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different*

Hannover Re

2016

Solvency and Financial Condition Report



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Executive Summary

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in TEUR	2016
Solvency II Balance Sheet	
Assets	51,437,578
Technical Provisions	31,019,042
Other Liabilities	7,966,706
Excess of Assets over Liabilities	12,451,831
Eligible Own Funds	
Tier 1 Basic Own Funds (unrestricted)	11,179,167
Tier 1 Basic Own Funds (restricted)	543,095
Tier 2 Basic Own Funds	1,113,021
Eligible Own Funds (SCR)	12,835,283
Capital Requirements	
Solvency Capital Requirement	5,585,884
Minimum Capital Requirement	3,934,289
Coverage Ratio	
Ratio of Eligible Own Funds to SCR (Solvency Ratio)	230 %
Ratio of Eligible Own Funds to MCR	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 2016 and in the financial year 2016. 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.

A. Business and Performance

With a gross premium volume of more than EUR 16 billion, 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 2016 financial year. With Group net income of EUR 1,171.2 million we actually surpassed the anticipated level of at least EUR 950 million. We thus improved by a further 1.8% on the record result of the previous year.

The Property & Casualty underwriting result improved again on the already exceptionally positive level of the previous year to reach EUR 479.1 million.

The Life & Health result for the year under review is largely in line with our expectations for the overall profitability of our life business.

Given the sustained low interest rate environment and in some instances even further reductions in rates, we are again highly satisfied with the development of our investments as at 31 December 2016. The portfolio of investments under own management stood at EUR 41.8 billion and was thus significantly higher than the comparable level at the end of the previous year

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.

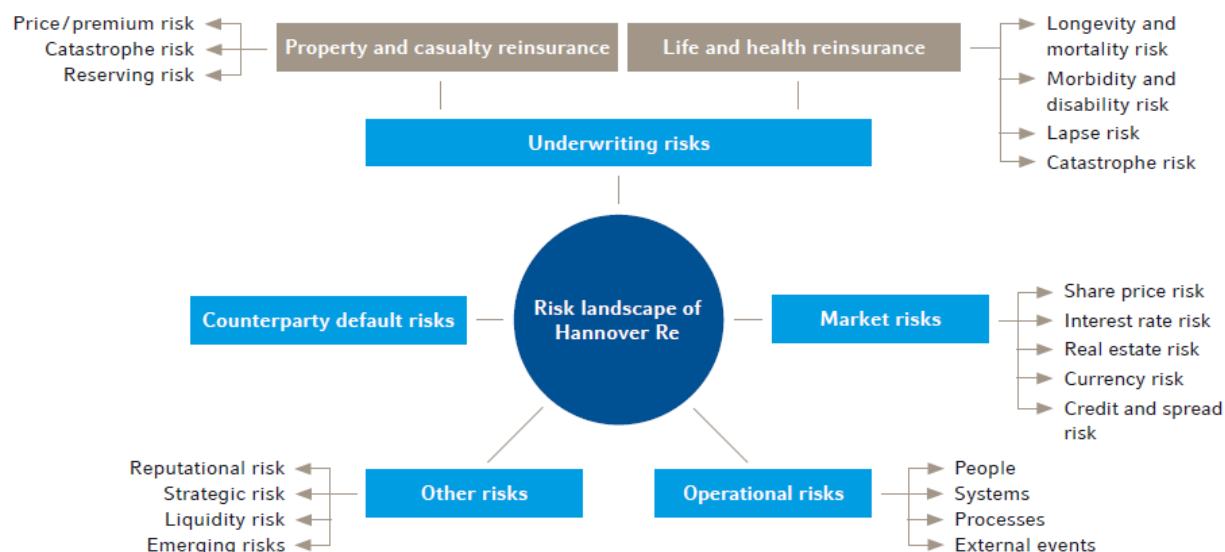
The Executive Board has established a committee, which supports the assessment of the system of governance. Based on the assessment conducted by the committee, the Executive Board has reached the conclusion that the system of governance of Hannover Re is, in terms of its type, scope and complexity, appropriate 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 measures its risk with an internal capital model. To calculate its capital requirement Hannover Re has the permission to use a partial internal model. This model captures all risks except for the operational risk. The capital requirement as of 31 December 2016 is shown in the following table.

Solvency Capital Requirement (SCR) in TEUR

Solvency Capital Requirement	2016
Underwriting risk - Property & Casualty	3,552,928
Underwriting risk - Life & Health	2,117,854
Market risk	4,225,423
Counterparty default risk	296,495
Diversification	3,398,633
Basic SCR	6,794,066
Operational risk (Solvency II standard formula)	677,088
Total risk (pre-tax)	7,471,154
Deferred tax	1,885,270
Total risk (post-tax)	5,585,884

At present, our most significant risks are credit and spread risks within market risks, reserve and catastrophe risks within underwriting risks Property & Casualty as well as mortality risks within the underwriting risks Life & Health. With regard to mortality risks, pension portfolios are also affected in principle by improvements in mortality rates, and mortality portfolios by deteriorations in mortality rates. We operate an internal risk model, in order to quantify and thus better control individual risks.

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 liabilities 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 shall be applied.

The significant methods and assumptions used for calculating the technical provisions are described in chapter D as well.

Hannover Re does not currently use any adjustments to the interest yield curves prescribed by the EIOPA, and no transitional measures pursuant to Sections 80, 82, 351 and 352 of the Insurance Supervision Act (VAG).

E. Capital Management

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 2016, 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 2016.

Over 90 per cent of all available capital is assigned to the highest quality level (tier 1). This equity class continued to grow as a result of ordinary business activities.

Hannover Re uses an approved partial 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. Only the module for operational risk is calculated using the Solvency II standard formula. The partial 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 more than EUR 16 billion, Hannover Re is the third-largest reinsurer in the world. We transact all lines of Property & Casualty and Life & Health reinsurance.

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 insurance 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.

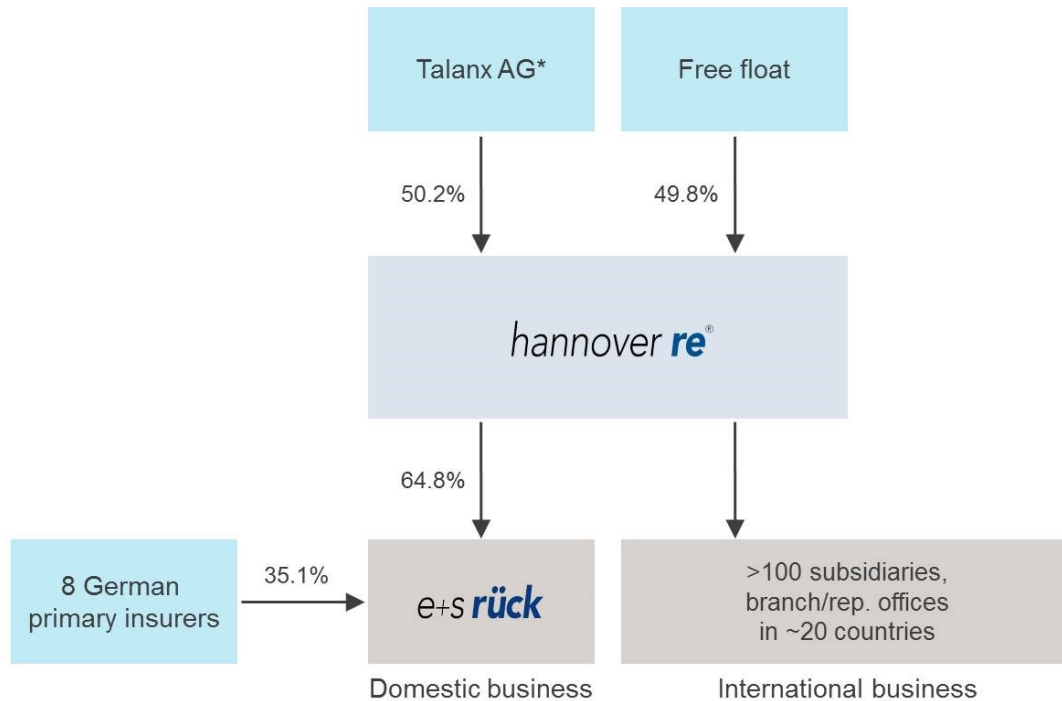
In the Property & Casualty reinsurance business group we consider ourselves to be a reliable, flexible and innovative market player that ranks among the best in any given market. Cost leadership, effective cycle management and superlative risk management are the key elements of our competitive position.

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

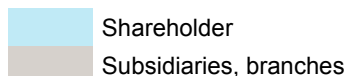
A.1.2 Headquarters, Supervisors and Auditors

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% – by HDI Haftpflichtverband der Deutschen Industrie V.a.G. (HDI), Hannover.

Hannover Re as a sub-group of the Talanx Group



* Majority shareholder HDI V.a.G.



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.

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 Osterstraße 40, 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 2,900 staff. The Group’s German business is conducted by the subsidiary E+S Rückversicherung AG.

