capital Requirement (MCR)

The following table displays the Minimum Capital Requirement and the ratio of eligible own funds to MCR taking into account tiering restrictions.

Ratio of eligible own funds to Minimum Capital Requirement

in TEUR	2017	2016
Eligible own funds	11,831,348	12,509,119
MCR	3,303,225	3,934,289
Ratio of eligible own funds to MCR	**358%**	**318%**

The group MCR is the result of the sum of the MCRs of the different legal entities.

E.3 Use of the duration-based equity risk sub-module in the calculation of the Solvency Capital Requirement

Hannover Re does not use a duration-based equity risk sub-module in the calculation of the Solvency Capital Requirement.

Apart from that, Germany did make no use of the option to allow the utilisation of a duration-based equity risk sub-module.

E.4 Differences between the standard formula and any internal model used

E.4.1 The internal model

Hannover Re received approval from the regulatory authorities to calculate its solvency requirements using a partial internal capital model with effect from the entry into force of Solvency II on 1 January 2016. The capital requirements for underwriting risk P&C and L&H, market risk and counterparty default risk are determined according to the internal model, the capital requirements for operational risks are calculated according to the Solvency II standard formula. In 2017 the Hannover Re Group additionally received permission from the Federal Financial Supervisory Authority (BaFin) to calculate the operational risk on the Group level using the internal model and now has a full internal model.

This section provides further information regarding the internal capital model.

E.4.1.1 Introduction

The quantitative risk management of Hannover Re provides a standardised framework for the assessment and management of all risks and our capital position. The internal model is our key instrument in this context. Operating as a stochastic model it covers all subsidiaries and divisions of Hannover Re.

The central variable in risk and company management is the economic capital, which is calculated according to market-consistent valuation principles and which forms the basis for calculating the Solvency II capital.

Hannover Re's internal model reflects all risks which influence the development of economic capital. These are subdivided into underwriting risks, market risks, counterparty default risks and operational risks. We have determined a series of risk factors for each of these risk categories, for which we define the respective probability distribution. These risk factors include economic indicators, which are specific to every currency area such as, for example, interest rates, exchange rates and inflation rates, as well as insurance-specific indicators such as the mortality rates in a specific age group of our insurance portfolio in a certain country, or the number of natural disasters in a certain region and the insured loss per disaster.

The specification of probability distributions for the risk factors is based on publicly accessible data, as well as on industry specific and internal (re-)insurance data of Hannover Re. The model calibration is supplemented by the judgement of internal and external experts. The suitability of probability distributions is subject to regular review by our specialist departments and – reasonability assessments in conjunction with the regular, company-wide application of the capital model. Hannover Re calculates the required risk capital using the Value at Risk (VaR) at a confidence level of 99.97% and reflecting the changes in economic value over a period of one year. This is equivalent

to a target ruin probability of 0.03%. The internal target of the Hannover Re Group is therefore significantly more onerous than the confidence level of 99.5% as required by Solvency II.

The internal capital model is based on current insurance and financial industry techniques. For underwriting risks we can base our calculations on a comprehensive internal data history for the purpose of deriving the probability distribution e. g. for reserving risk. External models are used for instance in the area of natural catastrophe risk modelling. The external models are adjusted in the course of detailed internal reviews in order to better reflect our risk profile and to overcome identified limitations. For Life and Health reinsurance business long-term cash flows are determined for different scenarios. The determination of scenarios and probability distributions is based on internal data for all mentioned risks. The internal data base is enriched with parameters set by experts. These parameters are of importance in particular in the area of extreme events that have not been observed by now.

The aggregation of single risks takes into account dependencies between risk factors. Dependencies arise, e. g., during financial market shocks which affect several market segments at the same time. Furthermore, market phenomena such as pricing cycles can cause dependencies over time. We generally assume that extreme events do not occur all at the same time. The absence of complete dependency is denoted as diversification. Hannover Re's business model is i. a. based on establishing a preferably well-balanced portfolio such that a significant diversification effect can be generated and the capital can be used efficiently. Diversification effects exist between reinsurance contracts, division, business segments and risks. The capital costs that have to be earned at the level of business units are determined on the basis of the required capital of business segments and divisions and on their contribution to the diversification effect.

