3.1. INTRODUCTION

The information included in this section referring to the nature and extent of risks arising from financial instruments and insurance and reinsurance contracts as required by IFRS 7 – Financial Instruments: Disclosures and IFRS 4 – Insurance Contracts, is an integral part of the consolidated financial statements as at December 31, 2016. As such, the corresponding information is audited.

The Group regularly conducts reviews of the risks that could have a material adverse effect on its activity, its financial situation or its results (or capacity to reach objectives), and considers that no other significant risk than those disclosed in the section below exists. This section outlines the management's current view of SCOR's main risks and main risk management mechanisms currently in place.

The Group has identified the following risk categories:

- strategic risks;
- underwriting risks related to the P&C and Life reinsurance businesses;
- market risks;
- credit risks;
- liquidity risks;
- operational risks.

If the risks disclosed in this section were to occur, they could potentially have a significant impact on SCOR's business, present and future revenues, net income, cash flows, financial position, and potentially, on its share price.

All risks described in Section 3 are managed through a variety of mechanisms in SCOR's ERM (Enterprise Risk Management) Framework, whose main ones are also described below.

SCOR's ERM framework is further described in Appendix A – Report of the Chairman on the internal control which contains a description of the Group risk management procedures as well as the role and function of each administrative and management body and team involved in risk management and related control functions.

Although risk management mechanisms have been designed and rolled out across the Group in order to prevent all risks from having a significant impact, there is no guarantee that these mechanisms achieve their intended objective. Many of SCOR's methods for managing risks and exposures are based on observed historical market behavior, statistics based on historical models, or expert judgment. As a result, these methods may not fully predict future exposures, which may be significantly greater than estimated, particularly in unstable or volatile markets and environments. Other risk management methods depend upon the evaluation of information regarding markets, clients, natural catastrophes or other matters that is publicly available or otherwise accessible to SCOR. This information may not always be accurate, complete, up-to-date or properly evaluated.

SCOR may also be exposed to emerging risks, which include new threats or constantly changing current risks with a high degree of uncertainty. They may arise from the numerous changes to the environment in which the Group operates, such as changes in professional practices, or in legal, jurisdictional, regulatory, social, political, economic, financial and/or environmental conditions.

Emerging risks may adversely affect SCOR's reinsurance business due to either a change in interpretation of the contracts leading to extensions of covers beyond what policyholders had expected (e.g. due to the inapplicability or interpretation of certain clauses) or by increasing the frequency and/or severity of claims. Such risks may also lead to higher fluctuations than expected in macroeconomic indicators such as interest rates and price level, or disruptions in financial markets, further impacting SCOR's business. In addition, emerging risks may also have a direct impact on SCOR's operations, for instance by generating unexpected additional expenses. Examples of emerging risks include: cyber-attacks, antimicrobial resistance, non-controlled bio-experiments, climate change, electromagnetic fields, extreme social unrest and Eurozone break-up.

Therefore, the Group cannot exclude the possibility of exceeding SCOR's risk tolerance limits due to an incorrect estimation of its risks and exposures. This may have an adverse impact on SCOR's business, present and future revenues, net income, cash flows, financial position, and potentially, on SCOR's share price.

3.2. STRATEGIC RISK

Strategic risk can arise either from the strategy itself (such as the accumulation of risks or development in lines of business or less known markets), from external risks (such as an adverse economic environment), or from internal risks (such as certain causes of operational risk). Therefore, many of the risks discussed throughout Section 3, including emerging risks, could also impact the success of the strategy.

The main strategic risks to which SCOR is exposed are described below.

3.2.1. RISKS RELATED TO THE MACROECONOMIC ENVIRONMENT AFFECTING SCOR'S STRATEGY

The main risks are the uncertain economic recovery that may affect SCOR's growth, in both emerging and advanced economies, and the poor returns on financial markets exacerbating the adverse competitive environment.

3.2.1.1. DIFFICULT CONDITIONS IN THE GLOBAL CAPITAL MARKETS AND DIFFICULT ECONOMIC CONDITIONS MAY MATERIALLY ADVERSELY AFFECT SCOR'S BUSINESS AND OPERATING RESULT

The Group's operating result could be materially affected by the economic and financial situations in France and other countries in continental Europe, the United Kingdom, the United States of America and elsewhere around the world, particularly in Latin America and Asia Pacific. Any continued deterioration in macroeconomic trends could have an adverse effect on SCOR's business and operating result, even more so as the global economy is still in convalescence since the 2008 financial crisis and remains vulnerable to negative economic, financial and geo-political shocks fueled by ongoing tensions or open conflicts in several global regions. In particular, the growing debt of governments in advanced economies and of private companies in emerging countries could generate significant adjustments if the main central banks were to raise interest rates. As a result, financial markets could enter a period of high volatility, which could lead to adverse consequences such as waves of company defaults, or a major liquidity crisis. The financial situation in many Eurozone countries remains unstable and downgrades of some states' financial ratings have occurred. SCOR cannot predict whether any of the other government securities that it holds in its investment portfolio will be adversely affected in the future by ratings downgrades, the continuing debt crisis or other developments. For further information on investments, see Section 1.3.5.4 – Net investment income and investment income on invested assets and Section 4.6 – Notes to the consolidated financial statements, Note 7 – Insurance business investments.

The global economy may suffer from a sharp shift in US monetary policy, which could spur a rise in interest rates along the entire yield curve. Financing conditions could thus deteriorate across sectors and economies. In particular, emerging and developing economies may suffer from capital outflows in the wake of any US monetary normalization.

This difficult environment and the continuing market upheavals may have an adverse effect on SCOR, from both an investment and reinsurance business viewpoint. Furthermore, the economic uncertainty might be compounded by recent political changes such as the results of the Brexit referendum, the outcome of the elections in the USA, Germany and France.

Impact on SCOR's investment activities

SCOR has a large investment portfolio. In the event of extreme prolonged market events, such as global credit crises, SCOR could incur significant losses in its investment portfolio.

See Section 4.6 – Notes to the consolidated financial statements, Note 7 – Insurance business investments, which includes analyses of unrealized and realized investment losses.

Even in the absence of a market downturn, SCOR remains exposed to a substantial risk of losses due to market volatility. See Section 3.4 – Market risk.

Impact on SCOR's reinsurance business

SCOR is also dependent upon customer behavior and premium growth. The Group's premiums are likely to decline in such circumstances and its profit margins could erode. In an economic downturn characterized by higher unemployment, lower household income, lower corporate earnings, lower business investment and lower consumer spending, the demand for SCOR's and its clients' products could be adversely affected. Factors such as government and consumer spending, corporate investment, the volatility and strength of both debt and equity markets, and inflation, all affect the business and economic environment and ultimately, the size and profitability of SCOR's business.

In addition, the Group may experience an elevated incidence of claims or be impacted by a decrease in demand for reinsurance and increased surrenders of policies from the cedents (see paragraph on lapse risk in Section 3.3.2 – Life reinsurance) that could affect the current and future profitability of its business. Although written premiums have seen steady growth in prior years, a prolonged economic crisis could result in lower written premiums in the future.

3.2.1.2. SCOR IS EXPOSED TO SIGNIFICANT AND PROTRACTED DEVIATIONS OF THE GENERAL PRICE LEVEL FROM ITS TREND

The Group's liabilities are exposed to a significant increase in the rate of inflation (prices and salaries) which would require an increase in the value of reserves, in particular in respect of P&C long-tail business, e.g. general liability (medical among others) and motor bodily injury claims. In addition, SCOR is exposed to claims inflation over and above general inflation and in particular to the inflation of court awards in respect of general liability and bodily injury claims.

For further information on P&C long-tail reserve deterioration, refer to Section 3.3.1 – P&C reinsurance.

SCOR's assets are also exposed to increased inflation or inflationary expectations, accompanied by a rise in the yield curve with a subsequent reduction in the market value of its fixed income portfolios. Increased inflation could also have a negative impact on the solvency of bond issuers; a widening of credit spreads would lead to a loss of value for the issuers' bonds. Finally, depending on the macroeconomic environment, an increase in inflation could also reduce the value of SCOR's equity portfolio. Any negative fluctuations in equity values would lead to a similar decrease in shareholders' equity.

Conversely, the Group's liabilities could be exposed to a protracted period of deflation which could exert a negative pressure on reinsurance prices and decrease the value of new premiums.

A protracted period of deflation would also induce a decrease in interest rates all along the yield curve and may therefore negatively impact the returns on SCOR's fixed income assets. In addition, the value of SCOR's equity portfolio might be reduced as deflation could reduce the future cash flows of the companies whose stocks are part of the Group's portfolio.

In conclusion, both high inflation and a protracted episode of deflation could have a material adverse effect on SCOR.

3.2.1.3. MANAGEMENT OF RISKS RELATED TO THE MACROECONOMIC ENVIRONMENT

These risks are monitored via a robust strategic planning approach and regular risk reporting mechanisms throughout the Group, including complementary risk analyses on ad-hoc topics, where deemed necessary. Potential impacts on SCOR's risk profile are managed through a variety of dedicated and transversal risk management mechanisms. For more details on risk reporting mechanisms and roles and responsibilities of SCOR's main governance bodies, see Appendix A – Report of the Chairman of the Board of Directors.

3.2.2. RISKS RELATED TO THE COMPETITIVE ENVIRONMENT

3.2.2.1. SCOR OPERATES IN A HIGHLY COMPETITIVE SECTOR AND WOULD BE ADVERSELY AFFECTED BY LOSING COMPETITIVE ADVANTAGE OR IF ADVERSE EVENTS HAD AN IMPACT ON THE REINSURANCE INDUSTRY

Reinsurance is a highly competitive sector. As is the case for all other reinsurers, SCOR's position in the reinsurance market is based on several factors, such as its financial strength as assessed by the rating agencies, its underwriting expertise, reputation and experience in the lines written, the countries in which it operates, the premiums charged, as well as the quality of the proposed reinsurance products and services offered, particularly in terms of claims payment. The Group competes for business in the European, American, Asian and other international markets with numerous international and domestic reinsurance companies, some of which have a larger market share than SCOR, greater financial resources, state backing, and, in certain cases, higher ratings from the rating agencies.

Therefore, SCOR remains exposed to the risk of losing its competitive advantage. In particular, when available reinsurance capacity via traditional reinsurers or capital markets is greater than the demand from ceding companies. Its competitors, in particular (re)insurers benefiting from higher ratings than SCOR's or other competitors in alternative capital markets, may be better positioned to enter new contracts and gain market shares at SCOR's expense.

Furthermore, the Group's reputation is sensitive to reinsurance sector information. It can be affected by adverse events concerning competitors but also by its own business activity, such as financial difficulties following a major market event. Loss of reputation due to internal risks would also weaken SCOR's competitive position.

3.2.2.2. CONSOLIDATION IN THE INSURANCE AND REINSURANCE INDUSTRIES COULD ADVERSELY IMPACT SCOR

After a very active 2015 in terms of M&A, the first half of 2016 was very calm, however, in September 2016 M&A activity in the insurance and reinsurance sector picked up again.

Within the insurance industry, these consolidated entities may use their enhanced market power and broader capital base to negotiate price reductions for SCOR's products and services, and reduce their use of reinsurance, and as such, the Group may experience price declines and possibly write less business.

Within the reinsurance industry, such external growth activity could potentially enhance these players' competitive position, e.g. in terms of being able to offer greater capacity or broader product offerings, which could permit them to gain market shares at SCOR's expense.

3.2.2.3. MANAGEMENT OF RISKS RELATED TO THE COMPETITIVE ENVIRONMENT

As for risks related to the macro-economic environment, risks related to the competitive environment are monitored via a robust strategic planning approach and regular risk reporting mechanisms throughout the Group, including complementary risk analyses on ad-hoc topics, where deemed necessary. For more details on risk reporting mechanisms and roles and responsibilities of SCOR's main governance bodies, see Appendix A – Report of the Chairman of the Board of Directors.

3.2.3. RISKS RELATED TO LEGAL AND REGULATORY DEVELOPMENTS

3.2.3.1. MAIN RISKS RELATED TO LEGISLATIVE AND REGULATORY DEVELOPMENTS

SCOR is subject to comprehensive and detailed regulations and to the supervision of the insurance and reinsurance regulatory authorities in all countries in which it operates. Some of these authorities, especially in non-European countries, are considering or may in the future consider enhanced or new regulatory requirements intended to prevent future crises or otherwise assure the stability of institutions under their supervision and submit them to reinforced measures of control and higher capital requirements. These changes could affect the calculation of the local solvency ratio and have a material adverse impact on the Group. Insurance and reinsurance supervisory authorities have broad administrative power over many aspects of the reinsurance industry and SCOR cannot predict the timing or form of any future regulatory initiatives.

The Solvency II regime applies since January 1, 2016, in the European Union. It has been transposed in French law in 2015. Actual implementation by supervisory and regulatory authorities could vary between these jurisdictions, which could place SCOR at a competitive disadvantage with regard to other European financial services groups.

Furthermore, supervisory and regulatory authorities could make the protection of policyholders and financial stability prevail over shareholders or creditors of a reinsurer when designing new regulations, especially in developing countries. These new regulations may then increase solvency margin obligations, thereby restricting SCOR's underwriting capacity.

In November 2016, the Financial Stability Board (FSB) published the updated list of systemic direct insurers (G-SIIs) based on a recommendation by the International Association of Insurance Supervisors (IAIS). As the IAIS is continuing to work on its methodology for assessing systemic (re)insurers, there is a risk that SCOR will receive such a designation in subsequent updates. The impact of receiving such a designation is a risk of a higher capital requirement, a Higher Loss Absorbency (HLA), and greater regulatory burdens such as the establishment of resolution plans. On the other hand, there is a possibility that G-SIIs could benefit from a market perception of an implicit state guarantee. Were SCOR's competitors to receive such a designation and SCOR were not, there could be a risk of SCOR's market perception weakening relative to these peers.

