SAMPO GROUP

2018

RISK MANAGEMENT REPORT

CONTENTS

REPORTS FOR THE YEAR 2018
WWW.SAMPO.COM/YEAR2018

Sampo Group Risk Management Disclosure 2018

Sampo Group's Structure and Business Model

Sampo Group ("Group") is engaged in non-life insurance, life insurance and banking mainly in the Nordics.

Non-life insurance and life insurance activities are conducted by the subsidiaries If P&C Insurance Holding Ltd (publ) ("If"), Mandatum Life Insurance Company Ltd ("Mandatum Life") and Topdanmark A/S ("Topdanmark"). The first two are wholly owned by the Group's parent company, Sampo plc ("parent company" or "Sampo"). The parent company is a listed holding company and has no insurance or banking activities of its own. Sampo has a 46.7 per cent holding of shares and 48.6 per cent of votes in Topdanmark.

In addition to the insurance subsidiaries, as at 31 December 2018 the Group's parent company held equity stakes of 21.2 per cent in Nordea Bank Abp ("Nordea") and 36.25 per cent in NDX Intressenter AB ("NDX") through which Sampo Group is engaged in banking business. The legal structure of Sampo Group including major operative companies of subsidiaries is shown in the following graph.

As a holding company Sampo manages its subsidiaries and associated companies separately from each other meaning that the legal sub-groups Mandatum Life, If, Topdanmark and the associated companies Nordea and NDX conduct their businesses independently of each other. The independent sub-groups have their own infrastructures and management as well as operative processes in place. In instances where the subsidiaries and the associated companies cooperate in some business areas, cooperation is conducted similarly as with any third-party.

The primary management tool is the work in the companies' Boards of Directors. The Boards of If and Mandatum Life consists of Sampo plc's management. Regarding wholly owned subsidiaries, Sampo gives more exact guidance on how activities should be organized in terms of group-wide principles and there is a frequent dialogue between Sampo and its subsidiaries in major operative issues. In addition, Sampo is monitoring performance, risks and capitalisation at detailed levels.

In Topdanmark, the Chairman and two other board members are from Sampo Group's management and they constitute three of the total six board members elected by the annual general meeting. Topdanmark has also adopted Sampo's main group-wide principles and policies, including the risk management principles. The dialogue between Sampo and Topdanmark as well as the Risk Management report focus on performance, risk and capitalization reporting and is not as detailed as between Sampo and its wholly-owned subsidiaries.

Nordea and NDX are associated companies and not controlled by Sampo. Because of this their risk management is not covered in Sampo Group's Risk Management Report. Nordea has, however, a material effect on the Group's profits, risks and capital needs. Hence, Nordea is carefully analysed by Sampo as a separate business and as a component of Sampo's portfolio of Nordic financial companies.

NDX Intressenter AB became an associate company of the Group in March 2018 with an ownership of 36.25 per cent. The company was established for the takeover of Nordax Group AB, which is a Swedish specialist bank providing unsecured consumer loans, mortgages and deposits to customers in Sweden, Norway, Finland and Germany. In addition, Sampo plc has built a portfolio of holdings in companies operating in the financial service industry. The portfolio amounts to approximately EUR 1 billion at the end of 2018. This portfolio includes companies such as Saxo Bank Group, of which Sampo has a holding of

Sampo Group Legal Structure
31 December 2018

Sampo plc
Finland

- 100% — **If P&C Insurance Holding Ltd (publ)**, Sweden
  - 100% — **If P&C Insurance Ltd (publ)**, Sweden
  - 100% — **If P&C Insurance AS**, Estonia
  - 100% — **If Livförsäkring AB**, Sweden
- 100% — **Mandatum Life Insurance Company Ltd**, Finland
  - 100% — **Mandatum Life Services Ltd**, Finland
  - 100% — **Mandatum Life Investment Services Ltd**, Finland
  - 100% — **Mandatum Life Fund Management S.A.**, Luxembourg
- 46.7% — **Topdanmark A/S**, Denmark
  - 100% — **Topdanmark Kapitalforvaltning A/S**, Denmark
  - 100% — **Topdanmark Forsikring A/S**, Denmark
    - 100% — **Topdanmark Liv Holding A/S**, Denmark
      - 100% — **Topdanmark Livsforsikring A/S**, Denmark
- 21.2% — **Nordea Bank Abp**, Finland

19.9 per cent. Neither NDX nor the other financial service companies are covered in the Risk Management report as they are not controlled by Sampo.