E.4.1.2 Basic principles

A key purpose of the capital model of Hannover Re relates to the calculation of the required and available capital for Hannover Re. The principles outlined below are the manifestation of Hannover Re's risk capacity and how it is consistently measured within a quantitative framework.

Target variable: Our main target variable for the calculation of risk based capital is the deviation of the net asset value (or available own funds) from its expected value.

Time horizon: For calculating the required capital a one-year time horizon is considered.

Risk measure: We use two statistics to measure and allocate risk capital, namely the Value-at-Risk (VaR) and the Expected Shortfall (ES).

Ongoing business operations: We operate on the premise of existing business and a going-concern assumption.

New business assumptions: We consider one year of new business. This assumption holds for all lines of business.

Stochastic simulation: The capital model of Hannover Re is based on stochastic simulations, i. e. we generate discrete approximations for the probability distribution of our target variables.

Capital fungibility: Hannover Re's capital model covers the risks stemming from several (legally independent) business units within the Group. We assume full capital fungibility. This is based on the assessment of stress tests for capital fungibility and transferability.

Consolidation method: The capital model of Hannover Re comprises all business units by using the consolidation method, as also stipulated under International Accounting Standards (IAS). Deduction and aggregation as defined under Solvency II as an alternative method is not applied.

The capital model uses a stochastic simulation model for the purposes of implementing these principles, which combines random variables using the company-specific dependency structure.

E.4.1.3 Main applications

Hannover Re considers its internal capital model as key component of its enterprise risk management system for the purposes of analysing its overall risk position, the quantification of its risks and the determination of the required capital in order to face these risks. Applications include in particular:

- financial condition analysis,
- monitoring of risk figures,
- capital allocation,
- investment optimisation and
- evaluation of reinsurance programmes.

E.4.1.4 Scope of the model

The internal model covers the risk categories underwriting risk life & health, underwriting risk property & casualty, market risk, counterparty default risk and operational risk. Concentration risk is taken into account in the calculations of required capital for each risk category.

E.4.2 Calculation techniques for the purposes of integrating results into the standard formula

With the approval of the internal model for operational risk, Hannover Re uses a full internal model. In consequence, there are no results of standard formula modules which have to be integrated in the internal model.

E.4.2.1 Type and suitability of data

Hannover Re has established a comprehensive internal control system, in order to guarantee the quality and topicality of data. All data used in the internal model is subject to the data standards for internal models. This design is appropriate, in order to be able to supply current data, which is free from significant errors.

Hannover Re utilises the relevant historical company data, in order to calibrate the model - above all for the underwriting risk. Generally speaking, company data relating to insurance performance within non-life is available for more than 30 years. This is deemed sufficiently historical information. However, due to the particular characteristics of early underwriting years, e. g. low premium volume, changing business segmentation or non-representative market segments, only portions of this data are used as part of the internal model calibration.

Internal company data, above all for the model validation, is used for underwriting risk pertaining to life and health insurance, due to the fact that only a limited number of significant (and thus rare) deviations are available that are suitable for the calibration of extreme events.

Long-term market data is used for the calibration of the market and counterparty risk model.

E.4.3 Comparison between the internal model and the standard formula

The standard formula is designed to fit a typical European (or EEA) primary insurer. As a consequence, mainly European data has been used to calibrate the standard formula.

There are many aspects which make Hannover Re quite different form a typical European primary insurer, in particular, its access to global diversification across regions, markets, cedants and all lines of business. The difference in diversification is the driving force of differences between the standard formula and the internal model for life, health and non-life underwriting risk. It has also some influence on counterparty and market risk.

The standard formula offers a detailed module for the quantification of EU natural catastrophe risk. Due to its focus it does offer a very broad, premium-based approximation for non-EU and non-proportional natural catastrophe risk, only. Hannover Re assumes more than 70% of its natural catastrophe risk outside the EU and thus has a detailed internal model for such risks.