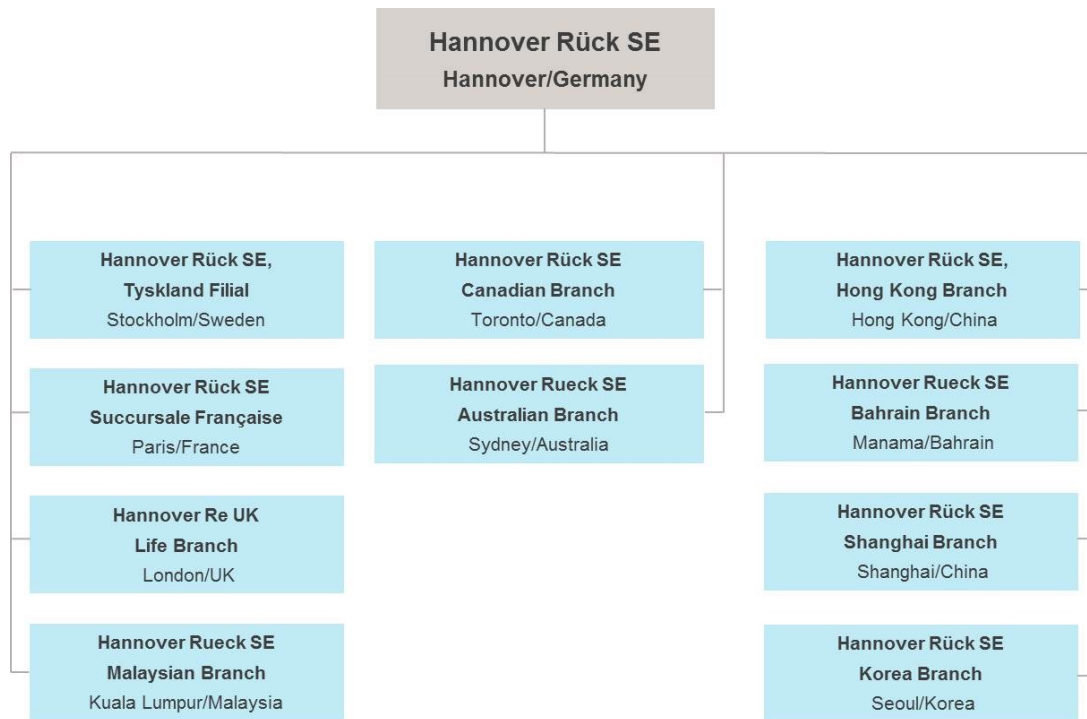
Subsidiaries of Hannover Rück



Unless otherwise stated, the shareholding is 100 %.

- Insurance companies
- Non-insurance companies

Branches of Hannover Rück



A.2 Performance

Hannover Re has had a successful business year 2016. With Group net income of EUR 1,171.2 million we actually surpassed the anticipated level of at least EUR 950 million. We thus improved by a further 1.8% on the record result of the previous year.

The Property & Casualty underwriting result improved again on the already exceptionally positive level of the previous year to reach EUR 479.1 million.

The Life & Health result for the year under review is largely in line with our expectations for the overall profitability of our life business.

Given the sustained low interest rate environment and in some instances even further reductions in rates, we are again highly satisfied with the development of our investments as at 31 December 2016. The portfolio of investments under own management stood at EUR 41.8 billion and was thus significantly higher than the comparable level at the end of the previous year

In addition, the following table shows the performance targets for the business years 2016 and the attained results.

Business group	Key data	Targets for 2016	2016
Group	Investment return ¹	≥ 2.9 %	3.0 %
	Return on equity ²	≥ 9.9 %	13.7 %
	Growth on earnings per share (year-on-year comparison)	≥ 6.5 %	1.8 %
	Value creation per share ³	≥ 7.5 %	18.6 %
Property & Casualty reinsurance	Gross premium growth	3-5 % ⁴	-0.2 %
	Combined ratio	≤ 96 % ⁵	93.7 %
	EBIT margin ⁶	≥ 10 %	16.8 %
	xRoCA ⁷	≥ 2 %	7.1 %
Life & Health reinsurance	Gross premium growth	5-7 % ⁸	-4.3 %
	Value of New Business (VNB) ⁹	≥ EUR 220 million	EUR 893 million
	EBIT margin ⁶		
	Financial Solutions/Longevity	≥ 2 %	9.4 %
	EBIT margin ⁶		
	Mortality/Morbidity	≥ 6 %	3.4 %
	xRoCA ⁷	≥ 3 %	3.5 %

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/1078842/annual-report-2016.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 key functions 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	Finance and Accounting	Group Legal Services	Specialty Lines Worldwide: Marine, Aviation, Credit, Surety and Political Risks, UK, Ireland, London Market and Direct Business	Coordination of Property & Casualty Business Group	Life & Health Reinsurance: Africa, Asia, Australia/New Zealand, Latin America, Western and Southern Europe,	Life & Health Reinsurance: UK, Ireland, North America, Northern, Eastern and Central Europe
Compliance	Information Technology	Run-Off Solutions		Global Reinsurance: Worldwide Treaty Reinsurance, Catastrophe XL, Structured Reinsurance and Insurance-Linked Securities	Longevity Solutions	
Controlling	Investment and Collateral Management	Target Markets in Property & Casualty Reinsurance: North America, Continental Europe	Facultative Reinsurance	Quotations		
Human Resources Management	Facility Management			Retrocessions		
Internal Auditing						
Risk Management						
Corporate Development						
Corporate Communications						

For further information on key functions 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 2016 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

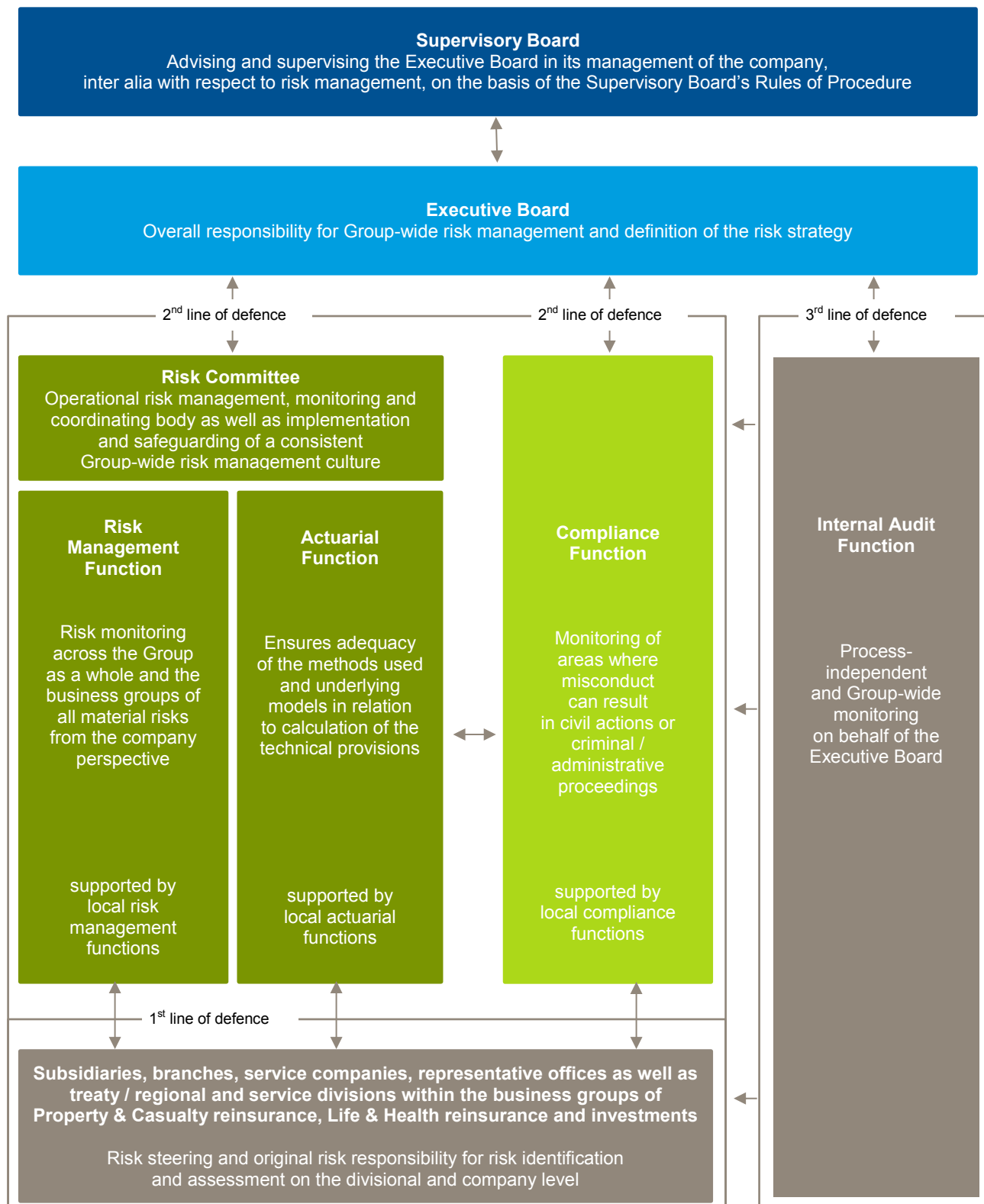
verbal reports from the Executive Board. The Supervisory Board of Hannover Rück SE held four regular meetings in order to adopt the necessary resolutions after appropriate discussion. With the exception of two meetings that one member of the Supervisory Board did not attend, all nine Supervisory Board members took part in each of the Supervisory Board meetings held in 2016. 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 and the Standing Committee met three 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.