As described above Sampo Group's legal structure and business model are both straightforward and simple. In addition, there are only a limited amount of intragroup exposures, of which the most material are as follows: Sampo's holdings of hybrid capital and subordinated loan instruments issued by If, Mandatum Life, Topdanmark and Nordea, internal dividends and service charges. Service charges are related to intragroup outsourcing agreements. If and Mandatum have outsourced a part of their investment management processes to Sampo. Sampo has outsourced its IT platform services and payroll accounting to If and its financial accounting to Mandatum Life. Between Sampo and Topdanmark there are no outsourcing agreements.

As dividends are the parent company's major source of income, Sampo's primary target for every sub-group is to maintain a healthy balance between profits, risks and capital, in order to facilitate a steady stream of dividend payments in the long run. The second target is ensuring stable profitability at business portfolio level. Especially potential risk concentrations in Sampo and the correlation of reported profits are generally monitored closely, and their sources are analysed. To the extent possible risk concentrations are proactively prevented by strategic decisions. Thirdly, generally Sampo prefers low leverage and adequate liquidity buffers to be able to generate liquidity as needed. The size of assessed diversification benefit of the Group companies' profits is reflected in Sampo's decisions on own capital structure and liquidity position.

Further information on Sampo Group's steering framework and risk management process can be found in **Appendix 1 Sampo Group Steering Framework and Risk Management Process**.

Sampo has a diversified shareholder base and the **major shareholders (Board of Directors' Report, www.sampo.com/year2018)** have owned their holdings for many years. Sampo Group's main supervisor is the Finnish Financial Supervisory Authority. Due to Sampo Group's activities in the Nordic and Baltic countries other Nordic supervisors have supervisory responsibilities as well. Sampo Group's auditor is Ernst & Young Oy.

SAMPO GROUP'S RISKS AND CORE RISK MANAGEMENT ACTIVITIES

Sampo Group's Risks and Core Risk Management Activities

Sampo Group companies operate in business areas where specific features of value creation are the pricing of risks and the active management of risk portfolios in addition to sound client services. Hence common risk definitions are needed as a basis for business activities.

Group's Risks

In Sampo Group the risks associated with business activities fall into three main categories as shown in the picture Classification of Risks in Sampo Group: business risks, reputational risk and risks inherent in the business operations. The first two risk classes are only briefly described in this Risk Management Disclosure as the focus is on the third risk class.

External Drivers and Business Risks

Business risk is the risk of losses due to changes in the competitive environment and/or lack of internal operational flexibility. Unexpected abrupt changes or already identified, but internally neglected trends can cause larger than expected fluctuations in profitability when volumes, margins, costs and capital charges change and in the long run they may also endanger the existence of Sampo Group's business models.

External drivers behind such changes are varied, including for instance general economic development, changes in commonly shared values, developments in the institutional and physical environment and technological innovations. Because external drivers are inter-connected, the customer preferences and demand can change unpredictably and there may be a need to change regulations as well. Currently the themes of sustainable business practices in general and especially the issues related to environment, society and governance, are changing the preferences and values of different stakeholders and, as a result, the competitive environment is also changing in different ways. In case the company's internal understanding of needed changes or willingness and ability to act accordingly is inadequate and competitors are more able to meet clients' and regulation's altered expectations, the company is highly exposed to business risk.