The standard formula is designed for a single primary insurer and thus has no module to recognise diversification between different primary insurers. The latter is an important feature of Hannover Re's internal model and founded on Hannover Re's internal data analysis.

The standard formula allows for appropriate recognition of some but not all reinsurance structures. For example multi-line covers are not fully effective. The internal model is able to recognise all retrocession structures currently implemented by Hannover Re.

Technically, the internal model is a stochastic approach while the standard formula is factor-based (deterministic) approach. The concept for underlying risk factors is in many areas similar, e. g. for market and counterparty risk but in general more detailed in Hannover Re's internal model. Hannover Re's internal model allows for bottom-up, non-linear dependency structures within and between market, underwriting, operational and counterparty risk.

E.5 Non-compliance with the Minimum Capital Requirement and non-compliance with the Solvency Capital Requirement

Both solvency and minimum capital requirements were complied with at all times during the period under consideration.

Abbreviations and glossary

AC: Finance and Audit Committee

AF: Actuarial function

BaFin: Bundesanstalt für Finanzdienstleistungsaufsicht, Federal Financial Supervisory Authority

BEL: Best Estimate Liability

BOF: Basic own funds

CDS: Credit Default Swap

CEO: Chief Executive Officer

CFO: Chief Financial Officer

EBIT: Earnings before interest and taxes

EIOPA: European Insurance and Occupational Pensions Authority

E+S Rück: E+S Rückversicherung AG, Hannover

GA: Group Auditing, internal audit of Hannvor Re

Hannover Re: Hannover Re Group, Hannover

Hannover Rück: Hannover Rück SE, Hannover

HDI: HDI Haftpflichtverband der Deutschen Industrie V.a.G., Hannover

HGB: Handelsgesetzbuch, German Commercial Code

IAS: International Accounting Standard

IBNR: provisions for claims incurred but not reported

ICS: Internal Control System

IFRS: International Financial Reporting Standards

L&H: Life and Health

MCR: Minimum Capital Requirement

ORSA: Own Risk and Solvency Assessment

P&C: Property and Casualty

RM: Risk margin

RMF: Risk Management Function

SCR: Solvency Capital Requirement

SII: Solvency II

TP: Technical provisions

VAG: Gesetz über die Beaufsichtigung der Versicherungsunternehmen (Versicherungsaufsichtsgesetz), Insurance Supervision Act

VaR: Value-at-Risk

WpHG: Gesetz über den Wertpapierhandel (Wertpapierhandelsgesetz), German Securities Trading Act

WpÜG: Wertpapiererwerbs- und Übernahmegesetz, German Securities Acquisition and Takeover Act

Quantitative Reporting Templates

All values are shown in TEUR if not otherwise stated.

Values below TEUR 0.5 are displayed as “0”. Empty cells represent the fact that Hannover Re has no value to state.

Hannover Re makes no use of transitionals, volatility adjustment and matching adjustment. Thus the template “S.22.01.22 Impact of long term guarantees and transitional measures” does not apply.

Additional disclosure according to Art. 192 (2) of the Delegated Regulation 2015/35

The Hannover Re Group has collateral arrangements with a total value well below 60% of total assets. The threshold of 60% is defined in Art. 192 (2) of the Delegated Regulation 2015/35. This information is relevant to calculate the counterparty default risk with respect to the Hannover Re Group in the Solvency II standard formula.