Changes over the reporting period

The Chief Risk Officer headed, until 19 June 2016, both the risk management function and the actuarial function. Since 20 June 2016, a separate key function holder for the actuarial function is in place.

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 8,965.

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 980.

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.1.2.4 Note

For further information regarding the Hannover Re remuneration policy please refer to the remuneration report in our Annual Report of Hannover Re Group beginning at page 103. 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/1078842/annual-report-2016.pdf>).

B.1.3 Related party transactions

For information regarding the transactions with related parties please refer to the section “Related party disclosures” in our Annual Report of Hannover Re Group beginning at page 225. 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/1078842/annual-report-2016.pdf>).

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

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.2.1 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 mathematics).

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 knowledge in relation to the relevant key function
- Collective requirements

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 2016.

B.2.2 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 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 current corporate strategy encompasses ten guiding principles that safeguard the realisation of our vision “Long-term success in a competitive business” across the various divisions. The following principles of the corporate strategy constitute the key strategic points of departure for our Group-wide risk management:

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

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

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

The capitalisation prescribed by regulatory requirements diverges from the capitalisation shown in accordance with the Hannover Re Group's internal capital model. In the first place, non-controlling interests cannot be fully recognised according to Solvency II parameters, while on the other hand the sub-risk comprised of operational risks is calculated according to the parameters of the Solvency II standard formula.

We hold additional capital above all to meet the requirements of the rating agencies for our target rating and to be able to act flexibly on business opportunities. We strive for a rating from the rating agencies most relevant to our industry that facilitates and secures our access to all reinsurance business worldwide. Hannover Re is analysed by the rating agencies Standard & Poor's 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.

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 responsibility 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.

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. 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 partial internal model is used 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 company division and is subject to both assessment and approval by the Executive Board.

In the event of a necessary ad-hoc ORSA, potentially because of a 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 Chief 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 departments tasked with handling particularly Compliance-relevant topics together form the compliance function.

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

The Chief 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 members of staff within the Compliance function also hold 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 Chief 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 Chief Compliance Officer advises members of the Executive Board and members of staff of Hannover Re upon request regarding Compliance topics.

Every year, the Chief 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 Chief 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. 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 Chief 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, 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.

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 recommendations/measures agreed in the audits is monitored by GA up until the determined deadlines.

B.6 Actuarial Function

Implementation of the Actuarial Function

The tasks of the Actuarial Function (AF) are organized decentrally. This ensures adequate actuarial knowledge in all relevant processes. The owner of the AF is assigned to the risk management department of the company, but operates objectively and independently in respect of fulfilling the requirements in undertaking the AF notwithstanding. In the exercise of his function, the AF receives support from several units of the risk management department and from other departments of the company.

Furthermore it is the common understanding between the AF and the Risk Management Function (RMF) that a broad exchange of information and a competent support of each other function is useful to fulfil their individual tasks and in addition supports the aim of the company of an efficient structure.

With respect to the underwriting policy, the AF is supported by those departments assigned to the risk management, which are concerned with premium risk respectively with the measurement of underwriting risk. 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 TP
- Ensure the appropriateness of the applied methods, the underlying models and assumptions
 - used for the calculation of the TP for solvency and accounting purposes as well as
 - 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
- 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 for Technical Provisions
 - Evaluation/risk assessment for 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 regularly reports directly to the executive board and to the Actuarial Committee. The Actuarial Committee 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. 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.

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 thus 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. This matter concerns the only so-called important outsourcing.

B.8 Any other information

Evaluating the appropriateness of the system of governance

The Executive Board has established a committee which supports the assessment of the system of governance. The assessment presented by the committee dated 31 March 2017 was adopted 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 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 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.

Retrocession has a particular significance within risk appetite and risk reduction, and is used in a targeted way, albeit on a limited basis, as required. Business which does not remain in deductibles is retroceded to third parties in order in particular to protect the capital of the Hannover ReGroup. This ensures that the Group can benefit from any price increases following a market-changing event. The process of strategic 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 observe the business's 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 remains stable. It is remarkable that the prognosis of the capital demand is based on various assumptions for the future economic and business environment and is therefore to be handled with caution.

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

Identified risks or product ideas possibly lead to re-insurance solutions, which are to be assessed with a specific process concerning their risk characteristics. In the year 2016 one such new product process was absolved and the product was approved by the Executive Board for distribution.

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, among other things, the use of retrocessions to reduce volatility and conserve capital. It is also crucially important to consistently maximise the available risk capacities on the basis of the risk management parameters of the Hannover Re Group and to steer the acceptance of risks systematically through the existing central and local underwriting guidelines. Our conservative reserving level is a key factor in our risk management. We make a fundamental distinction between risks that result from business operations of past years (reserve risk) and those stemming from activities in the current or future years (price / premium risk). In the latter case, special importance attaches to the catastrophe risk.

Diversification within the Property & Casualty reinsurance business group is actively managed through allocation of the cost of capital according to the contribution made to diversification. A high diversification effect arises out of the underwriting of business in different lines and different regions with different business partners. In addition, the active limitation of individual risks – such as natural catastrophes – enhances the diversification effect. The risk capital with a confidence level of 99.5 % for underwriting risks in property and casualty reinsurance breaks down as follows:

Solvency Capital Requirement for underwriting risks in property and casualty reinsurance

in TEUR	2016
Premium risk (including catastrophe risk)	2,470,429
Reserve risk	2,281,808
Diversification	-1,199,310
Underwriting risk property and casualty	3,552,928

C.1.1.1 Risks arising from natural disasters

The largest share of the Solvency Capital Requirement for the premium risk (incl. catastrophe risk) is attributable to risks from natural disasters. The following table shows the Solvency Capital Requirement for our four largest natural hazards scenarios:

Solvency Capital Requirement for the four largest natural hazards scenarios

in TEUR	2016
Hurricane US/Caribbean	1,477,278
Earthquake US West Coast	1,035,793
Winter storm Europe	698,751
Earthquake Japan	750,415

Licensed scientific simulation models, supplemented by the expertise of our own specialist departments, are used to assess our material catastrophe risks from natural hazards (especially earthquake, windstorm and flood). Furthermore, we establish the risk to our portfolio from various scenarios in the form of probability distributions. The monitoring of the risks resulting from natural hazards is rounded out by realistic extreme loss scenarios.

Stress tests for natural catastrophes after retrocessions

Effect on forecast net income

in TEUR	2016
Windstorm Europe	
100-year loss	-391,392
250-year loss	-541,356
Windstorm United States	
100-year loss	-850,346
250-year loss	-1,139,421
Windstorm Japan	
100-year loss	-223,933
250-year loss	-281,889
Earthquake Japan	
100-year loss	-363,065
250-year loss	-623,547
Earthquake California	
100-year loss	-440,627
250-year loss	-795,411
Earthquake Australia	
100-year loss	-201,031
250-year loss	-432,304

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

For the purposes of risk limitation, maximum amounts are also stipulated for various extreme loss scenarios and return periods in light of profitability criteria. Risk management ensures adherence to these maximum amounts. The 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 EUR million	Limit 2016	Threshold 2016	Actual utilisation (July 2016)
All natural catastrophe risks			
200-year aggregate annual loss	1,827	1,645	1,519

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 the utmost importance to a conservative reserving level and therefore traditionally have a high confidence level (> 50 %). 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.

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	35,450	210,495	24.6

In order to partially hedge inflation risks Hannover Re holds inflation-linked instruments in its portfolio that protect parts of the loss reserves against inflation risks. An inflation risk exists particularly inasmuch as the liabilities (e. g. loss reserves) could develop differently than assumed at the time when the reserve was constituted because of inflation. This inflation protection was initially ensured by way of inflation swaps. From 2012 onwards we also increasingly obtained parts of the inflation protection for our loss reserves by purchasing bonds with inflation-linked coupons and redemption amounts. In 2015 the inflation protection was converted to the exclusive use of such bonds.

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 (Group Protections) 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.

C.1.3.2 Description of Hannover Re's main types of cover against natural perils

In the event of a claim, Hannover Re shall receive relief from its various protections. Further details on the individual forms of reinsurance covers are described in the text below.

C.1.3.3 Whole Account Protections 2016

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 other branch offices. The protections are placed on a gross claim basis.

C.1.3.4 K-transactions 2016

K-quota share and K-aggregate XLs on the K-portfolio:

The K-portfolio consists of the following segments/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)

In addition to K-quota share, Hannover Re places aggregate XLs on the basis of the K-portfolio. These provide additional coverage for the following scenarios: Chile - earthquakes, Italy - earthquakes and floods, Turkey - earthquakes.