In the meantime, the International Association of Insurance Supervisors (IAIS) has been developing a common framework for internationally active insurance groups (IAIGs), the ComFrame. The IAIS intends to develop Insurance Capital Standards (ICSs) to be applied by all IAIGs with implementation in 2020. This development could jeopardize the extent of recognition of diversification effects or the use of internal models, and could have an impact on capital management. Moreover, these standards involve risks in terms of competition on a level playing field if they are not implemented simultaneously and consistently across different jurisdictions.

Similarly, changes in tax legislation and regulations, or in their interpretation, may have a negative impact on SCOR's results, e.g. due to the inability to recognize deferred tax assets in the future.

3.2.3.2. OTHER LEGAL AND REGULATORY DEVELOPMENTS

The reinsurance sector has been exposed in the past, and may be exposed in the future, to involvement in legal proceedings, regulatory inquiries and actions by various administrative and regulatory authorities, as well as to regulation concerning certain practices used in the insurance sector.

More generally, adverse changes in laws or regulations or an adverse outcome of any legal proceeding could have an adverse impact on SCOR. For further details on SCOR's current litigations, see Section 4.6 – Notes to the consolidated financial statements, Note 25 – Litigation.

For further information on risks related to current legislation and regulations and their impact on SCOR's operations, see Section 3.7.1.4 Risks related to external events.

3.2.3.3. MANAGEMENT OF RISKS RELATED TO LEGAL AND REGULATORY DEVELOPMENTS

SCOR monitors the legal and supervisory developments which could have an impact on the Group and its entities, ensuring in particular that it takes an active position vis-à-vis the requirements to which it is exposed or could be exposed in the different jurisdictions where it operates and that it prepares in due time for their implementation.

In particular, developments in prudential regulations (such as Solvency II, ComFrame or the regulations on systemic risk) are monitored at Group level by the Prudential and Regulatory Affairs Department. Regulations relating to corporate law and business compliance are monitored by the General Secretariat and, within it, the Legal Department.

3.2.4. DOWNGRADE RISK

3.2.4.1. OVERVIEW OF DOWNGRADE RISK

Credit ratings are very important to all reinsurance companies, including SCOR, as ceding companies wish to reinsure their risks with companies that have a satisfactory financial position. For more details on the current rating of the Group, see Section 1.2.4 – Ratings information.

Impact on SCOR's reinsurance business

Some of SCOR's cedents' credit models or reinsurance guidelines face regulatory capital requirements or depend on their reinsurers' credit rating. If SCOR's rating deteriorates, cedents could be forced to increase their capital requirement in respect of their counterparty risk on SCOR. This could lead to a loss of competitive advantage for SCOR.

The Group's Life reinsurance activities and the Business Solutions (large corporate accounts underwritten essentially on a facultative basis and occasionally as direct insurance) business area in P&C reinsurance are particularly sensitive to the way its existing and prospective clients perceive its financial strength, notably through its ratings.

Many of SCOR's reinsurance treaties, notably in the US and in Asia, and also increasingly in Europe, contain clauses concerning the financial strength of the Company and/or its operating subsidiaries, and provide for the possibility of early termination for its cedents if the rating of the Company and/or its subsidiaries is downgraded. Early termination may also occur when the net financial position of the Company falls below a certain threshold, or if it carries out a reduction in share capital.

Impact on the Group's letters of credit

Many of the Group's reinsurance treaties contain a requirement to put in place letters of credit (LOC) as a general requirement or when triggered by a downgrade of SCOR or one of its subsidiaries. In certain circumstances, the cedent has the right to draw down on a LOC issued by a bank in SCOR's name.

Some LOCs issued by banks providing such facilities may be collateralized with securities. The value of the collateral can be different from the amount of the LOC. For some facilities, initial collateral requirements may be increased following a downgrade of SCOR's rating, impacting the Group's liquidity level. In the case of a LOC being drawn by a cedent, the bank has the right to request a cash payment from this collateral, up to the amount drawn by the cedent.

In the case of a large number of LOCs being drawn simultaneously, SCOR could encounter difficulties in providing the total amount of required cash or fungible assets, thus exposing the Group to a liquidity risk.

Moreover, some of SCOR's facilities contain conditions about its financial situation which, if not met, constitute a default and might result in the suspension of the use of current credit facilities and/or a prohibition on obtaining new lines of credit or result in the need to negotiate new LOC facilities under adverse conditions.

For more details about the Group's lines of credit, see Section 1.3.6 – Financial position, liquidity and capital resources. For more details on liquidity risk, see Section 3.6 – Liquidity risk.

3.2.4.2. MANAGEMENT OF DOWNGRADE RISK

SCOR's current ratings are at the highest levels within the reinsurance sector after Standard & Poor's and Fitch upgraded the Group's ratings to "AA-" from "A+" in 2015, followed by a Moody's upgrade to Aa3/Stable and an AM Best confirmation of positive outlook in September 2016. Therefore, a downgrade by one notch would not endanger its future business development, its liquidity position or its capacity to raise funds. For further information on SCOR's current rating, see Section 1.2.4 – Ratings information.

SCOR monitors its ratings assigned by the top four rating agencies via a dedicated team placed under the supervision of the Group Chief Financial Officer.

This team analyses rating agencies' methodologies, reports published on the reinsurance market, on SCOR and on its main competitors, in order to anticipate any potential rating actions. It also monitors specific qualitative and quantitative Key Performance Indicators developed by the four main rating agencies, and performs analyses of selected deterministic scenarios (for more details on 'footprint scenarios' process, see Appendix A – 2. Internal control and risk management procedures). It also monitors the capital adequacy level as measured by the capital models developed by rating agencies.

3.2.5. THE VALUATION OF SCOR'S INTANGIBLE ASSETS AND DEFERRED TAX ASSETS MAY SIGNIFICANTLY AFFECT ITS SHAREHOLDERS' EQUITY AND THE PRICE OF ITS SECURITIES

3.2.5.1. RISKS RELATED TO THE VALUATION OF SCOR'S INTANGIBLE ASSETS AND DEFERRED TAX ASSETS

A significant portion of SCOR's assets consists of intangible assets, the value of which depends on its expected future profitability and cash flows. The valuation of intangible assets is largely based on subjective and complex judgments concerning items that are uncertain by nature. If a change were to occur in the assumptions underlying the valuation of its intangible assets (including goodwill, value of business acquired and deferred acquisition costs), SCOR would have to reduce their value, in whole or in part, thereby reducing shareholders' equity and its results.

The recognition of deferred tax assets, i.e. the likelihood of recognizing sufficient profits in the future to offset losses, depends on the performance of each entity concerned as well as applicable tax laws, regulatory requirements and accounting methods. The occurrence of events, such as operational earnings lower than currently projected or losses continuing over a longer period than originally planned or changes in tax legislation, regulatory requirements, or accounting methods could lead to the derecognition of part of the deferred tax assets for accounting and/or regulatory purposes.

Details of intangible assets, related impairment testing policy and recent acquisitions are included in Section 4.6 – Notes to the consolidated financial statements, Note 1 – Accounting principles and methods, Note 3 – Acquisitions and disposals, Note 5 – Goodwill, Note 6 – Value Of Business Acquired and Note 17 – Income taxes.

3.2.5.2. MANAGEMENT OF VALUATION RISKS RELATED TO SCOR'S INTANGIBLE ASSETS AND DEFERRED TAX ASSETS

Valuation risks related to SCOR's intangible assets and deferred tax assets are managed through robust processes and controls throughout the Group.

See Section 3.7 – Management of operational risk for further details on SCOR's Internal control system approach, Appendix A – Report of the Chairman of the Board of Directors, Section 2.4.1 – Group functions for a description of some of the departments involved in the management of intangible assets and Appendix A – Report of the Chairman on the internal control, Section 2.7 – Financial reporting for further details on the production of SCOR's technical and financial results, including intangible assets.

For further details on the management of valuation risks related to goodwill and Value of Business Acquired, see Section 3.2.6.2 – Management of risks related to acquisitions.

3.2.6. OTHER STRATEGIC RISKS

SCOR may be exposed to other less significant strategic risks further described below.

3.2.6.1. RISKS RELATED TO CAPITAL

Capital may not be completely fungible between different regulated legal entities, which may have negative consequences

SCOR's regulated legal entities must satisfy local regulatory capital requirements. There could potentially be some local regulatory constraints, which in certain circumstances could affect SCOR's ability to transfer capital from one legal entity to another, and in particular from one subsidiary or branch to another, or to the parent legal entity. This may have negative consequences for the legal entity concerned and could have a material adverse impact on SCOR.

In addition, ongoing regulatory developments and discussions on global standards may impact SCOR in the future.

Adverse capital and credit market conditions may significantly affect SCOR's ability to access capital and/or liquidity and increase its cost of capital

Disruptions, uncertainty or volatility in the capital and credit markets may also limit the Group's access to capital required to operate its business, most significantly its insurance operations. Such market conditions may limit its ability to:

- replace, in a timely manner, maturing debts;
- access the capital needed to grow its business;
- satisfy statutory capital requirements and maintain a solvency ratio in line with its risk appetite framework.

As such, SCOR may be forced to delay raising capital, issue shorter term securities than it prefers, or bear an unattractive cost of capital which could decrease its profitability and significantly reduce its financial flexibility.

Disruptions to financial markets, and more particularly credit market conditions, could also affect SCOR's ability to access liquidity. Please see Section 3.6 – Liquidity risk, for further details.

For further information on changes in the macro-economic environment that could impact SCOR, refer to Section 3.2.1 – Risks related to the macro-economic environment affecting SCOR's strategy.

Management of risks related to capital

Risks related to capital are managed via specific principles and processes throughout the Group. SCOR ensures maximum capital fungibility within the Group through:

- a reduced number of subsidiaries enhancing fungibility while supporting local business presence. It is facilitated by the "Societas Europaea" (SE) structure supported by an efficient branch set-up in Europe, enabling integrated supervision at Group parent company level through SCOR SE, focusing on communication with a limited number of supervisors with whom SCOR can share its global strategy, while taking advantage of diversification benefits;
- an integrated supervision of regulatory constraints at Group level and an optimal capital allocation.

SCOR manages efficiently its capital allocation and fungibility among subsidiaries based on legal and regulatory constraints. SCOR is continuously leveraging, in its day-to-day activity, on various tools that are core to the reinsurance activity (such as intra-group retrocession, intra-group financing, portfolio transfer, capital transfer or collateral posting).

3.2.6.2. RISKS RELATED TO ACQUISITIONS

Overview of risks related to acquisitions

SCOR has made a number of acquisitions around the world. Acquisitions involve risks that could adversely affect its operating results, including the substantial amount of management time that may be diverted from operations to pursue and complete acquisitions. Acquisitions could also result in additional indebtedness, costs, contingent liabilities, and impairment and amortization expenses related to goodwill and other intangible assets. In addition, acquisitions may expose SCOR to operational challenges and various risks.

A failure to successfully manage such operational challenges could adversely affect the Group.

The businesses SCOR has recently acquired are described in Section 1.2.2 – History and development of SCOR.

Specific risks relating to the acquired businesses are as follows:

Integration of the acquired activities may prove to be more difficult than expected

Integrations may take longer, be more expensive or more difficult than expected. The success of integrations may depend on operational and commercial planning, execution of systems and procedures, and on the retention of key employees. Difficulties could result in higher integration costs or fewer synergies than expected.

Retaining client relationships and related business volumes

It may be outside the control and influence of SCOR to retain certain client relationships and business volumes related to acquired businesses. Related earnings and efficiencies may be lower than expected, which may dilute the return on such acquisition related investments.

AEGON's insolvency might impair the value of business acquired (VOBA) of SCOR Global Life

Since August 2011, the majority of the mortality reinsurance business in the US related to the former Transamerica Reinsurance Co. flows into SCOR via retrocession from AEGON companies. Not all underlying reinsurance agreements between cedents and AEGON have been novated; an AEGON insolvency might reduce or terminate cedent premiums passed on to SCOR, and impair the value of business acquired ("VOBA") and have a material adverse effect on SCOR.

Certain risks relating to acquired companies may not yet be known

Due notably to the size and complexity of acquisitions, and despite pre-acquisition due diligence work carried out, there is a risk that not all financial elements (including litigation related to prior periods) may have been fully and/or correctly evaluated. Unknown or unexpected financial risks could emerge, which may have significant consequences on the initially estimated impact of the relevant acquisition on the combined Group.

Management of risks related to acquisitions

SCOR adheres to high internal standards for acquisition processes, governance and integration, based on an approach approved by its Executive Committee.

SCOR retains outside legal, accounting, tax, actuarial, regulatory and financial counsel for its due diligence, valuation and integration assessments and execution, led by experienced employees in various multi-jurisdictional disciplines, including but not limited to underwriting, structuring, valuation, accounting, tax, actuarial, risk management, legal, audit, strategy, claims management, regulatory, rating agencies, and asset management. SCOR's governance is overseen by a Group Steering Committee, chaired by its Chief Executive Officer and including various members of SCOR's Executive Committee. All progress, assessments and any offers made to third parties are generally presented and approved by the Strategy Committee of SCOR's Board of Directors.