S.02.01.02
Balance sheet

		Solvency II
Assets		**C0010**
Intangible assets	**R0030**	86,567
Deferred tax assets	**R0040**	308,574
Pension benefit surplus	**R0050**	
Property, plant & equipment held for own use	**R0060**	100,606
Investments (other than assets held for index-linked and unit-linked contracts)	**R0070**	39,645,771
Property (other than for own use)	**R0080**	1,765,048
Holdings in related undertakings, including participations	**R0090**	235,728
Equities	**R0100**	19,166
Equities - listed	**R0110**	19,064
Equities - unlisted	**R0120**	102
Bonds	**R0130**	33,151,146
Government Bonds	**R0140**	16,336,012
Corporate Bonds	**R0150**	15,645,261
Structured notes	**R0160**	251,974
Collateralised securities	**R0170**	917,898
Collective Investments Undertakings	**R0180**	3,486,585
Derivatives	**R0190**	8,141
Deposits other than cash equivalents	**R0200**	847,615
Other investments	**R0210**	132,343
Assets held for index-linked and unit-linked contracts	**R0220**	
Loans and mortgages	**R0230**	16,750
Loans on policies	**R0240**	
Loans and mortgages to individuals	**R0250**	
Other loans and mortgages	**R0260**	16,750
Reinsurance recoverables from:	**R0270**	1,667,155
Non-life and health similar to non-life	**R0280**	975,361
Non-life excluding health	**R0290**	970,147
Health similar to non-life	**R0300**	5,214
Life and health similar to life, excluding health and index-linked and unit-linked	**R0310**	695,329
Health similar to life	**R0320**	447,475
Life excluding health and index-linked and unit-linked	**R0330**	247,854
Life index-linked and unit-linked	**R0340**	−3,536
Deposits to cedants	**R0350**	3,279,539
Insurance and intermediaries receivables	**R0360**	3,481,171
Reinsurance receivables	**R0370**	135,656
Receivables (trade, not insurance)	**R0380**	214,205
Own shares (held directly)	**R0390**	
Amounts due in respect of own fund items or initial fund called up but not yet paid	**R0400**	
Cash and cash equivalents	**R0410**	819,440
Any other assets, not elsewhere shown	**R0420**	129,883
Total assets	**R0500**	49,885,316

Liabilities		Solvency II C0010
Technical provisions – non-life	R0510	21,992,793
Technical provisions – non-life (excluding health)	R0520	20,179,288
TP calculated as a whole	R0530	
Best Estimate	R0540	19,644,836
Risk margin	R0550	534,452
Technical provisions - health (similar to non-life)	R0560	1,813,505
TP calculated as a whole	R0570	
Best Estimate	R0580	1,764,009
Risk margin	R0590	49,496
Technical provisions - life (excluding index-linked and unit-linked)	R0600	8,473,751
Technical provisions - health (similar to life)	R0610	2,430,464
TP calculated as a whole	R0620	
Best Estimate	R0630	2,235,457
Risk margin	R0640	195,006
Technical provisions – life (excluding health and index-linked and unit-linked)	R0650	6,043,287
TP calculated as a whole	R0660	
Best Estimate	R0670	4,239,107
Risk margin	R0680	1,804,180
Technical provisions – index-linked and unit-linked	R0690	−33,966
TP calculated as a whole	R0700	
Best Estimate	R0710	−44,125
Risk margin	R0720	10,159
Contingent liabilities	R0740	6,649
Provisions other than technical provisions	R0750	181,346
Pension benefit obligations	R0760	177,786
Deposits from reinsurers	R0770	479,512
Deferred tax liabilities	R0780	3,085,518
Derivatives	R0790	20,499
Debts owed to credit institutions	R0800	253,925
Financial liabilities other than debts owed to credit institutions	R0810	31,493
Insurance & intermediaries payables	R0820	659,551
Reinsurance payables	R0830	367,686
Payables (trade, not insurance)	R0840	362,909
Subordinated liabilities	R0850	1,626,144
Subordinated liabilities not in BOF	R0860	
Subordinated liabilities in BOF	R0870	1,626,144
Any other liabilities, not elsewhere shown	R0880	128,479
Total liabilities	R0900	37,814,077
Excess of assets over liabilities	R1000	12,071,239

S.12.01.02
Life and Health SLT Technical Provisions

		Insurance with profit participation	Index-linked and unit-linked insurance			Other life insurance			Annuities stemming from non-life insurance contracts and relating to insurance obligation other than health insurance obligations	Accepted reinsurance	**Total (Life other than health insurance, incl. Unit-Linked)**
				Contracts without options and guarantees	Contracts with options or guarantees		Contracts without options and guarantees	Contracts with options or guarantees			
		C0020	**C0030**	**C0040**	**C0050**	**C0060**	**C0070**	**C0080**	**C0090**	**C0100**	**C0150**
Technical provisions calculated as	**R0010**										
Total Recoverables from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default associated to TP as a whole	**R0020**										
Technical provisions calculated as a sum of BE and RM											
Best Estimate											
Gross Best Estimate	**R0030**									4,194,983	4,194,983
Total Recoverables from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default	**R0080**									244,318	249,331