K-Transactions 2016

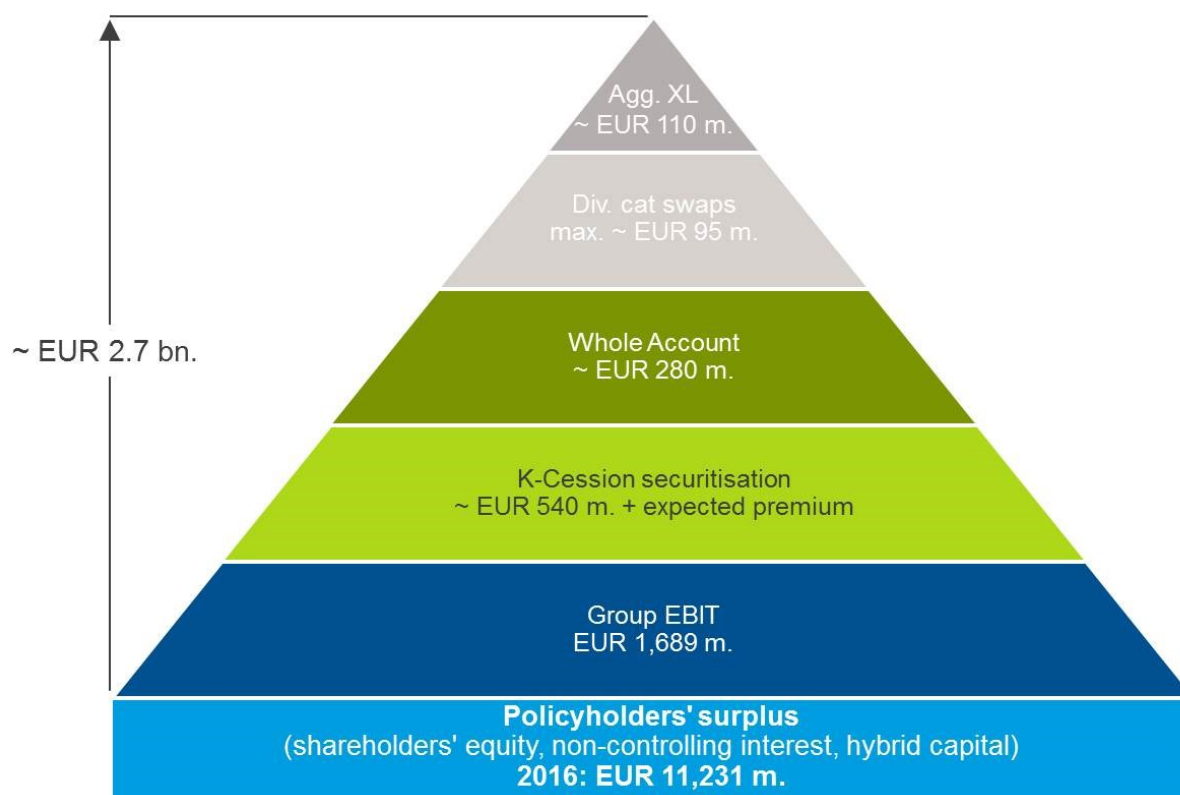
By way of its "K" transactions Hannover Re has raised underwriting capacity for catastrophe risks on the capital market. The "K Cession", which was placed with investors in North and South America, Europe and Asia, involves a quota share cession on worldwide natural catastrophe business as well as aviation and marine risks. Of the total volume of the "K Cession", a large part equivalent to TEUR 384,440 was securitised via structured entities as at the balance sheet date. The transaction has an indefinite term and can be cancelled annually by the investors. Segregated accounts of Kaith Re Ltd. are used for transformer purposes for part of this transaction. Hannover Re also uses further segregated accounts of Kaith Re Ltd. and other structured entities outside the Group for various retrocessions of both its traditional and ILS covers, which in each case are passed on to institutional investors in securitised form. The volume of these transactions is measured by the ceded exposure limit of the underlying retrocession agreements and amounted to altogether TEUR 1,884,667 as at the balance sheet date. The structured entities are in all cases fully funded by contractually defined investments in the form of cash and equivalent liquid assets. Given that the entire exposure limit of the structured entities is therefore wholly collateralised in each case, there is no risk of loss for Hannover Re.

C.1.3.5 Catastrophe Bond Eurus III

The catastrophe bond (CAT bond) Eurus III was issued by Hannover Re for the purpose of transferring to the capital market peak natural catastrophe exposures deriving from European windstorm events. The CAT bond, which had a volume of nominally TEUR 100,000 and a maturity date of 31 March 2016, was placed by Eurus III Ltd. The structured entity was fully funded by contractually defined investments in the form of cash and equivalent liquid assets. The transaction had ended as at the balance sheet date.

C.1.3.6 Multilevel protection - an overview

The multilevel protection consisting of the types of cover listed above increases the reinsurance capacity for natural catastrophes and thus provides additional revenues with a defined risk appetite.



C.1.3.7 Select Cat

For E+S Rück, alongside the group protection coverages of Hannover Re, is an additional cover placed specially for E+S Rück, the Select Cat, plays a decisive role. The Select Cat covers all natural perils, which are including flood following windstorm and fire following any of the natural perils. The territorial scope is limited to Germany only. The level of relief depends on the loss amount of a reference portfolio. This synthetic portfolio consists of the reinsurance programs of some German primary insurers and is composed such that the losses of this reference portfolio correspond as well as possible to the expected losses of E+S Rück. This optimisation is carried out

on the basis of event losses from the AIR models for European winter storms, earthquakes and floods in Germany as well as a self-developed Germany hail model, E+S Hagelt.

C.1.3.8 Process of retrocession placement

The Executive Board derives the risk budget for natural perils from the global risk budget. It forms the starting point for the system of limits and thresholds. The utilisation of the limits is controlled using a traffic light system. Many risk tolerances are based on net income, 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 yellow area between the threshold and limit acts as a buffer for changes in planning over the course of the year, currency developments and model changes.

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 has continued to grow and 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 risk capital at a confidence level of 99.5 %

in TEUR	2016
Mortality risk	1,637,395
Longevity risk	1,331,564
Morbidity and disability risk	395,008
Lapse risk	603,200
Expense risk	271,731
Diversification	-2,121,045
Underwriting risk life and health	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.

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

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

Required risk capital for market risks

Including private equity

in TEUR	2016
Credit and spread risk	2,827,876
Interest rate risk	1,179,085
Foreign exchange risk	1,296,528
Equity risk	1,283,476
Real estate risk	526,333
Diversification	-2,887,875
Market risk	4,225,423

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, in particular, saw highly volatile movements across the most important investment currencies over the course of the year under review. Despite its conservative posture our investment portfolio benefited substantially from these developments. Even though the very high levels of hidden reserves recorded above all in the third quarter decreased at year-end owing to rising interest rates in our main currency areas, a significant increase in hidden reserves was nevertheless 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 "Value at Risk" (VaR) is another vital tool used for monitoring and managing market price risks. It is calculated on the basis of historical data, e. g. the volatility of the securities positions under own management and the correlation between these risks. As part of these calculations the decline in the fair value of our portfolio is simulated with a certain probability and within a certain period. The VaR of the Hannover Re Group determined in accordance with these principles specifies the decrease in the fair value of our securities portfolio under own management that with a probability of 95% will not be exceeded within ten trading days.

A multi-factor model is used to calculate the VaR indicators for the Hannover Re Group. It is based on time series of selected representative market parameters (equity prices, yield curves, spread curves, exchange rates, commodity prices and macro-economic variables). All asset positions are mapped on the level of individual positions within the multi-factor model; residual risks (e. g. market price risks that are not directly explained by the multi-factor model) can be determined through back-calculation and are incorporated into the overall calculation. The model takes into account interest rate risks, default and spread risks, systematic and specific equity risks, commodity risks and option-specific risks. 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 1.2% 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

in TEUR	Scenario	Portfolio change on a fair value basis
Equity securities and private equity	Share prices -10%	-168,730
	Share prices -20%	-337,460
	Share prices +10%	+168,730
	Share prices +20%	+337,460
Fixed-income securities	Yield increase +50 basis points	-903,468
	Yield increase +100 basis points	-1,760,118
	Yield decrease -50 basis points	+934,638
	Yield decrease -100 basis points	+1,912,288
Real Estate	Real estate market values -10%	-194,400
	Real estate market values +10%	+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.

Equity risks derive from the possibility of unfavourable changes in the value of equities, equity derivatives or equity index derivatives in our portfolio. In addition to the holdings acquired in the course of the previous year, we again acted on market opportunities at the start of the year under review to rebuild a broadly diversified equity portfolio.

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

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

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

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

We use derivative financial instruments only to the extent needed to hedge risks. The primary purpose of such financial instruments is to hedge against potentially adverse 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 required risk capital for counterparty defaults with the confidence level of 99.5 % amounted to TEUR 296,495 as at 31 December 2016.

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 a Web-based risk management application, which specifies cession limits for the individual retrocessionaires participating in protection cover programmes and determines the capacities still available for short-, medium- and long-term business. Depending on the type and expected run-off duration of the reinsured business, the selection of reinsurers takes into account not only the minimum ratings of the rating agencies Standard & Poor's and A.M. Best but also internal and external expert assessments (e. g. market information from brokers). Overall, retrocessions conserve our capital, stabilise and optimise our results and enable us to act on opportunities across a broader front, e. g. following a major loss event. Regular visits to our retrocessionaires give us a reliable overview of the market and put us in a position to respond quickly to capacity changes. The following table shows the proportion of assumed risks that we do not retrocede (i. e. that we run in our retention):

Gross written premium retained

in %	2016
Hannover Re Group	89.3
Property and casualty reinsurance	88.5
Life and health reinsurance	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 our investments and in life and health reinsurance, among other things because we prefinance acquisition costs for our ceding companies. Our clients, retrocessionaires and broker relationships as well as our investments are therefore carefully evaluated and limited in light of credit considerations and are constantly monitored and controlled within the scope of our system of limits and thresholds.