All planned acquisitions that may have an impact on SCOR's risk profile are reviewed in collaboration with SCOR's risk management teams. Integration of acquired businesses typically begins during the due diligence phase and is carefully planned between SCOR and the personnel of the acquired companies. SCOR integration plans typically take into account all systems, procedures, commitments and constraints, as well as employees, clients, suppliers and contractual third parties, and focuses on pre-closing, closing day and post-closing objectives. While SCOR has experience in managing acquisitions and takes care in planning and executing such operations, the outcomes may not always meet expectations.

3.3. UNDERWRITING RISK RELATED TO THE P&C AND LIFE REINSURANCE BUSINESS

For further details on the terminology used to describe the Group's activity, see Section 1.2.5 – Business overview.

The main risk the Group faces in relation to insurance and reinsurance contracts is that the actual amounts of claims and indemnity payments, or the timing thereof, differ from estimates. The frequency of claims, their severity, the actual payments made, the development of long-tail claims (whether they be litigated or not), and long-term mortality trends as well as external factors such as those listed below, are all beyond the Group's control. Additionally, the Group is dependent on the quality of underwriting of its cedents for certain reinsurance treaties, and on the quality of claims management by these companies and the data provided by them. Under these uncertainties, the Group seeks to ensure that sufficient reserves are available to cover its liabilities.

Generally, SCOR's ability to increase or maintain its portfolios of insurance and reinsurance risks in the P&C and Life divisions may depend on external factors such as professional practices, legal, jurisdictional, regulatory, social, political, economic, financial and environmental conditions. These factors create uncertainties and may adversely affect SCOR's business due to either an interpretation of the contracts leading to an extension of coverage (e.g. through inapplicability or interpretation or overriding of treaty clauses) or by increasing the frequency and/or severity of claims beyond what was anticipated at the time of the underwriting.

SCOR mitigates its underwriting risk related to the P&C and Life reinsurance business through the purchase of risk-mitigation covers, both on the traditional retrocession market and on the capital markets via alternative risk transfer solutions (e.g. the multi-year securitization of catastrophic and pandemic risk in the form of Insurance-Linked Securities ("ILS") and the issuance of contingent capital facilities). However, there is a risk that SCOR may not be able to transfer its liabilities through the purchase of such instruments on economically viable terms and conditions in the future. For further details on retrocession and other risk mitigation techniques within SCOR, see Section 3.3.1.4 – Management of underwriting risk related to the P&C and 3.3.2.7 – Management of underwriting risk related to Life reinsurance business and Appendix A – 2 Internal control and risk management procedures – paragraph on capital shield strategy.

Consistent with the Group's strategy of selective market and business division development, SCOR seeks to maintain a portfolio of business risks that is strategically diversified geographically, by line and class of business and over time (short and long-tail). The Group's insurance risk exposure is mitigated by diversification across a large portfolio of reinsurance contracts. The volatility of risks is reduced by careful business selection, implementation of underwriting guidelines, the use of retrocession and other risk transfer arrangements and proactive claims handling as well as underwriting, claims and administration audits at ceding companies.

SCOR underwrites reinsurance covers in P&C and Life and occasionally in direct P&C insurance.

SCOR writes direct insurance, primarily on a business-to-business basis to cover large corporate risks through the Business Solutions domain of SCOR Global P&C and through the participation in Lloyd's syndicates including Channel 2015, for which SCOR is the sole capital provider as well as through some participations in business ventures and partnerships.

3.3.1. P&C REINSURANCE

The main risks linked with the P&C reinsurance business (and direct insurance activity) underwritten by SCOR's P&C division are P&C long-tail reserves deterioration, natural and man-made catastrophes, including terrorism, and other risks beyond its direct control such as systematic crisis or the cyclicality of the business.

3.3.1.1. P&C LONG-TAIL RESERVE DETERIORATION

This is the risk that the P&C claims inflation is higher than assumed in the calculation of the Best Estimate Liabilities (BEL) and mostly affects the long-tail lines of business, such as all casualty, professional liability and financial lines, inherent defect and construction warranty, medical malpractice, motor (first and third party liability) and workers' compensation. Claims inflation is influenced by, but not directly linked to general inflation.

For SCOR's casualty business, the frequency and severity of claims and the related amounts of indemnity paid can be affected by several factors. The most significant factors are the changing legal and regulatory environment, including changes in civil liability law and jurisprudence.

For further information on risks related to reserves, see Section 3.3.4 – Risks related to reserves.

3.3.1.2. NATURAL AND MAN-MADE CATASTROPHES

SCOR's property business underwritten by SCOR Global P&C is exposed to multiple insured losses arising from single or multiple events, which can be catastrophic, being either caused by nature (e.g. hurricane, typhoon, windstorm, flood, hail, severe winter storm, earthquake) or man-made (e.g. explosion, fire at a major industrial facility, act of terrorism). Any such catastrophic event can generate insured losses in one or several of SCOR's lines of business.

Natural Catastrophes

The most material catastrophes in SCOR's risk profile are related to natural events, mainly tropical cyclones, windstorms, earthquakes and floods arising in North America and Europe and affecting property, engineering and possibly other lines of business.

SCOR manages its gross exposure to catastrophes through a comprehensive risk transfer and capital protection program which combines traditional retrocession and non-traditional solutions, including catastrophe bonds and a contingent capital equity line.

For further information on management of underwriting risks within the P&C division, refer to Section 3.3.1.5 – Management of underwriting risks related to the P&C business. For further information on SCOR's retrocession and other risk mitigation techniques, refer to Section 3.3.5 – Retrocession and other risk mitigation techniques.

Man-Made Catastrophes

SCOR is exposed to insured losses, arising from single or multiple events, which can be catastrophic, caused by the occurrence of a man-made event. The lines of business mostly exposed to man-made catastrophe are property (other than natural catastrophe), marine, motor, casualty, credit and surety, aviation and space.

Property

Man-made catastrophes refer to negligent or deliberate human actions, e.g. conflagration, a large explosion and fire at a major industrial site, and terrorism. These events can cause great damage to property and lives. Malicious man-made events often target large cities and illustrious landmarks such as international airports and governmental facilities.

In particular, SCOR is exposed to single or multiple terrorist attacks through some P&C treaties and national terrorism pools. Terrorism exposures are monitored on a worldwide basis as a fully integrated part of the Underwriting Management Framework. Underwriting guidelines stipulate the rules and procedures for terrorism risk for Treaty P&C, Specialty lines and SCOR Business Solutions (SBS). SCOR monitors this risk using a very conservative approach.

SCOR's exposure to terrorism arises from participation in the protection of existing national terrorism pools and exposure from some markets that do not permit the exclusion of terrorism from insurance policies due to local regulation, such as in the US, or due to market practice. Furthermore, the US insurance market is exposed to significant risks due to the insurance obligation created by the law. However federal aid is also provided by the Terrorism Risk Insurance Program Reauthorization Act ("TRIPRA").

A terror event could also have an impact on SCOR's life portfolio. Although in past events the life claims incurred have been comparatively small compared to the non-life claims, a terrorist act might claim a large number of insured lives.

Casualty

SCOR is also exposed to man-made casualty catastrophes whose underlying nature and key specificities can vary widely, from commonly used products (with Asbestos as a typical example), massive product liability losses emanating from items produced by a single manufacturer, to a single disastrous event (e.g. Deepwater Horizon oil rig explosion).

The amount of information available on casualty catastrophes is limited. In contrast to property catastrophes, which are short term in nature (limited number of days between insured event and loss emergence), at which point reasonable estimates of the size of the loss can be calculated, most casualty catastrophes emerge gradually and the full extent of the losses is often not known for decades.

SCOR is engaged in the development of advanced liability catastrophe analytics, and data mining and modeling techniques for improving its prediction capabilities for man-made casualty event losses.

Property and Casualty

The extent of the loss event and the affected lines of business will vary depending on the man-made event. SCOR can be affected from a man-made event simultaneously in the property and the casualty lines of business, e.g. if the explosion at a large industrial site destroys the industrial facility, but also pollutes the environment, given its proximity to vulnerable landscape (e.g. river, lake), and causes property damages and bodily injuries affecting the population.

For further information on management of underwriting risks within the P&C Division, refer to Section 3.3.1.4 – Management of underwriting risks related to the P&C business.

3.3.1.3. OTHER RISK CONSIDERATIONS

In addition to the two main risks of SCOR's P&C underwriting risk as listed above, other factors could have an adverse impact, such as systemic crisis, cyclicality of the business and concentration risks related to its broker business.

Systemic Crisis

Historically, reinsurers have experienced significant fluctuations in operating income due to volatile and unpredictable developments, many of which are beyond the control of the reinsurer including general economic conditions, levels of capacity offered by the market, and the level of competition with regards to pricing. In particular some SCOR's lines of business which are directly linked to financial activities are more exposed to global economic recessions (e.g. systemic crisis post Lehman Brothers): as an example specialty lines such as credit and surety or liability risk such as Errors & Omissions and Directors & Officers Liability.

Cyclicality of the business

P&C insurance and reinsurance businesses are cyclical. The primary consequences of the market softening are a reduction in the volume of P&C reinsurance premiums on the market, an increase in competition within the reinsurance market, and also a preference for those operators who are most attentive to the specific needs of the cedents and the most capable of answering them. This could lead potentially to a loss of competitive advantage for SCOR.

Beyond the general trends, the premium rate cycle affects certain geographic markets and/or certain lines of business in different ways and different levels, independently of each other.

Concentration risk related to its broker business

SCOR produces out its P&C business both through both brokers and through direct relationships with insurance company clients. For the year ended December 31, 2016, P&C wrote approximately 61% of gross written premiums through brokers and 39% through direct business, while Life wrote approximately 6% through brokers and approximately 94% through direct business. For P&C, the largest brokers that the Group wrote gross premium with were Aon Group with approximately 19% MMC with approximately 15% and Willis Group with approximately 10% of total gross written premiums. See Section 1.2.5.4 – paragraph on distribution by production source. The risk for SCOR is mainly the concentration of premiums written through a limited number of brokers. A significant reduction in the business generated through these brokers could potentially reduce premium volume and net income.

3.3.1.4. MANAGEMENT OF UNDERWRITING RISK RELATED TO THE P&C BUSINESS

The P&C Division is organized in order to enable it to assess and control its risks at each level of its business.

- Most of the business underwritten is renewed on agreed dates. This enables SCOR to establish annual underwriting plans, both qualitative (description of the environment) and quantitative (activity budget). These plans are approved by the Executive Committee.
- The Property and Casualty Treaty underwriters manage client relationships and offer reinsurance support after a careful review and assessment of the cedents' underwriting policies, portfolio profiles, exposures and management procedures. They are responsible for writing treaty business as well as associated support on small and medium-size facultative risks in their respective territories within the limits of their individually delegated underwriting authority and the scope of underwriting guidelines.
- Most of SCOR's facultative underwriters work in the Business Solutions domain of SCOR Global P&C, which operates worldwide. This business area is dedicated to large corporate businesses and is geared to provide the clients of SCOR Global P&C with solutions for coverage of large conventional risks.
- Underwriting and pricing guidelines, defined by SCOR Global P&C, specify the underwriting capacities delegated to each underwriter in each entity, as well as the underwriting rules and principles to be complied with. These guidelines are subject to a regular review and approval process. SCOR's underwriting guidelines are more restrictive regarding certain areas with difficult or uncertain legal environments.
  - Underwriting guidelines in place within SCOR Global P&C specify (i) the underwriting rules and principles to be complied with: (ii) underwriting capacities individually delegated to the underwriters in each of the markets and lines of business in which the Group operates as well as (iii) the relevant maximum acceptable commitments per risk and per event. They are reviewed and updated annually by the Underwriting Management function and approved by the Chief Executive Officer and Chief Risk Officer of SCOR Global P&C.
  - Pricing guidelines and parameters apply to all treaties priced within SCOR Global P&C. There are additional guidelines related to Natural Catastrophes and others specific to certain products which include Agriculture and Credit & Surety. These guidelines seek to ensure that the analyses provide: a best estimate of the costs and profitability of a treaty as well as the uncertainty surrounding estimates; assistance with underwriting decisions; suitable outputs needed for the risk management process, in particular the internal model, such as probability distributions for losses/NPV, cash flow patterns

for premium/losses, etc. They are set to provide consistency and continuity across the organization but also to take into account differences between markets and lines of business as well as the geographical location of the client and the risks insured. Parameters are revised at least once a year to consider, as the case may be, changing market conditions and environment. Contracts that meet certain risk thresholds are subject to mandatory peer reviews that have to be performed and documented before pricing is completed. SCOR Global P&C uses a data system that allows management to monitor and review the results from pricing tools.