		Insurance with profit participation	Index-linked and unit-linked insurance		Other life insurance			Annuities stemming from non-life insurance contracts and relating to insurance obligation other than health insurance obligations	Accepted reinsurance	**Total (Life other than health insurance, incl. Unit-Linked)**
				Contracts without options and guarantees	Contracts with options or guarantees		Contracts without options and guarantees	Contracts with options or guarantees			
		C0020	**C0030**	**C0040**	**C0050**	**C0060**	**C0070**	**C0080**	**C0090**	**C0100**	**C0150**
Best estimate minus recoverables from reinsurance/SPV and Finite Re - total	**R0090**									3,950,664	3,950,664
Risk Margin	**R0100**									1,814,339	1,814,339
Amount of the transitional on Technical Provisions											
Technical Provisions calculated as a whole	**R0110**										
Best estimate	**R0120**										
Risk margin	**R0130**										
Technical provisions - total	**R0200**									6,009,322	6,009,322

		Health insurance (direct business)			Annuities stemming from non-life insurance contracts and relating to health insurance obligations	Health reinsurance (reinsurance accepted)	**Total (Health similar to life insurance)**
		Contracts without options and guarantees	Contracts with options or guarantees				
		C0160	**C0170**	**C0180**	**C0190**	**C0200**	**C0210**
Technical provisions calculated as a whole	**R0010**						
Total Recoverables from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default associated to TP as a whole	**R0020**						
Technical provisions calculated as a sum of BE and RM							
Best Estimate							
Gross Best Estimate	**R0030**					2,235,457	2,235,457
Total Recoverables from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default	**R0080**					447,475	447,475
Best estimate minus recoverables from reinsurance/SPV and Finite Re - total	**R0090**					1,787,982	1,787,982
Risk Margin	**R0100**					195,006	195,006
Amount of the transitional on Technical Provisions							
Technical Provisions calculated as a whole	**R0110**						
Best Estimate	**R0120**						
Risk Margin	**R0130**						
Technical provisions - total	**R0200**					2,430,464	2,430,464

S.17.01.02

Non-life Technical Provisions

		Direct business and accepted proportional reinsurance								
		Medical expense insurance	Income protection insurance	Workers' compen-sation insurance	Motor vehicle liability insurance	Other motor insurance	Marine, aviation and transport insurance	Fire and other damage to property insurance	General liability insurance	Credit and suretyship insurance
		C0020	C0030	C0040	C0050	C0060	C0070	C0080	C0090	C0100
Technical provisions calculated as a whole	R0010									
Total Recoverables from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default associated to TP as a whole	R0050									
Technical provisions calculated as a sum of BE and RM										
Best estimate										
Premium provisions										
Gross	R0060	3,718	65,985	23,222	154,487	56,115	78,368	489,319	241,177	107,040
Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default	R0140	0	3	88	67	−325	2,614	29,501	890	377
Net Best Estimate of Premium Provisions	R0150	3,717	65,982	23,134	154,420	56,440	75,754	459,818	240,287	106,663
Claims provisions										
Gross	R0160	19,243	246,058	131,555	1,180,362	220,810	930,154	2,171,132	2,714,009	804,809
Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default	R0240	17	−235	7,740	63,844	−11,367	112,959	451,587	111,072	9,656
Net Best Estimate of Claims Provisions	R0250	19,226	246,293	123,815	1,116,518	232,177	817,194	1,719,545	2,602,937	795,153
Total Best estimate - gross	R0260	22,961	312,043	154,777	1,334,849	276,925	1,008,521	2,660,451	2,955,186	911,849
Total Best estimate - net	R0270	22,943	312,275	146,949	1,270,938	288,617	892,948	2,179,363	2,843,224	901,816
Risk margin	R0280	560	12,198	3,750	44,435	7,143	21,006	63,577	72,711	23,405