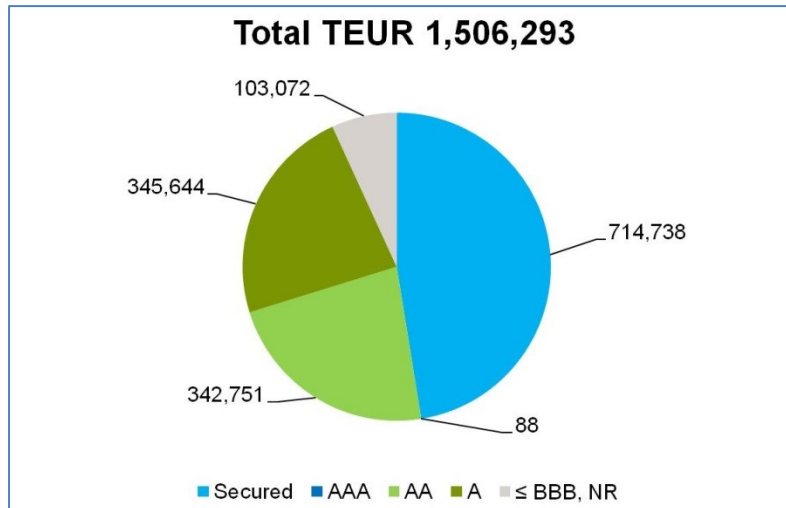
47.5 % of our recoverables from reinsurance business are secured by deposits or letters of credit. For the majority of our retrocessionaires we also function as reinsurer, meaning that in most cases recoverables can potentially be set off against our own liabilities.

The average default rate from retrocessions over the past four years was 0.01%.

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 1,506,292 at the balance sheet date.

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

Reinsurance recoverables as at the balance sheet date
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. We control the total liquidity of our portfolio of government bonds as well as our cash holdings by monitoring the respective liquidity of these portfolio items on a stock exchange every day. 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 and is used to calculate the capital commitment in our internal capital model. The assessment process was refined even further in the context of the model change for operational risks.

Within the overall framework of operational risks we consider, in particular, business process risks (including data quality), compliance risks, risks associated with the outsourcing of functions (including our distribution channels), fraud risks, personnel risks, information/IT security risks and business interruption risks.

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

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

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 in a crisis situation). Regular risk reporting to the Risk Committee and the Executive Board has also been put in place.

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.

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 not just risks but also opportunities, such as increased demand for reinsurance products. Further examples of emerging risks include technology risks, shortage of resources, political risks 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.

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.

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-averse 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.

Note

Rounding differences of +/- one unit can occur in the following tables.

Solvency II balance sheet

The following pages contain our Solvency II balance sheet as of 31 December 2016.

D.1 Solvency II balance sheet

in TEUR	Item	Solvency II	IFRS
Assets			
Intangible assets	R0030	1,439	128,680
Deferred tax assets	R0040	274,085	408,292
Pension benefit surplus	R0050		
Property, plant & equipment held for own use	R0060	113,143	97,181
Investments (other than assets held for index-linked and unit-linked contracts)	R0070	41,445,439	40,932,101
Property (other than for own use)	R0080	1,559,614	1,402,243
Holdings in related undertakings, including participations	R0090	213,069	211,888
Equities	R0100	649,443	649,454
Equities - listed	R0110	649,443	649,454
Equities - unlisted	R0120		
Bonds	R0130	35,655,572	35,314,829
Government Bonds	R0140	18,990,276	18,764,460
Corporate Bonds	R0150	15,482,904	15,373,452
Structured notes	R0160	284,506	278,346
Collateralised securities	R0170	897,887	898,572
Collective Investments Undertakings	R0180	2,418,373	2,418,373
Derivatives	R0190	29,759	58,459
Deposits other than cash equivalents	R0200	728,731	686,043
Other investments	R0210	190,877	190,813
Assets held for index-linked and unit-linked contracts	R0220		
Loans and mortgages	R0230		13,521
Loans on policies	R0240		
Loans and mortgages to individuals	R0250		13,521
Other loans and mortgages	R0260		
Reinsurance recoverables from:	R0270	1,502,708	2,842,870
Non-life and health similar to non-life	R0280	710,264	1,388,024
Non-life excluding health	R0290	700,735	1,325,070
Health similar to non-life	R0300	9,529	62,954
Life and health similar to life, excluding health and index-linked and unit-linked	R0310	792,444	1,454,847
Health similar to life	R0320	505,285	486,980
Life excluding health and index-linked and unit-linked	R0330	290,823	967,867
Life index-linked and unit-linked	R0340	-3,664	
Deposits to cedants	R0350	3,526,247	11,843,764
Insurance and intermediaries receivables	R0360	3,409,379	3,670,067
Reinsurance receivables	R0370	58,238	7,962
Receivables (trade, not insurance)	R0380	143,720	343,197
Own shares (held directly)	R0390		
Amounts due in respect of own fund items or initial fund called up but not yet paid in	R0400		
Cash and cash equivalents	R0410	848,667	848,667
Any other assets, not elsewhere shown	R0420	114,515	129,601
Total assets	R0500	51,437,578	63,528,602

in TEUR	Item	Solvency II	IFRS
Liabilities			
Technical provisions – non-life	R0510	22,351,386	27,309,288
Technical provisions – non-life (excluding health)	R0520	20,423,854	24,867,424
TP calculated as a whole	R0530		
Best Estimate	R0540	19,730,583	
Risk margin	R0550	693,271	
Technical provisions - health (similar to non-life)	R0560	1,927,533	2,441,865
TP calculated as a whole	R0570		
Best Estimate	R0580	1,861,863	
Risk margin	R0590	65,670	
Technical provisions - life (excluding index-linked and unit-linked)	R0600	8,724,180	14,813,025
Technical provisions - health (similar to life)	R0610	2,662,298	2,942,934
TP calculated as a whole	R0620		
Best Estimate	R0630	2,461,417	
Risk margin	R0640	200,881	
Technical provisions – life (excluding health and index-linked and unit-linked)	R0650	6,061,881	11,870,091
TP calculated as a whole	R0660		
Best Estimate	R0670	4,137,305	
Risk margin	R0680	1,924,576	
Technical provisions – index-linked and unit-linked	R0690	–56,524	
TP calculated as a whole	R0700		
Best Estimate	R0710	–68,761	
Risk margin	R0720	12,236	
Contingent liabilities	R0740		
Provisions other than technical provisions	R0750	199,626	199,626
Pension benefit obligations	R0760	180,680	180,680
Deposits from reinsurers	R0770	520,234	5,532,416
Deferred tax liabilities	R0780	3,096,152	1,842,973
Derivatives	R0790	17,820	193,237
Debts owed to credit institutions	R0800	317,774	314,595
Financial liabilities other than debts owed to credit institutions	R0810	47,411	47,411
Insurance & intermediaries payables	R0820	866,036	1,218,782
Reinsurance payables	R0830	416,923	–2,746
Payables (trade, not insurance)	R0840	487,069	487,061
Subordinated liabilities	R0850	1,656,116	1,490,840
Subordinated liabilities not in BOF	R0860		
Subordinated liabilities in BOF	R0870	1,656,116	1,490,840
Any other liabilities, not elsewhere shown	R0880	160,865	160,865
Total liabilities	R0900	38,985,748	53,788,055
Excess of assets over liabilities	R1000	12,451,831	9,740,547

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).

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

A temporary deduction according to Article 308d of the directives 2009/138/EC is not applied.

The concept of calculating the TP “as a whole” is currently not applied to any business written.

For Solvency II purposes, all contracts have to be evaluated over the whole lifetime (ultimate view). In general, a contract boundary is set on that future date where at least one of the following criteria is met:

- The future date where the (re)insurance undertaking has a unilateral right to terminate the contract.
- The future date where the (re)insurance undertaking has a unilateral right to reject premiums payable under the contract.
- The future date where the (re)insurance undertaking has a 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 contract boundaries exist, the projection is based on a look-through approach, i. e. 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 like 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 there are not any material financial options and guarantees (FOGs). For the Life & Health business, there is an immaterial amount of FOGs for US business only. It 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 Article 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 partial internal model (operational risk according to standard formula). The allocation of the SCR to the lines of business reflects the contribution to the SCR (Art. 37). The distributed capital is run off in future years 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 but no diversification is applied between Property & Casualty and Life & Health.