- The underwriting teams are supported by the SCOR Global P&C Underwriting Management function located in Paris and represented in the four Hubs. This function provides worldwide treaty and facultative underwriting guidelines, policies regarding the delegation of capacity, underwriting support to specific lines of business or individual risks when required, ceding company portfolio analysis and risk surveys and is responsible for monitoring and referral of non-standard business and for authorizing exceptions to the underwriting guidelines.
- Business opportunities going beyond the stipulations of the guidelines thus defined are subject to special referral procedures at two levels: (1) by the Underwriting Management function; and, where applicable, by the Legal Department and/or the Finance department; (2) and for cases which may have a significant impact on the balance sheet (thresholds and/or conditions defined in a procedure or specific guidelines) by the Group Risk Management Department and the Chief Executive Officer of SCOR Global P&C.
- SCOR Global P&C Actuarial Pricing Department is responsible for the pricing of the reinsurance business which is done by individual treaty. Guidelines, methods and tools are set and maintained at the global level which are used by the pricing team across the SCOR offices. Delegation authorities specify criteria under which the underwriters may price certain contracts still subject to the use of the Pricing Guidelines and tools. Pricing results quantify expected underwriting statistics (such as loss and expense ratios), volatility measures, and profitability measures (such as NPV, RORAC, and Profit Excess Targets).The results are also used as criteria for referrals within Underwriting Departments. Pricing actuaries, team up with underwriters and modelers by market or by lines of business.
- The Risk Modeling & Global Natural Hazards Department is in charge of monitoring accumulations. A "CAT" sub-group of the P&C Risk and Capital Committee meets regularly to review accumulations and decide on or arbitrate the allocation of CAT capacities by country. Earthquake and storm risks gross exposures are measured using proprietary external models from industry-leading catastrophe model suppliers, including Risk Management Solutions RiskLink® ("RMS") and AIR Worldwide Catrader® ("AIR"). These tools enable the Group to quantify its exposure in terms of a probable maximum loss ("PML") at various levels of probability for each peril and geographic location. The overall aggregate annual PML per peril, allowing for potential multiple events, provides the information required to determine the level of retrocession and other alternative risk transfer solutions (e.g. catastrophe bonds) that are needed to ensure that the net aggregate exposure is optimized for the Group's risk appetite and remains within predefined tolerance limits.
- In order to mitigate its property exposure, the Group retrocedes a portion of the risks it underwrites. See 3.3.5 – Retrocession and other risk mitigation techniques for further information on how these instruments are managed.
- The claims handling function is performed by the claims teams, which review, process and monitor reported claims. SCOR Global P&C's Claims & Commutations Department is in charge of the implementation and overview of the overall claims handling and commutation management policy for the P&C division, implementing worldwide control and reporting procedures and managing commutation of portfolios and commitments. It supports and controls the day-to-day activity and takes over the direct management of large, litigious, serial and latent claims. In addition, periodic audits are conducted on specific claims and lines of business, and claims processing and procedures are examined at the ceding companies' offices with the aim of evaluating their claims adjustment process, valuation of case reserves and overall performance. When needed, recommendations are given to underwriters and local management.
- The adequacy of SCOR Global P&C reserves are controlled based on specific procedures. For further information on how risks related to reserves are managed, see Section 3.3.4 – Risks related to reserves.
- Risks specific to the administration of contracts are subject to checks performed at the subsidiary and branch level. SCOR's Group Information System includes multiple automatic checks and additional tools.
- A quarterly review of technical results is performed by business area (Property and Casualty Treaties, Specialty Lines, Business Solutions (Facultative), business ventures and partnerships) and region. The review enables the analysis of technical results by underwriting year, by nature and by line of business.
- SCOR Global P&C's Risk Management organizes the quarterly P&C Risk and Capital Committee, which is responsible for highlighting the main risks to which the P&C division is exposed, regarding both assets and liabilities.
- Cross reviews are conducted by SCOR Global P&C's Risk Management to assess the quality of underwriting, pricing and claims handling of particular business units or certain lines of business, to identify and assess risks, to evaluate the appropriateness and effectiveness of controls and to propose risk-management measures, including mitigating actions.

3.3.2. LIFE REINSURANCE

The main underwriting risks for SCOR's life division are described below.

3.3.2.1. LONG-TERM MORTALITY DETERIORATION

This risk refers to potential negative deviations in future mortality patterns from current best-estimate assumptions due to a higher-than-anticipated number of deaths (i.e. increased mortality rates) among the portfolio lives reinsured by SCOR. This could result from inherent volatility, initial mispricing (level risk) or an adverse long-term trend. The latter could potentially be influenced by various emerging risks.

SCOR's long term mortality reserves are based on a number of assumptions and information provided by third parties, which, if incorrect and/or incomplete, could have an adverse effect on the Group. For further information on risks related to reserves, see Section 3.3.4 – Risks related to reserves.

3.3.2.2. PANDEMIC

In Life reinsurance, a severe pandemic is a major risk. In the past century, three major outbreaks of influenza occurred and claimed millions of lives. The occurrence of a similar event could cause large losses to SCOR due to an increased mortality far beyond the usual volatility. A lethal virus strain not only of influenza but of any other communicable disease could lead to a heavy increase in mortality rates and increased medical costs which could significantly affect SCOR's results.

3.3.2.3. LONGEVITY

Longevity risk refers to the risk of a negative deviation from expected results due to the insured or annuitant living longer than assumed in the pricing or reserves. This risk could have an impact on longevity swaps, annuity and long-term care covers and on other longevity protection products.

3.3.2.4. POLICYHOLDER BEHAVIOR RISK

SCOR Global Life is also exposed to risks related to policyholder behavior, including risks such as lapsation and anti-selection at policy issue.

Lapses refer to either non-payment of premiums by the policyholder or to policies which are terminated by the policyholder before the maturity date of the policy. Depending upon the product design, higher or lower policyholder lapses than assumed in the pricing or reserving may reduce SCOR Global Life's expected future income.

Anti-selection refers to the problem of asymmetry of information between the insured and the insurer. An individual applying for life or health insurance cover usually has better knowledge about his or her own state of health than the insurer. The risk to the (re)insurer is of policyholders deliberately deciding among other things to:

- take out a policy in the knowledge that either their chance of claiming is high or higher than average;
- terminate a policy in the knowledge that their chance of claiming is low or lower than average, or;
- choose and exercise a policy option which increases the policyholder's expected benefit.

This might lead to a portfolio composition which differs from the one assumed during pricing and might imply lowerthanexpected profits for both the direct insurer and the reinsurer.

3.3.2.5. MORBIDITY RISK

Products such as critical illness, short-term and long-term disability and long-term care, which all contain morbidity risk, are subject to the risk of negative trends in health, as well as to the consequences of improved medical diagnoses capabilities which increase the number of claims due to conditions that otherwise would possibly have remained undetected. Medical progress may in the future enable better treatment, resulting in higher claims, since certain diseases would have otherwise led to a much shorter life expectancy of the insured. Products providing cover for medical expenses are in particular subject to the risk of higher than expected incidence and inflation of medical costs.

3.3.2.6. OTHER RISKS

In addition to the main underwriting risks of SCOR Global Life as listed above, other factors could have an adverse impact, whether related to policyholder behavior such as resale or purchase of policies by third parties with no insurable interest, or other risk factors such as risks related to product guarantees.

3.3.2.7. MANAGEMENT OF UNDERWRITING RISK RELATED TO THE LIFE REINSURANCE BUSINESS

In addition to the transversal risk management mechanisms described in the introduction to this section, SCOR Global Life also implements mechanisms to mitigate certain risks specific to the division:

- Claims deterioration risks are mitigated through yearly renewable terms for parts of the mortality business, and through premium adjustment clauses for some Disability, Long-Term Care (LTC) and Critical Illness (CI) products. In the case of LTC, the premium adjustments are designed to offset worsening incidence or increasing longevity of disabled lives. In the case of CI, premium adjustments mitigate potential negative impacts on future claims patterns due to a general deterioration in health and improved medical diagnosis.
- Lapse risks are mitigated through appropriate reinsurance treaty clauses, as well as product, client and market diversification.
- Anti-selection risks are mitigated through careful product design and a well-defined medical and financial underwriting selection process.

The Life division is organized in order to be able to assess and control its risks at each level of its business.

- Generally, the Life reinsurance business is underwritten throughout the year. The Life business underwritten is monitored on a quarterly basis against prior year development as well as the business plan and regular updates are provided to the Executive Committee.

- Underwriting of the Life business within the Group is under the worldwide responsibility of SCOR Global Life. Clients are worldwide Life, Pension or Accident and Health insurance companies. They are served by SCOR's specialized underwriters and actuaries who are familiar with the specific features of the markets in which they operate, particularly with local lines of business and policy conditions, as well as the technical specifics such as mortality tables, morbidity incidence rates and persistency rates. In the Life underwriting process, consideration is typically given to the quality of the client's medical and financial underwriting standards, the target clientele of the ceding company, as well as past experience to the extent credible data is available.
- Life reinsurance treaties are underwritten by Life reinsurance experts familiar with the specific features of their markets. The Life business is underwritten following internal underwriting and pricing guidelines. Mandates for underwriting Life reinsurance business are assigned to teams on a mutually exclusive basis.
- In order to ensure that SCOR Global Life is continually up-to-date with biometric trends and scientific developments, SCOR Global Life uses the expertise of five dedicated Research & Development centers to analyze and assess the key factors underlying mortality, longevity, morbidity and policyholder behavior. These Research & Development Centers provide recommendations for the implementation of the research results into the pricing, underwriting and determination of exposure limits.
- Guidelines and other documents defined by SCOR Global Life specify the underwriting rules and principles to be complied with, underwriting capacities delegated to the underwriters and pricing actuaries in each of the markets in which the Group operates, as well as maximum acceptable commitments per risk and per event. These guidelines outline contract types and terms and conditions of acceptance. Furthermore, they set out the level of retention of SCOR Global Life for various risks and types of cover (for more information, see Section 3.3.5 – Retrocession and other risk mitigation techniques). Revisions and updates follow a formalized approval process.

  Business opportunities going beyond the stipulations of these guidelines and documents are subject to a special referral process in order to ensure that the business complies with established risk-adjusted return criteria and risk tolerance limits. These cases are examined at the SCOR Global Life level by the Regional and Global Pricing and Risk Management Department and, where applicable, the Finance Department. Cases which may have a significant impact on the balance sheet of the Group are additionally reviewed by the Group Risk Management. Thresholds or conditions for a referral to Group Risk Management are outlined in specific guidelines.
- Accumulations of risk particularly exposed to catastrophes in the Life business are regularly assessed in "footprint" scenarios and local CAT scenarios. Specific tools are used to monitor known Group cover accumulation in selected geographical areas. Specifically designed retrocession programs aim at protecting the Life reinsurance business. One program protects assumed catastrophe excess of loss acceptances; another one protects the net retained lines in respect of proportional and per risk acceptances. SCOR is making use of the RMS model for infectious diseases in order to assess the potential exposure to risk arising from global pandemics.
- Maximum underwriting capacities are established to limit SCOR Global Life's exposure on various types of treaties underwritten, proportional and non-proportional, covering individual or Group policies. These capacities are reviewed each year, taking into account the capacities obtained by the retrocession coverage. These limits include: maximum commitment per life accumulated for all SCOR exposures, maximum annual commitments for non-proportional cover per life or per event, maximum commitment per country for nonproportional exposures by event. Aggregate portfolio exposures are continually monitored. Specialized software allows an accumulation control of insured lives and is fed with single risk information as received by the client companies. Based on this system, risks under which the accumulated exposure exceeds SCOR Global Life's retention are identified and retroceded. The retention limits are reviewed regularly. The exposure is monitored throughout the year against SCOR's defined risk limits and used for decisions on mitigating measures. Monitoring of peak exposures is included in Life regular risk reporting. See Section 3.3.5 – Retrocession and other risk mitigation techniques for further information on how these instruments are managed.
- The Life division's claims handling is performed by local claims teams that handle and monitor claims. Claims exceeding a predefined threshold are reviewed by CREDISS, SCOR Global Life's global medical underwriting and claims research center. In addition, where deemed appropriate, audits are conducted on claims or specific lines of business at the ceding companies' offices.
- The adequacy of SGL reserves is monitored based on specific procedures. For further information on how risks related to reserves are managed, see Section 3.3.4.2 – Management of reserving risk.
- Risks specific to the management of contracts are mitigated by specific controls supported by SCOR's IT Systems which include numerous automatic controls and additional tools.
- A quarterly review of technical results is performed by region and by business area.
- SCOR Global Life's Risk Management Department organizes quarterly meetings of the Life Risk Committee which is responsible for reviewing the main risks to which the Life division is exposed.
- In addition, cross reviews are commissioned by SCOR Global Life's Chief Executive Officer to evaluate, on the one hand, the quality of underwriting, pricing, medical underwriting and claims handling of particular market areas or lines of business and, on the other hand, to identify and assess risks, to evaluate the appropriateness and effectiveness of controls and to propose risk-management actions.

3.3.3. INTERDEPENDENCE AND ACCUMULATION RISKS BETWEEN SCOR'S AREAS OF BUSINESS

3.3.3.1. OVERVIEW OF THE MAIN INTERDEPENDENCE AND ACCUMULATION RISKS BETWEEN SCOR'S AREAS OF BUSINESS

P&C and Life reinsurance activities take place in two different market environments. They are subject to a range of external constraints, which generally benefit from a high diversification effect. The overall balance between the two business areas within the Group therefore provides stability. However, in some cases, changes in the P&C and Life activities are linked to each other as well as to those of the financial markets. This exposes SCOR to possible accumulation of risks between its lines of business and/or asset classes.

Unforeseen events, such as natural catastrophes or man-made catastrophes, can make SCOR's claims experience vary significantly from one year to the next, which can have a significant impact on its profitability and financial position. These types of risk primarily affect Non-Life business areas. However, in cases where SCOR faces a large number of casualties, the possibility of the losses also affecting its Life lines of business cannot be excluded. Similarly, unforeseen events such as terrorist attacks may materially impact the P&C business area, but also the Life business area, in the case of attacks resulting in many fatalities. Although in past events the Life claims incurred have been comparatively small in relation to the Non-Life claims incurred, a terrorist act might claim a large number of insured lives.

In the event of a very large natural catastrophe or terrorist attack, the losses generated in the P&C and Life Divisions could potentially accumulate, with losses on financial assets related to the potential reaction of markets (i.e. movements in interest rates, exchange rates, spreads and/or equity market prices). In the same way, a major pandemic event may cause financial market turmoil and/or business interruptions.