		Direct business and accepted proportional reinsurance								
		Medical expense insurance	Income protection insurance	Workers' compen-sation insurance	Motor vehicle liability insurance	Other motor insurance	Marine, aviation and transport insurance	Fire and other damage to property insurance	General liability insurance	Credit and suretyship insurance
		C0020	C0030	C0040	C0050	C0060	C0070	C0080	C0090	C0100
Amount of the transitional on Technical Provisions										
Technical Provisions calculated as a whole	R0290									
Best estimate	R0300									
Risk margin	R0310									
		C0020	C0030	C0040	C0050	C0060	C0070	C0080	C0090	C0100
Technical provisions - total										
Technical provisions - total	R0320	23,521	324,242	158,527	1,379,283	284,069	1,029,527	2,724,028	3,027,897	935,254
Recoverable from reinsurance contract/SPV and Finite Re after the adjustment for expected losses due to counterparty default - total	R0330	18	−232	7,828	63,911	−11,691	115,573	481,088	111,962	10,033
Technical provisions minus recoverables from reinsurance/SPV and Finite Re - total	R0340	23,503	324,473	150,699	1,315,372	295,760	913,954	2,242,940	2,915,935	925,221

		Direct business and accepted proportional reinsurance			Accepted non-proportional reinsurance				Total Non-Life obligation
		Legal expenses insurance	Assistance	Miscella-neous financial loss	Non-proportional health reinsurance	Non-proportional casualty reinsurance	Non-proportional marine, aviation and transport reinsurance	Non-proportional property reinsurance	
		C0110	C0120	C0130	C0140	C0150	C0160	C0170	C0180
Technical provisions calculated as a whole	R0010								
Total Recoverables from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default associated to TP as a whole	R0050								
Technical provisions calculated as a sum of BE and									
Best estimate									
Premium provisions									
Gross	R0060	−274	84	14,162	37,149	304,621	39,835	363,959	1,978,966
Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default	R0140	0	0	−4	8	64	708	1,167	35,159
Net Best Estimate of Premium Provisions	R0150	−274	84	14,166	37,141	304,556	39,127	362,792	1,943,807
Claims provisions									
Gross	R0160	8,791	358	96,086	1,237,079	6,192,070	978,817	2,498,545	19,429,879
Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default	R0240	−15	−11	−45	−2,408	34,406	101,769	61,232	940,202
Net Best Estimate of Claims Provisions	R0250	8,806	369	96,132	1,239,486	6,157,664	877,049	2,437,313	18,489,677
Total Best Estimate - gross	R0260	8,517	441	110,248	1,274,228	6,496,691	1,018,652	2,862,505	21,408,845
Total Best Estimate - net	R0270	8,532	452	110,298	1,276,627	6,462,221	916,175	2,800,105	20,433,484
Risk margin	R0280	230	11	2,654	32,988	186,974	26,253	86,055	583,948

		Direct business and accepted proportional reinsurance			Accepted non-proportional reinsurance				Total Non-Life obligation
		Legal expenses insurance	Assistance	Miscella-neous financial loss	Non-proportional health reinsurance	Non-proportional casualty reinsurance	Non-proportional marine, aviation and transport reinsurance	Non-proportional property reinsurance	
		C0110	C0120	C0130	C0140	C0150	C0160	C0170	C0180
Amount of the transitional on Technical Provisions									
Technical Provisions calculated as a whole	R0290								
Best Estimate	R0300								
Risk margin	R0310								
Technical provisions - total									
Technical provisions - total	R0320	8,746	452	112,903	1,307,216	6,683,665	1,044,905	2,948,560	21,992,793
Recoverable from reinsurance contract/SPV and Finite Re after the adjustment for expected losses due to counterparty default - total	R0330	−15	−11	−50	−2,399	34,470	102,477	62,400	975,361
Technical provisions minus recoverables from reinsurance/SPV and Finite Re - total	R0340	8,761	463	112,952	1,309,615	6,649,195	942,428	2,886,160	21,017,432