D.2.1 Technical Provisions Property & Casualty

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	3,160,771	93,997	3,254,768	3,413,739	-158,971
Workers' compensation insurance	150,536	4,607	155,143	221,577	-66,435
Income protection insurance	342,964	15,863	358,827	347,327	11,501
Fire and other damage to property insurance	2,361,518	66,432	2,427,950	2,548,082	-120,132
Motor vehicle liability insurance	1,109,418	47,311	1,156,729	1,463,864	-307,135
Credit and suretyship insurance	934,037	29,574	963,611	1,249,479	-285,868
Marine, aviation, transport	1,120,699	26,943	1,147,642	1,457,596	-309,954
Other motor insurance	265,987	8,097	274,084	271,319	2,765
Other insurance	142,417	4,315	146,732	151,250	-4,518
Non-proportional health reinsurance	1,367,806	45,181	1,412,988	2,060,095	-647,107
Non-proportional property reinsurance	2,544,953	120,130	2,665,083	3,321,095	-656,011
Non-proportional marine, aviation and transport	1,377,745	48,943	1,426,688	1,939,233	-512,545
Non-proportional casualty reinsurance	6,713,593	247,548	6,961,141	8,864,633	-1,903,492
Total Non-Life Obligation	21,592,445	758,941	22,351,386	27,309,288	-4,957,902

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 BEL is based on gross data. Therefore, 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 segments which are used for IFRS reserving. The pattern and the ultimates are determined on run-off triangles using state-of-the-art actuarial methods. The triangles are generated using up-to-date and trustworthy data.

With respect to currencies the cash flows are calculated on a minimum granularity level according to the internal model. The cash flows are discounted using the risk-free interest rates provided by EIOPA and converted to the reporting currency 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 default per counterparty – whether it be through insolvency or legal dispute – as well as the resulting average loss per default.

D.2.1.3 Comparison with other provisions

This section outlines the reconciliation of the technical provisions before reinsurance recoverables from IFRS to the Solvency II opening balance sheet as at 31 December 2016.

Material revaluation effects in TEUR

Description	2016
Technical provisions property and casualty reinsurance under IFRS	27,309,288
Discounting of cash flows	-1,270,511
Risk margin	758,941
Other revaluation effects	-4,446,332
Total revaluation effect from IFRS to Solvency II	-4,957,902
Technical provisions property and casualty reinsurance under Solvency II	22,351,386

Solvency II technical provisions are present values of future cash flows discounted at the risk free interest rate, whereas under IFRS generally only annuity reserves are discounted.

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 conservative best-estimate.

In addition, Solvency II takes an homogenous ultimate view while IFRS distinguishes earned and unearned loss and premium reserves. Solvency II also allows for additional netting of deposits under certain circumstances (see section D.2).

D.2.2 Technical Provisions Life & Health

D.2.2.1 Quantitative Information on Technical Provisions Life & Health

In this 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.

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	4,068,544	1,936,813	6,005,357	11,870,091	-5,864,734
Health	2,461,417	200,881	2,662,298	2,942,934	-280,636
Total	6,529,962	2,137,694	8,667,655	14,813,025	-6,145,370

The IFRS liability reflects the reserve under IFRS, only. A comparison with the Solvency II TP is not possible without taking into account further IFRS balance sheet positions. 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 strongly reduces the Solvency II 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.

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 as well 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.

Reinsurance Recoverables

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

In total the reinsurance recoverables under Solvency II are positive (TEUR 792,444), 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 1,454,847. 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.

D.2.2.3 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.

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.

For the mortality business - similarly to longevity business - small changes in the mortality rates can have significant effects on the claim 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.

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.2.2.4 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 this table. 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	13,358,179
(1)	Deferred Acquisition Costs (DAC) and Contract Deposit (CD)	-2,691,701
(2)=(0)+(1)	Technical IFRS liability net of reinsurance	16,049,879
(3)	Deposits are partially netted under Solvency II	-6,763,079
(4)	Risk margin	2,137,694
(5)	Further differences in methods/ assumptions	-3,549,283
(6)= (2)+...+(5)	Solvency II TP net of reinsurance	7,875,211

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

(3) Hereunder IFRS deposits are shown 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 (1) 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

Please note: Rounding differences of +/- one unit can occur in the following tables.

E.1 Own Funds

E.1.1 Management of own funds

Capital management processes contain a classification of all own funds components with regard to the Solvency II tiering specifications, whether they are basic own funds or ancillary own funds and how effectively available they are. This includes a transferability assessment. The results of these processes are taken into consideration for the ORSA process, in particular for the medium term capital plan.

In general, it is our objective that our hybrid capital instruments 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 planning process normally begins a year before the regular call date.

The 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 the Hannover Re-Group as of 31 December 2016.

Basic own funds

in TEUR	Total	Tier 1 unrestricted	Tier 1 restricted	Tier 2
Ordinary Share capital	120,597	120,597	-	-
Share premium account related to ordinary share capital	880,608	880,608	-	-
Reconciliation reserve	10,803,629	10,803,629	-	-
Subordinated liabilities	1,656,116	-	543,095	1,113,021
Non available minority interests at Group level	-625,668	-625,668		
Total	12,835,283	11,179,167	543,095	1,113,021

The individual quality classes are subject to the legal limitations in their capability of absorbing losses. The available basic own funds are not available completely to cover the Hannover Re-Group's overall risk position. The non-available minority interests at Group level relate primarily to the minority interests in E+S Rück. The proportion of basic own funds that can be called upon to cover the overall risk position pursuant to the SCR and MCE will be designated as the eligible own funds in the following section.

Comparison of available and eligible own funds

in TEUR	2016
Total available own funds	12,835,283
Total eligible own funds to meet SCR	12,835,283
Total eligible own funds to meet MCR	12,509,120

As a result of the regulations for the minimum capital requirements (MCR) with regard to the quality requirements on the loss-bearing own funds, own funds of the tier 2 level are allocated proportionately to the corresponding own funds items.

The Hannover Re-Group's basic own funds can be derived from the IFRS shareholders' equity. The IFRS shareholders' equity is corrected for differences in values and valuations and supplemented by deferred tax effects between the two balance sheet accounting regulations. Deduction of the foreseeable dividends and non-available minority interests and the adding of the hybrid capital gives the total amount of basic own funds after deductions.

Reconciliation of IFRS shareholders' equity to Solvency II own funds

in TEUR	2016
Shareholders' equity IFRS incl. minority interests	9.740.547
Adjustments Solvency II to IFRS	
Adjustments of self-managed investments	513.429
Adjustments of technical items (incl. risk margin)	3.846.524
Adjustments of other balance sheet items (without deferred taxes)	-261.284
Deferred tax	-1.387.387
Economic shareholders' equity	12.451.831
Foreseeable dividends	-646.996
Subordinated liabilities	1.656.116
Available economic shareholders' equity	13.460.950
Non available minority interests at Group level	-625.668
Total amount of basic own funds after deductions	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 the 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 10,803,629.

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

The Hannover Re-Group held 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	2016
Subordinated debts (Tier 1 – restricted)	543.095
Subordinated debts (Tier 2)	1.113.021
Total	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 the 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

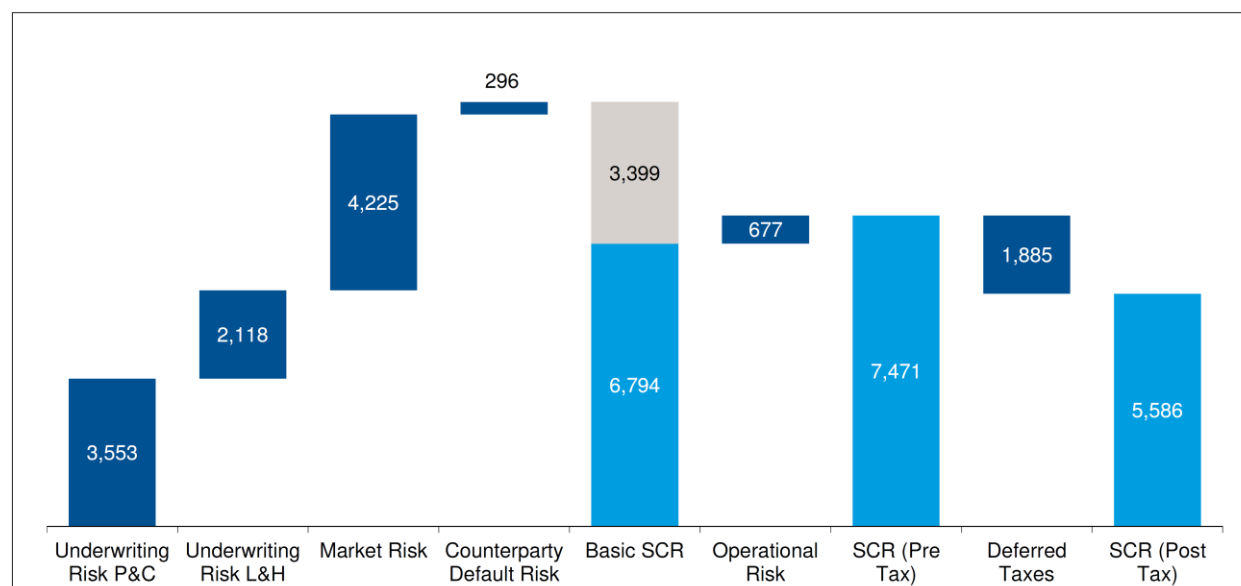
E.2.1.1 Solvency Capital Requirement (SCR) contingent on risk category

This chapter deals with the Solvency Capital Requirement and its sources. The risk categories of the partial 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

Values in TEUR



Solvency Capital Requirement (SCR)

in TEUR

Solvency Capital Requirement	2016
Underwriting risk - Property & Casualty	3,552,928
Underwriting risk - Life & Health	2,117,854
Market risk	4,225,423
Counterparty default risk	296,495
Diversification	3,398,633
Basic SCR	6,794,066
Operational risk	677,088
Total risk (pre-tax)	7,471,154
Deferred tax	1,885,270
Total risk (post-tax)	5,585,884

The required capital has been calculated based on the approved partial internal model. The model is subject to close internal quality control and extensive validation. Furthermore, up to now the

regular supervisory process with respect to the internal model did not show any material findings in the calculation of the solvency capital requirements. In particular, there are no capital add-ons.