In addition, depending on the frequency and nature of losses, the speed with which claims are made and the terms of the policies affected, it may be required to make large claim payments within a short period. SCOR may be forced to fund those obligations by liquidating investments in distressed market conditions, or by raising funds under unfavorable conditions. For further information on such risks, see Section 3.6 – Liquidity risk.

SCOR's ability to grow or maintain its portfolios in the P&C and Life reinsurance divisions may also be subject to external factors which may be interconnected, such as economic and political risks. For instance, slowdowns in economic growth or recessions in the major markets may lead households and companies to take out less insurance, to suspend certain premium payments, or to terminate the insurance policies underlying the existing P&C and Life treaties earlier than anticipated. Similarly, the risk of social and political instability is particularly significant in emerging markets, in which both divisions operate. These risks could lead to significantly reduced business growth in these target markets. See Section 3.2 – Strategic risk for further details.

SCOR is also exposed to insurance risks in its investment portfolio either through publicly traded securities (e.g. CAT bonds), or Over-The-Counter (OTC) contracts (e.g. collateralized reinsurance). Such investments could be impacted by the occurrence of underwriting risks as described in the above paragraphs (e.g. natural catastrophe, mortality etc.) that could significantly result in changes in value, or even the full loss of the amount invested. In the case of publicly traded securities, these risks could also have a significant impact on the liquidity of these instruments.

3.3.3.2. MANAGEMENT OF INTERDEPENDENCE AND ACCUMULATION RISKS BETWEEN SCOR'S AREAS OF BUSINESS

The Group aims at diversifying its business and monitors its main accumulation risks and areas of dependencies across its business through regular risk monitoring and reporting mechanisms, including via its internal model.

SCOR manages its exposure to catastrophes through selective underwriting practices, especially by limiting its exposure to certain events in certain geographic areas, by monitoring risk accumulation on a geographic basis and by retroceding a portion of those risks to other selectively chosen reinsurers.

3.3.4. RISK RELATED TO RESERVES

3.3.4.1. SCOR'S RISK RELATED TO RESERVES

The SCOR Group is required to maintain reserves to cover its estimated ultimate liability for losses and loss adjustment expenses with respect to reported and unreported claims, incurred as at the end of each accounting period, net of estimated related recoveries. Its reserves are established based on the information it receives from its cedent insurance companies, including their own reserving levels, as well as on the basis of its knowledge of the risks, the studies it conducts and the trends it observes on a regular basis. As part of the reserving process, SCOR reviews available historical data and tries to anticipate the impact of various factors, such as changes in laws and regulations, judicial decisions, social and political attitudes and trends in mortality and morbidity, and changes in general economic conditions.

If some information were incorrect and/or incomplete, this could have an adverse effect on the Group. Despite the audits it carries out on the companies with which it does business the Group is still dependent on their reserves assessment.

As is the case for all other reinsurers, the inherent uncertainties in estimating reserves are compounded by the significant periods of time that often elapse between the occurrence of an insured loss, the reporting of the loss to the primary insurer and ultimately to SCOR.

Another factor of uncertainty resides in the fact that some of SCOR's activities are long-tail in nature, such as long-term care, whole Life products, longevity, worker's compensation, general liability or medical malpractice, etc. It has, in the past, been necessary for SCOR to revise estimated potential loss exposure on such lines of business.

See Section 3.3.1.1 – P&C long-tail reserve deterioration for further details.

3.3.4.2. MANAGEMENT OF RESERVING RISK

The adequacy of P&C and Life reserves is checked on a quarterly basis by internal actuaries at division level as well as at the Group level by the Group Chief Actuary who signs off on the adequacy of reserves and reports to the Executive Committee and the Audit Committee.

External consulting firms can also be mandated to review the P&C reserves. Life reserving assumptions have been reviewed by an external firm as part of the embedded value calculation. If necessary, internal audits of its portfolios are performed.

The Chief Reserving Actuaries of the divisions are responsible for overseeing the reserves of their respective divisions, to assure appropriateness in the reserving methods and parameters used and to enhance reserving governance. The Group Chief Actuary is in charge of the independent validation and testing of reserving tools, workflows, assumptions and processes.

A centrally defined and tightly controlled reserving process, strong portfolio diversification, prudent reserving, sound reserving tools and, actuarial methods used by highly skilled professionals and a high level of transparency, both internally and externally, all tend to minimize the risk of inadequate reserves.

P&C business

Within SCOR Global P&C, in order to ensure an adequate and efficient monitoring of the reserves, a report is established on a yearly basis by the Group Actuarial Department, where the Group Chief Actuary, reporting to the Group Chief Risk Officer, gives his opinion on the year-end booked reserves' adequacy. The main objective of this report is to provide SCOR's Executive Committee and Audit Committee with an overall opinion on the adequacy of the P&C division's reserves but also to highlight the inherent uncertainties surrounding this assessment. The monitoring of the reserves by the division's and Group's Actuarial Department is centered on three mechanisms:

- a quarterly follow-up of the claims activity and review of reserves for each segment through adequate reporting procedures;
- an annual internal actuarial analysis, including a review of all segments together with a full analysis of the segments that may have a substantial impact on SCOR's balance sheet. This analysis is performed by the SCOR Global P&C reserving actuaries and reviewed by the Group Actuarial Department which performs as well its own full analysis. These analyses are recorded in an annual actuarial report;
- regular external reviews of SCOR Global P&C division reserves adequacy are performed including those required by local regulators (Canada, Australia, Hong Kong, South Africa, China and SCOR Lloyd's syndicate).

SCOR regularly reviews its methods for determining outstanding claims reserves and IBNR reserves. However, it is difficult to accurately value the amount of reserves required, especially in view of changes in the legal environment, which could have an impact on reserve development.

When a claim is reported to the ceding company, its claims department establishes a reserve corresponding to the estimated amount of the ultimate settlement for the claim. The estimate is based on the cedent's own evaluation methods. The ceding company reports the claim and its suggested reserve amount to the Group entity with which it concluded its reinsurance contract. The Group records the ceding company's suggested reserve and is free to establish greater or smaller reserves based on the review and analysis by SGP&C's claims team. Greater or smaller potential reserves are based upon the consideration of many factors, including the level of the commitments, seriousness of the claims and the SGP&C's assessment of the ceding company's claims' management.

In compliance with applicable regulatory requirements and in accordance with industry practices, the Group maintains IBNR reserves in addition to outstanding claims reserves. These reserves represent:

- the estimated final amount that may be paid by the Group on losses or events that have occurred, but are not yet reported to the ceding company or to the SCOR entity concerned; and
- the estimated cost variation on claims already reported to the Group.

In determining the amount of its reserves, the Group generally uses actuarial techniques that take into account quantitative loss experience data, together with qualitative factors, where appropriate. The reserves are also adjusted to reflect reinsurance treaty terms and conditions, and any changes in claims processing that may potentially affect the Group's commitment over time.

A table showing historical changes in reserves for P&C claims is provided in Section 4.6 – Notes to the consolidated financial statements, Note 15 – Net contract liabilities.

The Group continues to pursue the active commutations policy of its portfolios initiated in 2003, the main goals being to reduce the volatility of claims reserves and administrative costs, particularly of the oldest reserves, and to allow the reallocation of capital. This policy will be continued by focusing efforts on the US run-off activities and on some treaties written by the former Converium company acquired by SCOR in 2007.

Life business

Within SCOR Global Life, in order to ensure an adequate and efficient monitoring of the reserves, a report is established on a yearly basis by the Group Actuarial Department where the Group Chief Actuary gives his opinion on the year-end booked reserves' adequacy. The main objective of this report is to provide SCOR's Executive Committee and Audit Committee with an overall opinion on the adequacy of the Life division's reserves but also to highlight the inherent uncertainties surrounding this assessment.

The monitoring of the reserves by the division's and Group's Actuarial Department is centered on three mechanisms:

- a quarterly follow-up of the claims activity and review of reserves for each segment through adequate reporting procedures;
- an annual internal actuarial analysis, including a review of all segments together with a full analysis of the segments that may have a substantial impact on SCOR's balance sheet. This analysis is performed by the SCOR Global Life reserving actuaries and reviewed by the Group Actuarial Department which performs as well its own full analysis. These analyses are recorded in an annual actuarial report;
- regular external reviews of SCOR Global Life division reserves adequacy are performed including those required by local regulators.

The Group Actuarial Department does not intend to provide an alternative best estimate but verifies the adequacy of the assumptions and methods and processes used by the teams of SCOR Global Life to determine the Life reserves. In some cases, the Group Actuarial Department applies a global approach and calculates a confidence range in order to check that the reserves booked are within said confidence range.

For its Life business, SCOR is required to maintain adequate reserves to reflect the liability for future claims and benefit payments resulting from life reinsurance treaties, mainly mathematical reserves and claim reserves.

The mathematical reserves are generally calculated as the present value of projected future payments to cedents less the present value of projected premiums still payable by cedents. The calculation includes assumptions relating to mortality, morbidity, disability, lapses and expected future interest rates.

The mathematical reserves are established on initial recognition of a contract on the basis of best estimate assumptions and allow for an adequate safety margin for the risks of change, error and random fluctuation. They are subject to a liability adequacy test.

In determining its best estimates, the Group takes into consideration its past experience, current internal data, external market indices and benchmarks and other relevant information. The contracts' liabilities established by the Group with respect to individual risks or classes of business may be greater or less than those established by ceding companies due to the use of different mortality tables or other assumptions.

Claim reserves for losses are recognized for payment obligations from reinsurance losses that have occurred but have not yet been settled. They are recognized under reserves for reinsurance losses reported before the reporting date and IBNR. SCOR regularly reviews and updates its methods for determining outstanding claims reserves and IBNR Reserves.

A table showing changes in the mathematical reserves in Life reinsurance is provided in Section 4.6 – Notes to the consolidated financial statements, Note 15 – Net contract liabilities.

3.3.5. RETROCESSION AND OTHER RISK MITIGATION TECHNIQUES

Reinsurers typically purchase reinsurance to cover their own risk exposures. Reinsurance of a reinsurer's business is called retrocession. SCOR remains primarily liable to the direct insurer on all risks reinsured although the retrocessionaire is liable to the Group to the extent of the cover limits purchased.

The level of retrocession is selected each year to ensure that SCOR's retained risk profile respects the specific Group risk appetite framework and to help the Group achieve its return on capital and solvency objectives.

SCOR aims to diversify its retrocession and risk mitigation instruments as well as counterparties in order to take advantage of all different sources of capacities on the market. This enables the retrocession and risk mitigation program to be constructed with complementary mitigation effects offering optimal efficiency and also to avoid overdependence on a reduced number of counterparties.

Beyond traditional retrocession, purchased for all main lines of business, SCOR has implemented a "Capital Shield Strategy, which combines the following solutions:

- traditional retrocession (proportional or non-proportional);
- capital markets solutions and alternative risk transfer solutions (collateralized retrocession, Insurance-Linked Securities including catastrophe and extreme mortality bonds, sidecars);
- Solvency buffer; SCOR has set out a solvency scale with clear and well defined buffers safeguarding the Group's franchise;
- contingent capital facilities, designed as tools of last resort, to partially replenish the Group's capital base in case of very remote pre-defined events. The current contingent capital guaranteed equity line is providing the Group with EUR 300 million coverage. It is innovative in that it protects the Group against both natural catastrophes and extreme mortality events.

For information on the Atlas Special Purpose Vehicles, used as capital markets solutions and alternative risk transfer solutions in the capital shield policy, see Section 4.6 – Notes to the consolidated financial statements, Note 2 – Scope of consolidation. For information on the contingent capital used in the capital shield policy, see Section 4.6 – Notes to the consolidated financial statements, Note 12 – Information on share capital, capital management, regulatory framework and consolidated reserves.

Retrocession procedures are centralized within the retrocession teams of the P&C and Life divisions:

- within the P&C division, SCOR Global P&C Underwriting Management and Retrocession Department establishes and implements the external retrocession plan for P&C business. This department is responsible for proper application of the plan, for monitoring the solvency of the retrocessionaires, the related counterparty risks and, when necessary, recovery of balances due;
- within the Life division, scenarios are established within the Actuarial & Risk Department of SCOR Global Life in order to define the need for retrocession coverage. The retention and the retrocession structure are revised every year.

The availability and efficiency of SCOR's retrocession and risk mitigation program is monitored at Group level on a regular basis in order to ensure that the Group's overall exposure remains within pre-defined risk tolerances.

For further information on how counterparty default risk related to retrocessionaires is managed, see Section 3.5 – Credit risk.

An analysis of the share of retrocessionaires in contract liabilities by rating of the retrocessionaires and collateral from retrocessionaires in favor of SCOR at December 31, 2016 and 2015 is presented in Section 4.6 – Notes to the consolidated financial statements, Note 15 – Net contract liabilities and Note 19 – Net retrocession result.

3.4. MARKET RISK

3.4.1. MARKET RISK – AN OVERVIEW

Market risk is the risk that the fair value or future cash flows of a financial instrument fluctuates because of changes in market prices or macro-economic variables. This includes interest rate risk and currency risk, further described below, as well as equity risk and real estate risk, to which SCOR is exposed to through its investments. It also includes credit spread risk on these invested assets exposed to changes in spread due to general changes in market conditions as well as default risk arising from insolvency of an issuer or a counterparty. For further information on credit risk (counterparty default), see Section 3.5 – Credit risk.

3.4.1.1. INTEREST RATE RISK

Interest rates are very sensitive to a number of external factors, including monetary and budgetary policies, the national and international economic and political environment, and the risk aversion of economic actors.