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Own Funds

		Total	Tier 1 - unrestricted	Tier 1 - restricted	Tier 2	Tier 3
		C0010	C0020	C0030	C0040	C0050
Basic own funds before deduction for participations in other financial sector as foreseen in article 68 of Delegated Regulation (EU) 2015/35						
Ordinary share capital (gross of own shares)	R0010	120,597	120,597			
Non-available called but not paid in ordinary share capital at group level	R0020					
Share premium account related to ordinary share capital	R0030	880,608	880,608			
Initial funds, members' contributions or the equivalent basic own - fund item for mutual and mutual-type undertakings	R0040					
Subordinated mutual member accounts	R0050					
Non-available subordinated mutual member accounts at group level	R0060					
Surplus funds	R0070					
Non-available surplus funds at group level	R0080					
Preference shares	R0090					
Non-available preference shares at group level	R0100					
Share premium account related to preference shares	R0110					
Non-available share premium account related to preference shares at group level	R0120					
Reconciliation reserve	R0130	10,379,908	10,379,908			
Subordinated liabilities	R0140	1,626,144		534,858	1,091,286	
Non-available subordinated liabilities at group level	R0150					
An amount equal to the value of net deferred tax assets	R0160	33,777				33,777
The amount equal to the value of net deferred tax assets not available at the group level	R0170					
Other own fund items approved by the supervisory authority as basic own funds not specified above	R0180					
Non available own funds related to other own funds items approved by supervisory authority	R0190					
Minority interests (if not reported as part of a specific own fund item)	R0200					
Non-available minority interests at group level	R0210	745,268	745,268			

		Total	Tier 1 - unrestricted	Tier 1 - restricted	Tier 2	Tier 3
		C0010	C0020	C0030	C0040	C0050
Own funds from the financial statements that should not be represented by the reconciliation reserve and do not meet the criteria to be classified as Solvency II own funds						
Own funds from the financial statements that shall not be represented by the reconciliation reserve and do not meet the criteria to be classified as Solvency II own funds	R0220					
Deductions						
Deductions for participations in financial and credit institutions	R0230					
whereof deducted according to art 228 of the Directive 2009/138/EC	R0240					
Deductions for participations where there is non-availability of information (Article 229)	R0250					
Deduction for participations included by using D&A when a combination of methods is used	R0260					
Total of non-available own fund items	R0270	745,268	745,268			
Total deductions	R0280	745,268	745,268			
Total basic own funds after deductions	R0290	12,295,766	10,635,845	534,858	1,091,286	33,777
Ancillary own funds						
Unpaid and uncalled ordinary share capital callable on demand	R0300					
Unpaid and uncalled initial funds, members' contributions or the equivalent basic own fund item for mutual and mutual - type undertakings, callable on demand	R0310					
Unpaid and uncalled preference shares callable on demand	R0320					
A legally binding commitment to subscribe and pay for subordinated liabilities on demand	R0330					
Letters of credit and guarantees under Article 96(2) of the Directive 2009/138/EC	R0340					
Letters of credit and guarantees other than under Article 96(2) of the Directive 2009/138/EC	R0350					
Supplementary members calls under first subparagraph of Article 96(3) of the Directive 2009/138/EC	R0360					
Supplementary members calls - other than under first subparagraph of Article	R0370					
Non available ancillary own funds at group level	R0380					
Other ancillary own funds	R0390					
Total ancillary own funds	R0400					