E.2.2 Minimum Capital Requirement (MCR)

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

Ratio of eligible own funds to Minimum / Solvency Capital Requirement

Values in TEUR	SCR	MCR
Eligible own funds	12,835,283	12,509,119
SCR/MCR	5,585,884	3,934,658
Ratio of eligible own funds to SCR/MCR	230%	318%

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.

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

E.4.1 The internal model

Hannover Re uses a Partial Internal Model (PIM) for the calculation of its Solvency Capital Requirement (SCR). 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.

This section provides further detailed 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-compatible 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 with an influence on investments, 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, for example, 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 historical and publicly accessible data, as well as on industry specific and internal (re-)insurance data of Hannover Re. This procedure is also supplemented by the expertise of internal and external experts. The suitability of probability distributions is subject to regular review by our specialist departments and - more importantly - in conjunction with the regular, company-wide application of the capital model, when risks are evaluated and capital costs are applied. Hannover Re calculates the required risk capital using the Value at Risk (VaR) approach regarding changes in economic value over a period of one year with a confidence level of 99.97%. This reflects the objective with regard to the one year ruin probability of not surpassing a level of 0.03%. The internal target capitalisation of the Hannover Re Group is therefore significantly higher 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. For natural catastrophe risks external models are used. These external models are adjusted in the course of detailed internal reviews in order to better reflect our risk profile. 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., by the reason of market shocks, which affect several market segments at the same time, such as the financial crisis. 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 change in net asset value in relation to the expected change.

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-Risiko (VaR) and the Expected Shortfall (ES).

Ongoing business operations: We operate on the premise of an ongoing trading organisation and the continuing business operations of Hannover Re, in order to calculate the company's sufficient capitalisation until the period end.

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. Therefore, an assumption on the capital fungibility between the business units is required in the event of negative scenarios. For such an assumption we work on the premise of full capital fungibility based on our assessment of 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 is not applied.

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

E.4.1.3 Main applications

Hannover Re considers its Economic Capital Model (ECM) 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

This section provides an overview of the risks, which are currently captured in the capital model of Hannover Re. This covers, among other things, the following risk dimensions:

- the sources of risk, i. e. the risk landscape of Hannover Re and
- the individual (legally independent) entities, which have taken over the risks.

The complete risk landscape of Hannover Re consists of the main categories of underwriting risks (Property & Casualty, Life & Health), market risks, counterparty default risks, operational risks and other risks.

The risk categories addressed by the ECM of Hannover Re using a quantitative model are the categories underwriting risk life, underwriting risk non-life, market risk, counterparty default risk and operational risk. These risks and their interactions are accounted for in the presentation of target variables through the application of stochastic simulation models. It has to be considered that 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

The Solvency Capital Requirements (SCR) for operational risk is calculated according to the standard formula of Solvency II. It is integrated into the results of the partial internal model pursuant to the standard methods described in Article 239 of the delegated regulation. In particular, the application of this method signals the fulfilment of the requirements of A (2) included in the ANNEX XVIII of the delegated regulation. The adjustment of the loss-absorbing capacity of deferred taxes is within the scope of the partial 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 from a typical European primary insurer, in particular, its access to global diversification across regions, markets, cedents 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 recognize 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 recognize 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

ECM: Economic Capital Model

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 Hannover 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

Talanx: Talanx AG, Hannover

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.

Rounding differences of +/- one unit can occur in the following tables.

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.

S.02.01.02

Balance sheet

Assets

Intangible assets
Deferred tax assets
Pension benefit surplus
Property, plant & equipment held for own use
Investments (other than assets held for index-linked and unit-linked contracts)
Property (other than for own use)
Holdings in related undertakings, including participations
Equities
Equities - listed
Equities - unlisted
Bonds
Government Bonds
Corporate Bonds
Structured notes
Collateralised securities
Collective Investments Undertakings
Derivatives
Deposits other than cash equivalents
Other investments
Assets held for index-linked and unit-linked contracts
Loans and mortgages
Loans on policies
Loans and mortgages to individuals
Other loans and mortgages
Reinsurance recoverables from:
Non-life and health similar to non-life
Non-life excluding health
Health similar to non-life
Life and health similar to life, excluding health and index-linked and unit-linked
Health similar to life
Life excluding health and index-linked and unit-linked
Life index-linked and unit-linked
Deposits to cedants
Insurance and intermediaries receivables
Reinsurance receivables
Receivables (trade, not insurance)
Own shares (held directly)
Amounts due in respect of own fund items or initial fund called up but not yet paid in
Cash and cash equivalents
Any other assets, not elsewhere shown
Total assets

Solvency II	
C0010	
R0030	1,439
R0040	274,085
R0050	
R0060	113,143
R0070	41,445,439
R0080	1,559,614
R0090	213,069
R0100	649,443
R0110	649,443
R0120	
R0130	35,655,572
R0140	18,990,276
R0150	15,482,904
R0160	284,506
R0170	897,887
R0180	2,418,373
R0190	29,759
R0200	728,731
R0210	190,877
R0220	
R0230	
R0240	
R0250	
R0260	
R0270	1,502,708
R0280	710,264
R0290	700,735
R0300	9,529
R0310	792,444
R0320	505,285
R0330	290,823
R0340	-3,664
R0350	3,526,247
R0360	3,409,379
R0370	58,238
R0380	143,720
R0390	
R0400	
R0410	848,667
R0420	114,515
R0500	51,437,578

	Solvency II	
	C0010	
Liabilities	R0510	22,351,386
Technical provisions – non-life	R0520	20,423,854
Technical provisions – non-life (excluding health)	R0530	
TP calculated as a whole	R0540	19,730,583
Best Estimate	R0550	693,271
Risk margin	R0560	1,927,533
Technical provisions - health (similar to non-life)	R0570	
TP calculated as a whole	R0580	1,861,863
Best Estimate	R0590	65,670
Risk margin	R0600	8,724,180
Technical provisions - life (excluding index-linked and unit-linked)	R0610	2,662,298
Technical provisions - health (similar to life)	R0620	
TP calculated as a whole	R0630	2,461,417
Best Estimate	R0640	200,881
Risk margin	R0650	6,061,881
Technical provisions – life (excluding health and index-linked and unit-linked)	R0660	
TP calculated as a whole	R0670	4,137,305
Best Estimate	R0680	1,924,576
Risk margin	R0690	-56,524
Technical provisions – index-linked and unit-linked	R0700	
TP calculated as a whole	R0710	-68,761
Best Estimate	R0720	12,236
Risk margin	R0740	
Contingent liabilities	R0750	199,626
Provisions other than technical provisions	R0760	180,680
Pension benefit obligations	R0770	520,234
Deposits from reinsurers	R0780	3,096,152
Deferred tax liabilities	R0790	17,820
Derivatives	R0800	317,774
Debts owed to credit institutions	R0810	47,411
Financial liabilities other than debts owed to credit institutions	R0820	866,036
Insurance & intermediaries payables	R0830	416,923
Reinsurance payables	R0840	487,069
Payables (trade, not insurance)	R0850	1,656,116
Subordinated liabilities	R0860	
Subordinated liabilities not in BOF	R0870	1,656,116
Subordinated liabilities in BOF	R0880	160,865
Any other liabilities, not elsewhere shown	R0900	38,985,748
Total liabilities	R1000	12,451,831
Excess of assets over liabilities		

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								4,068,544	4,068,544
Total Recoverables from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default	R0080								287,159	287,159

Technical provisions calculated as a whole

Total Recoverables from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default associated to TP as a whole

Technical provisions calculated as a sum of BE and RM

Best Estimate

Gross Best Estimate

Total Recoverables from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default

Best estimate minus recoverables from reinsurance/SPV and Finite Re - total

Risk Margin

Amount of the transitional on Technical Provisions

Technical Provisions calculated as a whole

Best Estimate

Risk Margin

Technical provisions - total

	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)
	C0160	C0170	C0180			
R0010						
R0020						
R0030					2,461,417	2,461,417
R0080					505,285	505,285
R0090					1,956,132	1,956,132
R0100					200,881	200,881
R0110						
R0120						
R0130						
R0200					2,662,298	2,662,298

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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	-11	21,819	27,945	116,408	46,648	46,172	281,088	217,031	58,373
Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default	R0140		-3	-114	-978	-303	346	18,735	-9,686	-470
Net Best Estimate of Premium Provisions	R0150	-11	21,823	28,059	117,387	46,952	45,826	262,353	226,717	58,843
Claims provisions										
Gross	R0160	567	321,145	122,591	993,010	219,338	1,074,527	2,080,430	2,943,740	875,664
Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default	R0240	-107	2,195	12,823	46,575	-15,751	120,457	58,386	98,694	3,405
Net Best Estimate of Claims Provisions	R0250	675	318,949	109,768	946,435	235,090	954,070	2,022,044	2,845,046	872,259
Total Best estimate - gross	R0260	556	342,964	150,536	1,109,418	265,987	1,120,699	2,361,518	3,160,771	934,037
Total Best estimate - net	R0270	664	340,772	137,827	1,063,822	282,042	999,896	2,284,397	3,071,763	931,102
Risk margin	R0280	18	15,863	4,607	47,311	8,097	26,943	66,432	93,997	29,574