Interest rate risk is the risk that the fair value of future cash flows of a financial instrument fluctuates because of changes in interest rates. Interest rate fluctuations have direct consequences on both the market value and the return on SCOR's investments as the level of unrealized capital gains or losses and the return on securities held in its portfolio both depend on the level of interest rates. Floating-rate instruments expose the Group to cash flow interest rate risk, whereas fixed interest rate instruments expose the Group to fair value interest rate risk.

During periods of declining interest rates, income from investments is likely to fall due to investment of net cash flows and reinvestments of redemptions at rates lower than those of the existing portfolio (dilutive effect of new investments). During such periods, there is therefore a risk that SCOR's return on equity objectives are not met. For callable bonds for which the issuer has an option to redeem earlier than the ultimate maturity, the probability of having to reinvest the early proceeds at lower interest rates is increased.

On the other hand, an increase in interest rates could lead to a fall in the market value of fixed income securities that SCOR holds. In the case of a need for cash, SCOR may be obliged to sell fixed income securities, possibly resulting in capital losses. SCOR's reinsurance business may also be exposed to interest rate risk. The Group has certain life insurance contracts which are sensitive to fluctuations in interest rates. Although in general all long-term liabilities are discounted, in most cases there is no accounting impact from a 100 basis point change in the interest rate because valuation interest rates are typically locked-in.

Finally, the interest rate risk depends on the duration mismatch between assets and liabilities. As such, changes in interest rates can affect the shareholders' equity and the solvency ratio of the Group.

For further information on the sensitivity of the Group's consolidated income and consolidated equity to interest rate risk, see Section 3.4.3 – Sensitivity analysis to market risk.

3.4.1.2. CURRENCY RISK

Currency risk is the risk of loss arising due to adverse changes in or volatility of foreign exchange rates. This would impact the value of SCOR's assets (e.g. through direct investments in assets denominated in various currencies) and liabilities (e.g. reinsurance treaties with liabilities denominated in specific currencies).

The following types of foreign exchange risk have been identified by SCOR:

Transaction risk

Fluctuations in exchange rates can have consequences on SCOR's reported net income because of the conversion results of transactions expressed in foreign currencies, the settlement of balances denominated in foreign currencies and the lack of perfect matching between monetary assets and liabilities in foreign currencies. In this case, and to reduce the impact of imperfect matching, SCOR uses derivative financial instruments in order to hedge against currency fluctuations on sensitive currencies, particularly in times of greater volatility on the capital markets. Nevertheless, a perfect matching of monetary assets and liabilities can never be achieved and a potential profit or loss impact due to fluctuations in exchanges rates can arise.

Translation risk

SCOR publishes its consolidated financial statements in euros, but a significant part of its income and expenses, as well as of its assets and liabilities, are denominated in currencies other than the Euro. Consequently, fluctuations in the exchange rates used to convert these currencies into euros may have a significant impact on its reported net income and net equity from year to year.

SCOR's main non-French legal entities are located in Ireland, Switzerland, North America, the UK and Asia. The shareholders' equity of these entities is denominated mainly in Euros, US dollars, British pounds and Canadian dollars.

As a result, changes in the exchange rates used to convert foreign currencies into Euros, particularly the fluctuation of the US dollar against the Euro, have had and may have in the future, an adverse effect on the Group's consolidated shareholders' equity. SCOR does not fully hedge its exposure to this risk. The impact of the fluctuation in the exchange rates used to translate foreign currencies into Euros on its consolidated shareholders' equity is described in Section 4.5 – Consolidated statements of changes in shareholders' equity.

SCOR has issued debt instruments in currencies other than the Euro, currently Swiss Francs, and to the extent that these are not used as a hedge against foreign currency investments, it may be similarly exposed to fluctuations in exchange rates. Most debts are fully hedged. For more information on the forward sales and purchases and swaps of currencies used to hedge these risks see Section 4.6 – Notes to the consolidated financial statements, Note 7 – Insurance business investments. For more information on debts issued in different currencies, see Section 4.6 – Notes to the consolidated financial statements, Note 13 – Financial liabilities.

Some events, such as catastrophes, can have an impact on the matching of assets and liabilities in a currency, which can generate a temporary unmatched position which is not covered by currency contracts or hedges.

For further information on the sensitivity of the Group's consolidated income and consolidated equity to currency risk, see Section 3.4.3 – Sensitivity analysis to market risk.

3.4.1.3. EQUITY RISK

Equity prices are likely to be affected by risks which affect the market as a whole (uncertainty on economic conditions in general, such as anticipated changes in growth, inflation, interest rate fluctuations, sovereign risk, etc.) and/or by risks which influence a single asset or a small number of assets (specific or idiosyncratic risk). This may lead to a decrease in prices of the equity held by SCOR and may impact its unrealized gains and losses. A material or long-lasting decline in the prices of SCOR's equity holdings may also result in the impairment of its equity portfolio which would affect its net income.

The Group's exposure to the equity market results from direct purchases of stocks or investments in equity funds and in convex equity strategies such as convertible bonds.

For further information on the sensitivity of the Group's consolidated income and consolidated equity to currency risk, see Section 3.4.3 – Sensitivity analysis to market risk.

3.4.1.4. REAL ESTATE RISK

Real estate risk, either for properties owned directly or through funds, are risks arising from a variation in the real estate market valuation or a change in rental market conditions, the two being closely linked.

Rental income from the property portfolio is exposed to the variation in the indices on which the rents are indexed (for instance, the Construction Cost Index in France) as well as risks related to the rental market (changes in supply and demand, changes in vacancy rates, impact on market rental values or rent renewals) and lessee default. On the other hand the indexation may provide an attractive hedge against inflation.

The value of property assets is exposed to the risk of regulatory obsolescence of properties (regulatory developments related to the accessibility of buildings for people with a disability, on the reduction of energy consumption and the production of carbon dioxide, etc.) which would lead to losses of value in the event of a sale of the assets or to additional expenditure to restore the value of the property.

3.4.1.5. CREDIT SPREAD RISK

Credit spreads reflect the market's assessment of the credit quality of a financial instrument (e.g. a bond) and are derived from the market value of the instrument. Credit spread risk is the risk that the credit spread increases i.e. the market value deteriorates leading potentially to a loss on the financial instrument.

3.4.2. MANAGEMENT OF MARKET RISK

The investment strategy complies with the prudent person principle. It is defined given the Risk Appetite and Risk Tolerance and takes into account the economic and market environment in line with a strong ALM process.

Investment Guidelines at Group and local levels outline the investment universe and limits, including concentration ones, in line with the objectives of the strategic plan. They are approved by the Group Board/local Board or top management.

SCOR has outsourced the implementation of its investment strategy to its asset management company "SCOR Investment Partners SE" and to external asset managers. They are provided with the investment guidelines.

Exposures to major risks are monitored on a weekly basis and stress tests measure the impact of parametric or footprint scenarios on the invested assets portfolio. These scenarios cover changes in interest rates, inflation, equities, credit spreads and real estate market. Portfolio sensitivity analysis to major risks is an important management tool which is used when making portfolio reallocation or hedging decisions.

3.4.2.1. MANAGEMENT OF INTEREST RATE RISK

The Group's aim is to maintain an appropriate mix of fixed and variable rate instruments. It also manages the maturities of interest bearing financial assets.

Interest rate risk is managed within the Group primarily at two levels. At the level of each entity, the Group takes into account the regulatory and accounting constraints. At the Group level, SCOR reviews its consolidated investment portfolios in order to identify the overall level of risk and return. It uses analytical tools which guide both its strategic allocation and local distribution of assets. Sensitivity to changes in interest rates is analyzed on a weekly basis.

In addition, SCOR has entered into interest rates swaps to cover its exposure to financial liabilities with variable interest rates. For further details on these swaps, see Section 4.6 – Notes to the consolidated financial statements, Note 9 – Derivative instruments.

For further information on the sensitivity of the Group's consolidated income and consolidated equity to interest rate risk, see Section 3.4.3 – Sensitivity analysis to market risk.

3.4.2.2. MANAGEMENT OF CURRENCY RISK

SCOR has a balance sheet hedging approach whereby there is an objective to match monetary assets and liabilities in each foreign currency so that the fluctuation in the exchange rate has no material impact on the reported net income. The policy is to closely monitor the net monetary currency positions and, where appropriate, execute either cash arbitrages or forward hedges.

The Group has one net investment hedge in place to reduce its exposure to variations in the net assets of a USD functional currency subsidiary.

3.4.2.3. MANAGEMENT OF EQUITY RISK

With regards to equity, the Group's objective is to develop and manage a high-quality diversified portfolio.

The Group's equity selection is predominantly based on a bottom-up fundamental analysis with the goal to develop a diversified portfolio of stocks and convertible bonds directly or through mutual funds. Due to the inherent volatility of equities, this asset class (direct positions and mutual funds) is monitored on a daily basis, facilitating quick arbitrage or portfolio re-allocation decisions. On a Group level, the equity exposure is set and reviewed at least quarterly by the Group Investment Committee. The equity risk is also monitored by establishing maximum exposures per stock or mutual fund and is reviewed regularly (e.g. exposure to large-cap stocks will generally be greater than exposure to mid-cap stocks). The holding's ratios on mutual funds are also reviewed regularly, based on the mutual fund's portfolio.

3.4.2.4. MANAGEMENT OF REAL ESTATE RISK

SCOR has adopted an active strategy to select core buildings and focuses on high environmental quality.

3.4.2.5. MANAGEMENT OF CREDIT SPREAD RISK

SCOR applies strict limits in terms of asset concentration by asset class but also within a single asset class and actively diversifies its portfolio (by type of investment, by issuer, by country and by sector). These limits also enable to limit counterparty default risk arising from investments, as described in the Section 3.5.2 – Management of credit risk.

For information on the ratings of the debt securities owned by SCOR, see Section 4.6 – Notes to the consolidated financial statements, Note 7 – Insurance business investments.

3.4.3. SENSITIVITY TO MARKET RISK

The following table summarizes the accounting sensitivity of the Group's consolidated income and consolidated equity to market risks based on reasonably possible movements in key variables with all other variables held constant. The assumptions included are:

Interest rate risk

The interest rate sensitivities for equity presented in the table below include movements on the bond portfolio, cash and cash equivalents, structured notes, the impact of changes in interest rates on variable rate financial liabilities and the GMDB business.

The interest rate sensitivities of income presented in the table below show the impact of changes in fair value of financial assets at fair value through income held at closing date, and changes in income on variable rate financial assets held at the closing date, following an increase/decrease in interest rates of 100 basis points. An estimate of the impact on the future income following a change of 100 basis points is therefore included. However, SCOR does not include in this analysis the impact that changes in interest rates might have on the reinvestment of future cash flows, as future cash flows of SCOR business are difficult to predict and asset allocations might change over time.

Equity price risk

SCOR conducted an analysis of the sensitivity of net income and shareholders' equity to the price of equity securities. The analysis considers the impact on both equities at fair value through the income statement and on equities classified as available for sale. For equities classified as available for sale, the impact on impairment is computed by applying the accounting policy and application guidance set out in Section 4.6 – Notes to the consolidated financial statements, Note 7 – Insurance business investments, to theoretical future market value changes. SCOR estimates that, excluding any impairment arising from duration, a further uniform decline of 10% from December 31, 2016 market values would generate no further impairment of equity securities (2015: EUR 1 million; 2014: EUR 1 million). It should be noted that this figure should not be scaled up or down as the impairment rules are not a linear function of market value. For example, a scenario with a market value decline of 20% would not double the potential further equity impairment.

Both Life and P&C businesses have minimal sensitivity to equity price movements.

The market sensitivities of the Group are estimated as follows:

	December 31, 2016		December 31, 2015		December 31, 2014	
In EUR million	Income [2][3]	Equity [2][3]	Income [2][3]	Equity [2][3]	Income [2][3]	Equity [2][3]
Interest +100 basis point	20	(468)	14	(414)	12	(390)
% of Equity	0.3%	-7.0%	0.2%	-6.5%	0.2%	-6.8%
Interest – 100 basis points	(20)	402	(14)	310	(13)	324
% of Equity	-0.3%	6.0%	-0.2)%	4.9%	-0.2%	5.7%
Equity markets +10%[1]	6	34	7	28	5	26
% of Equity	0.1%	-0.5%	0.1%	0.4%	0.1%	0.5%
Equity markets –10%[1]	(6)	(34)	(7)	(28)	(5)	(26)
% of Equity	-0.1%	-0.5%	-0.1%	-0.4%	-0.1%	-0.5%

(1) Excludes investments in hedge funds which normally do not have a uniform correlation to equity markets and securities where SCOR has a strategic investment including where the Group has a substantial shareholding but does not meet the "significant influence" criteria in IAS 28.
(2) The reduction in equity represents the estimated net asset impact including the additional impairment recognized in the income statement.
(3) Net of tax at an estimated average rate of 27% in 2016 (21% in 2015 and 24% in 2014).

Currency risk

The Group recognized a net foreign exchange gain of EUR 11 million for the year ended December 31, 2016 (2015: gain of EUR 16 million and 2014: gain of EUR 11 million).

For currency translation risk, the following sensitivity analysis[1] considers the impact on equity of a 10% movement in the exchange rates of the Group's two largest translation risk currency exposures, USD and GBP relative to the EUR.

		Equity impact		
In EUR million	Currency movement	2016	2015	2014
USD/EUR	10%	365	347	271
% of equity		5.5%	5.5%	4.8%
USD/EUR	-10%	(365)	(347)	(271)
% of equity		-5.5%	-5.5%	-4.8%
GBP/EUR	10%	30	41	37
% of equity		0.4%	0.6%	0.6%
GBP/EUR	-10%	(30)	(41)	(37)
% of equity		-0.4%	-0.6%	-0.6%

(1) This analysis excludes the impact of hedging activity.