		Total	Tier 1 - unrestricted	Tier 1 - restricted	Tier 2	Tier 3
		C0010	C0020	C0030	C0040	C0050
Own funds of other financial sectors						
Credit Institutions, investment firms, financial insitutions, alternative investment fund manager, financial institutions	R0410					
Institutions for occupational retirement provision	R0420					
Non regulated entities carrying out financial activities	R0430					
Total own funds of other financial sectors	R0440					
Own funds when using the D&A, exclusively or in combination of method 1						
Own funds aggregated when using the D&A and combination of method	R0450					
Own funds aggregated when using the D&A and combination of method net of IGT	R0460					
Total available own funds to meet the consolidated group SCR (excluding own funds from other financial sector and from the undertakings included via D&A)	R0520	12,295,766	10,635,845	534,858	1,091,286	33,777
Total available own funds to meet the minimum consolidated group SCR	R0530	12,261,989	10,635,845	534,858	1,091,286	
Total eligible own funds to meet the consolidated group SCR (excluding own funds from other financial sector and from the undertakings included via D&A)	R0560	12,295,766	10,635,845	534,858	1,091,286	33,777
Total eligible own funds to meet the minimum consolidated group SCR	R0570	11,831,348	10,635,845	534,858	660,645	
Minimum consolidated Group SCR	R0610	3,303,225				
Ratio of Eligible own funds to Minimum Consolidated Group SCR	R0650	3.5818				
Total eligible own funds to meet the group SCR (including own funds from other financial sector and from the undertakings included via D&A)	R0660	12,295,766	10,635,845	534,858	1,091,286	33,777
Group SCR	R0680	4,729,028				
Ratio of Eligible own funds to group SCR including other financial sectors and the undertakings included via D&A	R0690	2.6001				

		C0060
Reconciliation reserve		
Excess of assets over liabilities	**R0700**	12,071,239
Own shares (held directly and indirectly)	**R0710**	
Foreseeable dividends, distributions and charges	**R0720**	656,350
Other basic own fund items	**R0730**	1,034,982
Adjustment for restricted own fund items in respect of matching adjustment portfolios and ring fenced funds	**R0740**	
Other non available own funds	**R0750**	
Reconciliation reserve	**R0760**	10,379,908
Expected profits		
Expected profits included in future premiums (EPIFP) - Life business	**R0770**	3,576,051
Expected profits included in future premiums (EPIFP) - Non- life business	**R0780**	2,262
Total EPIFP	**R0790**	3,578,313

S.25.03.22
Solvency Capital Requirement - for groups on Full Internal Models

Unique number of compo-nent	Components description	Calculation of the Solvency Capital Requirement
C0010	C0020	C0030
101	Market risk according to IM	3,462,193
102	Counterparty default risk according to IM	281,958
103	Life underwriting risk according to IM	2,354,658
104	Non-life underwriting risk according to IM	3,485,449
105	Operational risk according to IM	637,035
107	LAC TP according to IM	
108	LAC DT according to IM	−1,782,052

Calculation of Solvency Capital Requirement		C0100
Total undiversified components	R0110	8,439,241
Diversification	R0060	−3,710,212
Capital requirement for business operated in accordance with Art. 4 of Directive 2003/41/EC	R0160	
Solvency capital requirement excluding capital add-on	R0200	4,729,028
Capital add-ons already set	R0210	
Solvency capital requirement	R0220	4,729,028
Other information on SCR		
Amount/estimate of the overall loss-absorbing capacity of technical provisions	R0300	
Amount/estimate of the overall loss-absorbing capacity ot deferred taxes	R0310	−1,782,052
Total amount of Notional Solvency Capital Requirements for remaining part	R0410	
Total amount of Notional Solvency Capital Requirements for ring fenced funds	R0420	
Total amount of Notional Solvency Capital Requirement for matching adjustment portfolios	R0430	
Diversification effects due to RFF nSCR aggregation for article 304	R0440	
Minimum consolidated group solvency capital requirement	R0470	3,303,225

		C0100
Information on other entities		
Capital requirement for other financial sectors (Non-insurance capital requirements)	R0500	
Capital requirement for other financial sectors (Non-insurance capital requirements) — Credit institutions, investment firms and financial institutions, alternative investment funds managers, UCITS management companies	R0510	
Capital requirement for other financial sectors (Non-insurance capital requirements) — Institutions for occupational retirement provisions	R0520	
Capital requirement for other financial sectors (Non-insurance capital requirements) — Capital requirement for non-regulated entities carrying out financial activities	R0530	
Capital requirement for non-controlled participation requirements	R0540	
Capital requirement for residual undertakings	R0550	

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