Technical provisions calculated as a whole

Total Recoverables from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default associated to TP as a whole

Technical provisions calculated as a sum of BE and Best estimate

Premium provisions

Gross

Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default

Net Best Estimate of Premium Provisions

Claims provisions

Gross

Total recoverable from reinsurance/SPV and Finite Re after the adjustment for expected losses due to counterparty default

Net Best Estimate of Claims Provisions

Total Best Estimate - gross

Total Best Estimate - net

Risk margin

	Direct business and accepted proportional reinsurance			Accepted non-proportional reinsurance			Total Non-Life obligation	
	Legal expenses insurance	Assistance	Miscellaneous 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
R0010								
R0050								
R0060	-42	167	12,461	20,414	210,144	28,611	226,146	1,313,376
R0140	0	0	3	-987	-638	-575	1,487	6,816
R0150	-42	167	12,458	21,401	210,782	29,186	224,659	1,306,560
R0160	5,924	513	122,838	1,347,392	6,503,449	1,349,134	2,318,808	20,279,069
R0240	-34	-19	-214	-4,278	25,788	-4,158	359,686	703,448
R0250	5,958	531	123,052	1,351,670	6,477,661	1,353,292	1,959,122	19,575,621
R0260	5,882	680	135,299	1,367,806	6,713,593	1,377,745	2,544,953	21,592,445
R0270	5,916	698	135,511	1,373,071	6,688,443	1,382,477	2,183,781	20,882,181
R0280	160	21	4,116	45,181	247,548	48,943	120,130	758,941

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Own Funds

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)
 Non-available called but not paid in ordinary share capital at group level
 Share premium account related to ordinary share capital
 Initial funds, members' contributions or the equivalent basic own - fund item for mutual and mutual-type undertakings
 Subordinated mutual member accounts
 Non-available subordinated mutual member accounts at group level
 Surplus funds
 Non-available surplus funds at group level
 Preference shares
 Non-available preference shares at group level
 Share premium account related to preference shares
 Non-available share premium account related to preference shares at group level
 Reconciliation reserve
 Subordinated liabilities
 Non-available subordinated liabilities at group level
 An amount equal to the value of net deferred tax assets
 The amount equal to the value of net deferred tax assets not available at the group level
 Other own fund items approved by the supervisory authority as basic own funds not specified above
 Non available own funds related to other own funds items approved by supervisory authority
 Minority interests (if not reported as part of a specific own fund item)
 Non-available minority interests at group level

	Total	Tier 1 - unrestricted	Tier 1 - restricted	Tier 2	Tier 3
	C0010	C0020	C0030	C0040	C0050
R0010	120,597	120,597			
R0020					
R0030	880,608	880,608			
R0040					
R0050					
R0060					
R0070					
R0080					
R0090					
R0100					
R0110					
R0120					
R0130	10,803,629	10,803,629			
R0140	1,656,116		543,095	1,113,021	
R0150					
R0160					
R0170					
R0180					
R0190					
R0200					
R0210	625,668	625,668			

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 should not be represented by the reconciliation reserve and do not meet the criteria to be classified as Solvency II own funds

Deductions

Deductions for participations in financial and credit institutions whereof deducted according to art 228 of the Directive 2009/138/EC

Deductions for participations where there is non-availability of information (Article 229)

Deduction for participations included by using D&A when a combination of methods is used

Total of non-available own fund items

Total deductions

Total basic own funds after deductions

Ancillary own funds

Unpaid and uncalled ordinary share capital callable on demand

Unpaid and uncalled initial funds, members' contributions or the equivalent basic own fund item for mutual and mutual - type undertakings, callable on demand

Unpaid and uncalled preference shares callable on demand

A legally binding commitment to subscribe and pay for subordinated liabilities on demand

Letters of credit and guarantees under Article 96(2) of the Directive 2009/138/EC

Letters of credit and guarantees other than under Article 96(2) of the Directive 2009/138/EC

Supplementary members calls under first subparagraph of Article 96(3) of the Directive 2009/138/EC

Supplementary members calls - other than under first subparagraph of Article 96(3) of the Directive 2009/138/EC

Non available ancillary own funds at group level

Other ancillary own funds

Total ancillary own funds

	Total	Tier 1 - unrestricted	Tier 1 - restricted	Tier 2	Tier 3
	C0010	C0020	C0030	C0040	C0050
R0220					
R0230					
R0240					
R0250					
R0260					
R0270	625,668	625,668			
R0280	625,668	625,668			
R0290	12,835,283	11,179,167	543,095	1,113,021	
R0300					
R0310					
R0320					
R0330					
R0340					
R0350					
R0360					
R0370					
R0380					
R0390					
R0400					

	Total	Tier 1 - unrestricted	Tier 1 - restricted	Tier 2	Tier 3
	C0010	C0020	C0030	C0040	C0050
Own funds of other financial sectors					
Reconciliation reserve					
Institutions for occupational retirement provision					
Non regulated entities carrying out financial activities					
Total own funds of other financial sectors					
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					
Own funds aggregated when using the D&A and combination of method net of IGT					
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	12,835,283	11,179,167	543,095	1,113,021
Total available own funds to meet the minimum consolidated group SCR	R0530	12,835,283	11,179,167	543,095	1,113,021
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	12,835,283	11,179,167	543,095	1,113,021
Total eligible own funds to meet the minimum consolidated group SCR	R0570	12,509,120	11,179,167	543,095	786,858
Minimum consolidated Group SCR	R0610	3,934,289			
Ratio of Eligible own funds to Minimum Consolidated Group SCR	R0650	3.18			
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				
Group SCR	R0680	5,585,884			
Ratio of Eligible own funds to group SCR including other financial sectors and the undertakings included via D&A	R0690	2.30			

Total	Tier 1 - unrestricted	Tier 1 - restricted	Tier 2	Tier 3
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C0060

Reconciliation reserve

Excess of assets over liabilities

Own shares (held directly and indirectly)

Foreseeable dividends, distributions and charges

Other basic own fund items

Adjustment for restricted own fund items in respect of matching adjustment portfolios and ring fenced funds

Other non available own funds

Reconciliation reserve

Expected profits

Expected profits included in future premiums (EPIFP) - Life business

Expected profits included in future premiums (EPIFP) - Non- life business

Total Expected profits included in future premiums (EPIFP)

R0700	12,451,831								
R0710									
R0720	646,996								
R0730	1,001,205								
R0740									
R0750									
R0760	10,803,629								
R0770	3,575,640								
R0780	3,498								
R0790	3,579,138								

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Solvency Capital Requirement - for undertakings using the standard formula and partial internal model

Unique number of component	Components description	Calculation of the Solvency Capital Requirement	Amount modelled	USP	Simplifications
C0010	C0020	C0030	C0070	C008	C0090
101	Market Risk according to PIM	4,225,423	4,225,423		
102	Counterparty default risk according to PIM	296,495	296,495		
103	Life underwriting risk according to PIM	2,117,854	2,117,854		
104	Non-life underwriting risk according to PIM	3,552,928	3,552,928		
7	Operational risk according to SF	677,088			
107	LAC TP according to PIM				
108	LAC DT according to PIM	-1,885,270	-1,885,270		

Calculation of Solvency Capital Requirement

Total undiversified components	R0110
Diversification	R0060
Capital requirement for business operated in accordance with Art. 4 of Directive	R0160
Solvency capital requirement excluding capital add-on	R0200
Capital add-ons already set	R0210
Solvency capital requirement	R0220
Other information on SCR	
Amount/estimate of the overall loss-absorbing capacity of technical provisions	R0300
Amount/estimate of the overall loss-absorbing capacity of deferred taxes	R0310
Capital requirement for duration-based equity risk sub-module	R0400
Total amount of Notional Solvency Capital Requirements for remaining part	R0410
Total amount of Notional Solvency Capital Requirements for ring fenced funds (other than those related to business operated in accordance with Art. 4 of Directive 2003/41/EC (transitional))	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

C0100

8,984,517
-3,398,633
5,585,884
5,585,884
-1,885,270
3,934,289

Information on other entities

Capital requirement for other financial sectors (Non-insurance capital requirements)

Capital requirement for other financial sectors (Non-insurance capital requirements) — Credit institutions, investment firms and financial institutions, alternative investment funds managers, UCITS management companies

Capital requirement for other financial sectors (Non-insurance capital requirements) — Institutions for occupational retirement provisions

Capital requirement for other financial sectors (Non-insurance capital requirements) — Capital requirement for non-regulated entities carrying out financial activities

Capital requirement for non-controlled participation requirements

Capital requirement for residual undertakings

Overall SCR

SCR for undertakings included via D and A

Solvency capital requirement

	C0100
R0500	
R0510	
R0520	
R0530	
R0540	
R0550	

	C0100
R0560	
R0570	5,585,884