3.5. CREDIT RISK

3.5.1. OVERVIEW OF CREDIT RISK

Credit risk is the risk of incurring a loss as a result of a change in the financial situation of a counterparty.

This includes counterparty default risk which is the risk that one party to a financial instrument or other asset will cause a financial loss to the other party by failing to discharge an obligation. Credit risk also includes migration risk, which is the risk of a potential loss in the value of assets due to changes in the credit quality of our counterparties.

SCOR is mainly exposed to the following credit risks or the accumulation of such risks in a single counterparty, in the same sector of activity or the same country: from bond and loan portfolios, liabilities retroceded also called share of retrocessionaires in contract liabilities, deposits with cedents, future cash-flows from Life reinsurance treaties, cash deposits at banks and default of members of pools which SCOR is a member of. SCOR may also be exposed to credit risk through its Credit and Surety reinsurance portfolio.

Credit risk is actively monitored and managed. The processes for managing the respective credit risks and the methods used to measure these risks are further described below.

3.5.1.1. CREDIT RISK RELATED TO BOND AND LOAN PORTFOLIOS

A deterioration in the financial situation of an issuer (sovereign, public or private) or borrower can, for example, lead to its insolvency and to the partial or total loss of coupons and of the principal invested or lead to a loss in value.

This risk applies also to loan transactions in which the Group invests. The borrower' solvency deterioration may lead to a partial or total loss of the coupons and the nominal invested by SCOR.

For information on the debt securities portfolio, see Section 4.6 – Notes to the consolidated financial statements, Note 7 Insurance business investment.

3.5.1.2. CREDIT RISK RELATED TO RETROCEDED LIABILITIES

SCOR transfers part of its risks to retrocessionaires via retrocession programs in exchange for the payment of premiums. The retrocessionaires then assume the losses related to claims covered by the retrocession contracts. If a retrocessionaire defaulted, or its financial situation deteriorated, SCOR could lose part or all of the coverage provided by its retrocessionaire whereas it would retain its liability towards the cedent for the payment of all claims covered under the reinsurance contract.

SCOR could also lose receivables from the defaulting retrocessionaire (receivables are due to a timing difference between statement accounts received and real payment due for positive balances of retrocessionaire accounts).

The retrocessionaires' share in the reserves broken down by retrocessionaires' financial rating is included in Section 4.6 – Notes to the consolidated financial statements, Note 15 – Net contract liabilities.

3.5.1.3. CREDIT RISK RELATED TO DEPOSITS WITH CEDENTS

SCOR may be exposed to credit risk in relation to amounts deposited with ceding companies in respect of reinsurance reserves which cover its liabilities. However, depositing these amounts does not a priori discharge the Group of its liability towards the cedent in cases where it is not able to recover all or part of these amounts in the event of a cedent default or a deterioration in the financial situation of that cedent. Hence, it is at least in principle, possible that the Group may remain liable for paying claims due under the reinsurance treaty without being able to offset all or part of the corresponding deposits.

3.5.1.4. CREDIT RISK RELATED TO FUTURE CASH FLOWS FROM LIFE REINSURANCE TREATIES

Under most of its Life reinsurance contracts, SCOR expects to receive premiums from its cedents over several years. These often exceed expected future payments for claims, commissions, etc., meaning that SCOR expects to receive positive future cash flows.

Credit risk on future cash flows from Life reinsurance policies arises from two risk factors:

- the payment of future cash flows expected under Life reinsurance contracts requires that the cedent is financially sound. Therefore, SCOR risks a reduction in the value of its portfolio of Life contracts in the event of a deterioration in the financial strength of the cedent. This may lead to the impairment of SCOR's intangible assets, i.e. the value of business acquired (VOBA) and deferred acquisition costs (DAC);
- a reduction in the value of future cash flows could arise from material unexpected lapsation of policies following a deterioration of the cedent's credit rating or standing or an event which has a negative effect on the cedent's reputation.

3.5.1.5. CREDIT RISK RELATED TO CASH DEPOSITS AT BANKS

SCOR is exposed to the risk of losing all or part of any cash deposited with a retail bank in the event such a bank is no longer able, due to insolvency, to honor its commitments (e.g. following liquidation). The current main risk for the Group is the significant concentration of deposits in a small number of banks. This risk is a direct result of the selection of the most stable banks.

3.5.1.6. OTHER CREDIT RISKS

For special, highly-technical risk categories such as terrorism, nuclear, aviation or pollution, SCOR chooses to participate in various market dedicated groups of insurers and reinsurers ("pools") aimed at pooling the relevant risks among the members of each group pools which offer best available expertise and risk sharing at market level. In the event of a total or partial default by one of the members of a group, it could be required to assume, in the event of joint liability of the members, all or part of the liabilities of the defaulting member.

3.5.2. MANAGEMENT OF CREDIT RISK

3.5.2.1. MANAGEMENT OF CREDIT RISK RELATED TO BOND AND LOAN PORTFOLIOS

SCOR mitigates the credit risk related to bond and loan portfolios by careful analysis and selection of issuers, and by a policy of geographic sector diversification. SCOR maintains its investment policy in high-quality assets and in countries with the lowest sovereign risk.

Exposure analyses are performed on a regular basis (sector, geographical area, counterparty and rating) and enables critical risks to be identified and evaluated in order to take appropriate actions.

For details on the debt securities portfolio, see Section 4.6 – Notes to the consolidated financial statements, Note 7 – Insurance business investments.

3.5.2.2. MANAGEMENT OF CREDIT RISK RELATED TO SHARES OF RETROCEDED LIABILITIES

SCOR selects retrocessionaires carefully, taking into account their financial strength, and regularly monitors the Group's exposure to retrocessionaires taking into account all relevant accounting balances (estimated and actual claims, premiums, reserves, deposits and pledges) and provides a summary reports to the Divisional and Group Risk Committees on a regular basis. SCOR typically requires that unrated retrocessionaires pledge assets or provide other forms of collateral (cash deposits or letters of credit) to the value of their maximum potential contract liability, even though the actual retrocessionaire liability to SCOR in the balance sheet is lower.

The retrocessionaires' share in the reserves broken down by retrocessionaires' financial rating is included in Section 4.6, Note 15 – Net contract liabilities.

3.5.2.3. MANAGEMENT OF CREDIT RISK RELATED TO DEPOSITS WITH CEDENTS

SCOR favors deposit arrangements with the ability to offset liabilities against deposits with high legal certainty.

Deposits with cedents are monitored through a quarterly analysis of exposure and associated risks. Actions aiming at reducing or limiting the exposure (e.g. ad-hoc legal opinions, introduction of offset clauses) can be implemented where needed.

3.5.2.4. MANAGEMENT OF CREDIT RISK RELATED TO FUTURE CASH FLOWS FROM LIFE REINSURANCE TREATIES

SCOR monitors the development of its cedents financial situation through regular contact, which enables to SCOR to take appropriate action when deemed necessary. In addition, credit risk on future cash flows from Life reinsurance policies is mitigated by industry-wide protection solutions in several countries, such as "Protektor" in Germany.

For more details on the impact of the valuation of intangible assets, see Section 3.2.5 – The valuation of SCOR's intangible assets and deferred tax assets may significantly affect its shareholders' equity and the price of its securities, and Section 4.6 – Notes to the consolidated financial statements, Note 6 – VOBA.

3.5.2.5. MANAGEMENT OF CREDIT RISK RELATED TO CASH DEPOSITS AT BANKS

SCOR selects bank counterparties according to their rating and credit quality. Concentration risk from cash deposits at banks is mitigated by setting counterparty exposure limits. SCOR takes into consideration the public assistance (e.g., loans, guarantees of deposits, nationalizations) which certain banks may benefit from during a financial crisis, as they are important in the economy of their respective country.

For further information on how risks related to invested assets are managed, see Section 3.4.2 – Management of market risk.

3.5.2.6. MANAGEMENT OF OTHER CREDIT RISKS

In the event of joint liability of the members in pools to which SCOR participates, the risk of default of other pool members is carefully monitored by SCOR:

- through its appointment as director and via the participation of its senior management in dedicated committees such as Audit and Risk Committees and Technical Committees, for the pools in which SCOR's participation is the most significant; and
- via the careful consideration of the financial situation of other pool members. This contributes to the application of sound and robust governance.

3.5.2.7. AGING OF ASSETS

The following table provides an overall analysis of the aging of financial assets and receivables as at December 31, 2016:

In EUR million	Current	1 – 12 months	12 – 24 months	24 – 36 months	> 36 months	Total
Available-for-sale financial assets	16,553	-	-	-	-	16,553
Financial assets at fair value through income	812	-	-	-	-	812
Derivative instruments	187	-	-	-	-	187
Loans and receivables	9,815	-	-	-	-	9,815
Insurance receivables	5,330	871	34	11	31	6,277
Tax receivables	164	-	-	-	-	164
Miscellaneous assets	292	4	-	-	-	296
Cash and cash equivalents	1,688	-	-	-	-	1,688
TOTAL	**34,842**	**875**	**34**	**11**	**31**	**35,792**

The following table provides an overall analysis of the aging of financial assets as at December 31, 2015:

In EUR million	Current	1 – 12 months	12 – 24 months	24 – 36 months	> 36 months	Total
Available-for-sale financial assets	15,381	-	-	-	-	15,381
Financial assets at fair value through income	744	-	-	-	-	744
Derivative instruments	221	-	-	-	-	221
Loans and receivables	10,492	-	-	-	-	10,492
Insurance receivables	4,929	369	36	11	33	5,378
Tax receivables	138	-	-	-	-	138
Miscellaneous assets	208	3	-	-	-	211
Cash and cash equivalents	1,626	-	-	-	-	1,626
TOTAL	**33,739**	**372**	**36**	**11**	**33**	**34,191**

Assets have been categorized within the above aging analysis according to their original due date. The due date for each of these instruments may vary depending on the type of asset. Insurance receivables business credit terms are typically based on normal terms of trade, as specified within contracts. Insurance receivables include estimates, which are presented as current. The available-for-sale investments and fair value through income categories presented above include fixed income securities and equity securities. For fixed income securities, amounts are only presented as non-current if the security has not been redeemed on the date of maturity and therefore the amount receivable is past due. For equity securities, due to the absence of a contractual date of redemption, these instruments are presented as current. Other assets presented in the above aging analysis, including derivative instruments, loans and receivables, cash and cash equivalents and other accounts receivable, are presented in a similar manner as those instruments described above, depending on the existence of a redemption date.

Impairment information relating to financial assets is included in Section 4.6 – Notes to the consolidated financial statements, Note 7 – Insurance business investments, Note 8 – Accounts receivable from and payable on assumed and ceded insurance and reinsurance transactions and Note 18 – Investment income.

3.6. LIQUIDITY RISK

3.6.1. OVERVIEW OF LIQUIDITY RISK

Liquidity risk arises when available liquidity is not sufficient to meet liquidity needs. This liquidity shortfall can result either from:

- a deviation from planned liquidity needs over either the short term, or the medium/long term;
- a deviation from estimated liquidity capacities, e.g. due to adverse business conditions.

3.6.1.1. LIQUIDITY NEEDS

SCOR needs liquidity to pay claims, operating expenses, interest payments and redemptions on its debts and declared dividends on its share capital. Without sufficient liquidity, the Group may be forced to curtail its operations, and business will suffer. In the case of catastrophe claims, in particular, it may need to settle amounts which exceed the amount of available liquidity in a reduced timeframe. SCOR's liquidity needs to cover catastrophe exposures is calibrated using the Group's gross (before retrocession) Nat Cat annual loss distributions, on top of other regular liquidity needs as listed above.

Liquidity needs may also arise from increased collateral requirements. Some facilities SCOR uses to grant letters of credit to cedents require 100% collateral in case of non-compliance with financial covenants or in case of a decrease in the Group's financial strength rating, which would result in a deterioration of the Group's liquidity level. Collateral arrangements are also used by SCOR when operating business in jurisdictions that demand a higher level of reserves than under IFRS in other jurisdictions. This is especially the case in the US for business falling under the NAIC Model Regulation XXX or Valuation of Life Insurance Policies Model Regulation, commonly referred to as Regulation XXX (or Triple X). Letters of Credit carry the risk of a duration mismatch, i.e. that short-term Letters of Credit are covering long-term business and might have to be renewed as less favorable conditions, creating additional cost.

Information on SCOR's letter of credit facilities, including related financial covenants, is included in Section 4.6 – Notes to the consolidated financial statements, Note 23 – Commitments received and granted.

3.6.1.2. SOURCES OF LIQUIDITY

The principal internal sources of the Group's liquidity are reinsurance premiums, cash flows from its investment portfolio and other assets, consisting mainly of cash or assets that are readily convertible into cash.

External sources of liquidity in normal markets include a variety of short and long-term instruments, such as repurchase agreements, commercial paper, medium and long-term debt, junior subordinated debt securities, capital securities and raising additional funds in the equity markets. For further information on SCOR's debt, including related financial covenants, see Section 4.6 – Notes to the consolidated financial statements, Note 13 – Financial liabilities.

SCOR's ability to access external sources of liquidity may be subject to adverse capital and credit market conditions.

Liquidity risks are increased when capital and credit markets experience extreme volatility or disruption, as SCOR may need to sell a significant portion of its assets quickly and on unfavorable terms, particularly if current internal resources do not satisfy its liquidity needs.

This risk may be increased due to the characteristics of certain assets held by SCOR, whose liquidity may be limited due to contractual or regulatory constraints (e.g. investments in corporate, real estate or infrastructure loans).

The availability of additional financing will depend on a variety of factors. These notably include market conditions, the general availability of credit, the volume of trading activities, the overall availability of credit to the financial services industry, SCOR's credit ratings and credit capacity, as well as the possibility that customers or lenders could develop a negative perception of SCOR's long- or short-term financial prospects if the Group incurs large investment losses or if the level of SCOR's business activity decreases due to a market downturn. Similarly, access to funds may be impaired if regulatory authorities or rating agencies take negative action that could penalize SCOR. The liquidity of several asset classes owned by SCOR may also be negatively impacted by changes to regulations or by non-conventional monetary policies. If so, these factors could prevent SCOR from successfully obtaining additional financing on favorable terms, if any.

3.6.2. MANAGEMENT OF LIQUIDITY RISK

Timing and transferability

SCOR's liquidity position is closely monitored from two points of view: timing and transferability.

Timing

SCOR assesses liquidity risks arising from both short-term and long-term liquidity needs. SCOR manages these risks via different mechanisms which consider:

- actions to be taken by the insurance or reinsurance business areas to take into account both short term and long term liquidity risk (see maturity profiles in Section 3.6.3 – Maturity profiles); and
- the appropriateness of the composition of the assets in terms of their nature, duration and liquidity in order to meet the obligations as they fall due.

Short- term liquidity, or cash management, includes the day-to-day cash requirements under normal business conditions.

Liquidity considerations over the long-term need must be assessed in a way which takes into consideration the possibility of various unexpected and potentially adverse business conditions where assets may not be sold for current market values. SCOR has defined an internal methodology to estimate the level of its liquid free assets (i.e. non-pledged assets) which could be sold within a reasonable timeframe.

Transferability

In addition, SCOR monitors the level of transferability of liquid free assets between entities, depending on local and regulatory constraints.

The Group has also been granted credit facilities from several banks to support the reinsurance activities of various subsidiaries. The Group regularly adapts and renews these facilities to support its business needs.

Additional information on the timing of repayments and liquidity risk is included in Section 3.6.3 – Maturity profiles. For further information on liquid assets of SCOR Group, see Section 4.6 – Notes to the consolidated financial statements, Note 7 – Insurance business investments.

Additional information on SCOR's letter of credit facilities is included in Section 4.6 – Notes to the financial statement, Note 23 – Commitments received and granted.

3.6.3. MATURITY PROFILES

3.6.3.1. SCOR GLOBAL P&C (NON-LIFE)

The technical reserves of SCOR Global P&C are established on an undiscounted basis (except workers compensation and payments in annuity on Motor Liability). The table below includes the estimated maturity profiles of the Non-Life insurance liabilities based on payment patterns derived from historical data.

P&C insurance contact liabilities

In EUR million	0 – 1 year	1 – 3 years	3 – 7 years	> 7 years	Total
As at December 31, 2016	3,629	4,222	3,357	2,837	14,045
As at December 31, 2015	3,619	4,409	3,350	2,611	13,989

The analysis of the balance sheet reserve movements, including net paid losses, is included in Section 4.6 – Notes to the consolidated financial statements, Note 15 – Net contract liabilities.

3.6.3.2. SCOR GLOBAL LIFE

The projections for insurance contract liabilities of the Life segment have been prepared on a best estimate basis. The amounts below represent the estimated maturity profile of the assumed contract liabilities. For long-term life reinsurance, benefit payments are typically settled net of premiums (for treaties with periodic premium payments). Where contract liabilities require to deposit cash to the cedent as collateral, the settlement normally also includes certain other account items, primarily the release of the deposits. For contracts where funds withheld are used to offset the amounts settled between SCOR and its cedents, funds withheld to cover the life insurance contract liabilities in the table below mature at the same date as the respective Life insurance contract liabilities.

The table below reflects gross cash outflows:

Life insurance contract liabilities

In EUR million	< 1 year	1 – 5 years	6 – 10 years	> 10 years	Total
As at December 31, 2016	2,751	958	1,327	9,432	14,468
As at December 31, 2015	1,868	1,128	639	10,109	13,744

3.6.4. FINANCIAL LIABILITIES

Maturity profiles have been based on undiscounted contractual maturities and include contractual interest payments (including those from cross-currency and interest rate swaps). In the case of perpetual debt, or debt which is subject to multiple optional reimbursement dates, the analysis below has been prepared based on the assumption that the Company does not make use of any of the early optional reimbursement dates. Perpetual debts are classified in the column "over 5 years" (no maturity date).

As at December 31, 2016

		Debt maturity profiles			
In EUR million	Interest rate ranges	< 1 year	1 – 5 years	> 5 years*	Total**
Subordinated debt	1.83% – 3.91%	75	278	3,306	3,659
Real estate debt	0.78% – 4.47%	41	402	96	539
Other financial debt	0.03%	5	2	4	11
TOTAL		**121**	**682**	**3,406**	**4,209**

As at December 31, 2015

		Debt maturity profiles			
In EUR million	Interest rate ranges	< 1 year	1 – 5 years	> 5 years*	Total**
Subordinated debt	1.02% – 6.98%	110	349	3,501	3,960
Real estate debt	0.97% – 4.50%	59	341	175	575
Other financial debt	0.19%	6	2	-	8
TOTAL		**175**	**692**	**3,676**	**4,543**

* *Interest on perpetual debt as at December 31, 2016 of EUR 40 million, on a yearly basis (2015: EUR 84 million).*
** *Of the amounts above, EUR 84 (1) million (2015: EUR 98 (1) million) relate to variable rate debt.*

Details on financial liabilities are presented in Section 4.6 – Notes to the consolidated financial statements, Note 13 – Financial liabilities.

Maturity analyses of financial assets that are held for managing liquidity risk are presented within Section 4.6 – Notes to the consolidated financial statements, Note 7 – Insurance business investments.

Various entities in the Group rent their office headquarters. The minimum payments relating to these operating leases are presented within Section 4.6 – Notes to the consolidated financial statements, Note 9 – Miscellaneous Assets (Tangible assets and related commitments).

(1) These amounts exclude debt which has been swapped from a variable interest rate to a fixed interest rate.

3.7. OPERATIONAL RISK

3.7.1. OVERVIEW OF OPERATIONAL RISK

Operational risks are inherent to all businesses including SCOR's. Operational risks may be split into four broad categories further described below: risks related to staff, systems or facilities, processes or external events.

3.7.1.1. RISKS RELATED TO STAFF

Risks related to staff can arise as follows:

- the failure to attract or retain key personnel or the loss of crucial information/skills concentrated in a single person, or of a whole team;
- incidents due to mistakes or non-compliance with instructions, guidelines or policies;
- internal staff mandated by SCOR having authorized access to SCOR's offices or systems taking advantage of SCOR's assets for personal gain e.g. through misappropriation of assets, tax evasion, intentional mismarking of positions or bribery;
- intentional damage to SCOR's assets (including data) required to perform its operations by internal or external staff could lead to significant additional remediation costs (to rebuild databases or systems).

3.7.1.2. RISKS RELATED TO SYSTEMS OR FACILITIES

Risks related to systems can arise as follows:

- a malfunction or a major breakdown in SCOR's IT systems, outages, disruptions due to viruses, attacks by hackers and thefts or data breaches. This can occur within SCOR's own environment or to a third party providing services or data to SCOR;
- interruption of any of SCOR's IT systems leading to loss of data, delays in service or in a loss of efficiency of teams, which could lead to remediation costs, loss of contracts or damage to the Group's reputation. In addition, these incidents could increase other operational risks such as external fraud or human error (e.g. delay in the recognition of adverse business development). The interruption of these systems could damage commercial activities including underwriting, pricing, reserving, premium and claims payment, commercial support, and asset management;
- in addition, the facilities in which SCOR operates might be impacted by natural or man-made perils. The offices might need to be closed for a period of time potentially resulting in a loss of productivity and business opportunity, as well as remediation costs.

3.7.1.3. RISKS RELATED TO PROCESSES

SCOR's risk management policies, procedures and controls may not be appropriate or sufficient. In particular, any additional workload to the planned activities could reduce the effectiveness of some processes and controls. For example, the creation of a new entity or development of a new Line of Business may lead to an accumulation of operational risks.

Since SCOR remains responsible for commitments or services contracted, including for outsourced activities, an inappropriate client relationship management or inadequate level of service and/or product quality provided by SCOR to its clients or breach of contract may lead to a loss of profitable business relationships.

In addition, SCOR may be involved in legal and arbitration proceedings due to non-protective terms of a contract, denounced either by third parties or internally which could lead to an unfavorable outcome. There are no governmental, judicial or arbitration proceedings, including any proceedings SCOR would be aware of, pending or which SCOR could be threatened with, likely to have or having a significant impact on SCOR's financial situation or profitability over the last 12 months. For information on this issue, see Section 4.6 – Notes to the consolidated financial statements, Note 25 – Litigation.

Some of SCOR's and SCOR's subsidiaries' processes are partially or fully outsourced. Failed outsourced processes could lead to direct losses and other operational incidents.

3.7.1.4. RISKS RELATED TO EXTERNAL EVENTS

SCOR may be exposed to an unfavorable business environment such as evolving or additional regulatory constraints potentially hindering its business model.

Legal and regulatory risk

As an international group, SCOR must comply with national and international laws, regulations and accounting standards. This includes all applicable economic sanctions, anti-bribery as well as anti-terrorism laws and regulations applicable to its operations, such as the economic trade sanctions laws and regulations administered by the United States Department of the Treasury's Office of Foreign Assets Control (OFAC) as well as certain laws administered by the United States Department of State, the Foreign Corrupt Practices Act (FCPA) and other anti-bribery laws such as the UK Bribery Act that generally bar corrupt payments or unreasonable gifts to foreign governments or officials. The level of legal, regulatory, tax or accounting requirements depends on several factors including the type of business (e.g. primary insurance or reinsurance business), the location and the legal structure of the entity. The large number of regulatory environments, as well as changes in regulations increase the complexity of the related processes. Any violation of laws, regulations or accounting requirements could expose SCOR to fines, class actions with compensation payments, accounts restatements or business restrictions.

For further details on current main regulatory developments which may have an impact on SCOR, see Section 3.2.3 – Risks related to capital and legal and regulatory developments.

Other risks related to external events

SCOR is also exposed to external fraud which is characterized by the fraudulent misappropriation of certain SCOR assets by third parties. External frauds may be perpetrated by various means including cyber-attacks, and usually target cash or data. Should they succeed in bypassing the controls or protection measures in place, this could generate a direct loss for the Group.

SCOR is exposed to cyber-attacks which can be very diverse in their sophistication and execution. The main targets are system functions, data and cash management. Immediate repercussions include:

- systems could be slowed down, corrupted or stopped potentially resulting in loss of productivity, corrupted data and remediation costs;
- data could be stolen, deleted or corrupted, or made public in contradiction with SCOR's regulatory or contractual obligations.

Any of these could generate a reputational risk, give rise to a breach of SCOR's legal responsibility, and may result in regulatory sanctions depending on the level of sensitivity of the data or system that is successfully attacked. The cyber-attack could also assist external fraudsters resulting in a financial loss.

3.7.1.5. INSURANCE OF SPECIFIC OPERATIONAL RISKS

Some of the above operational risks are transferred in whole or in part to direct insurers[1] as follows:

- the properties and other assets of SCOR and its subsidiaries are covered locally through property and fire damage as well as IT risk policies;
- liability risks are mostly covered at Group level and include civil liability risks related to the operation of the Company caused by employees and real estate, professional liability risks, civil liability risks of directors and officers, and cyber risks.

Nevertheless, these insurance covers could prove to be insufficient. In case of a loss, the insurance companies could also possibly contest their liability towards SCOR.

(1) Generally speaking, the insurance covers mentioned in this section illustrate the Group's policy of transferring some of its own risks. However, these insurance covers remain subject to the provisions of corresponding contracts, specifically those regarding possible sub-limits of cover, particular deductibles and geographic scope of cover and/or particular exclusions.

3.7.2. MANAGEMENT OF OPERATIONAL RISK

The two main principles driving the operational risk management approach are:

- exhaustiveness: ensure that a complete and exhaustive identification of all risks within the Group is carried out to the extent possible;
- proportionality: once operational risks are identified, management uses appropriate and proportionate responses, resources and procedures, focusing on key risks.

The process owners are responsible for managing operational risks within the processes. To meet high quality standards, the Group relies on a highly qualified staff to manage processes and the risks within these processes.

In order to support the staff, SCOR has developed Internal Control System (ICS) standards. According to the ICS standards, process owners should be in a position to identify the critical operational risks within the processes assigned to their area of responsibility. The process owners design, implement and operate appropriate key controls and maintain the net risk exposure at or below an acceptable level of possible damage.

At Group level, experienced staff members collect relevant information and analyses on operational risks, on a qualitative and quantitative basis. When relevant, they develop key indicators, with support from Group Risk Management. The Group has also implemented regular risk reporting mechanisms in order to provide for an overview of risks across the Group, as well as mitigate and monitor risks identified.

At legal entity level, depending on local requirements, specific operational risk management processes are implemented, where relevant.

In addition, through its assignments, Group Internal Audit (GIA) contributes to the oversight of operational risk management.

Outsourcing some activities or processes may improve or streamline some aspects of a process, but SCOR is still expected to deliver the same level of service. Principles to properly manage potential operational risks stemming from outsourcing of certain functions are set out in dedicated policies and guidelines.

On risks which may develop rapidly, such as external fraud, SCOR frequently adapts its risk management, for example by organizing specific training programs and sending regular warnings and detailed instructions to its employees.