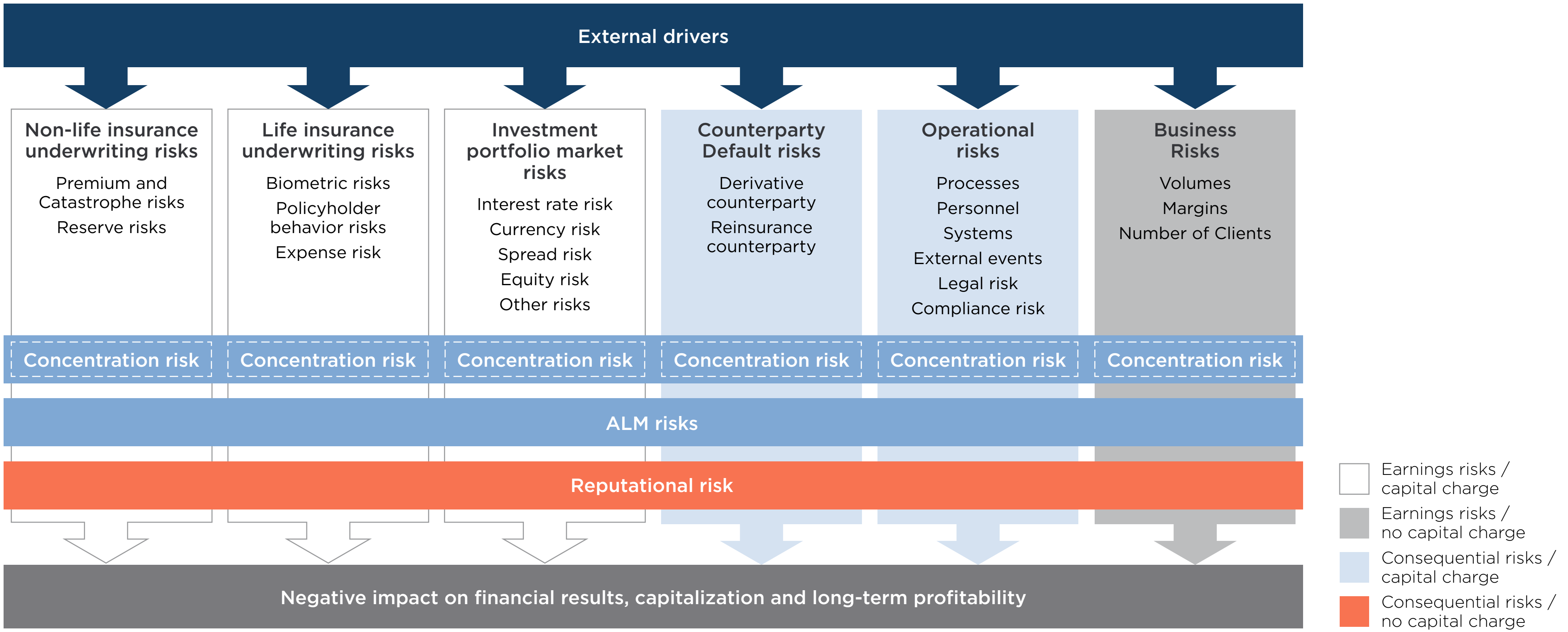
Due to the predominantly external nature of the drivers and development in the competitive environment, managing business risks is the responsibility of the executive level senior management. Proactive strategic decision making is the central tool in managing business risks, which relate to the competitive advantage. The maintenance of internal operational flexibility – i.e. the ability to adjust the business model and cost structure when needed – is also an efficient tool in managing business risks.

Business risks do not have the regulatory capital charge, although they may be a material source of earnings volatility. Because of this, business risk may have an effect on the amount and structure of actual capital base, if deemed prudent in the existing business environment.

Reputational Risk

Reputational risk refers to the risk that adverse publicity regarding the company's business practices or associations, whether accurate or not, causes a loss of confidence in the integrity of the institution. Reputational risk is often a consequence of a materialized operational or compliance risk and often manifests as a deterioration of reputation amongst customers and other stakeholders. Reputational risk is related to all activities shown in the figure Classification of Risks in Sampo Group. As the roots of reputational risk are varied, the tools to prevent it must be diverse and embedded within the corporate culture. These are reflected in how Sampo deals with environmental issues and its core stakeholders (i.e. customers, personnel, investors, other co-operation partners, tax authorities and supervisory authorities) and how Sampo Group has organized its Corporate Governance system.

Classification of Risks in Sampo Group



Risks Inherent in Business Operations

In its underwriting and investment operations, Sampo Group is consciously taking certain risks in order to generate earnings. These earnings risks are carefully selected and actively managed. Underwriting risks are priced to reflect their inherent risk levels and the expected return of investments is compared to the related risks. Furthermore, earnings related risk exposures are adjusted continuously and their impact on the capital need is assessed regularly.

Successful management of underwriting risks and investment portfolio market risks is the main source of earnings for Sampo Group companies. Day-to-day management of these risks, i.e. maintaining them within given limits and authorizations is the responsibility of the business areas and the investment unit.

Some risks, such as counterparty default risks and operational risks presented in the figure Classification of Risks in Sampo Group are indirect repercussions of Sampo's normal business activities. They are one-sided risks, which in principle have no related earnings potential. Accordingly, the risk management objective is to mitigate these risks efficiently rather than actively manage them. Mitigation of consequential risks is the responsibility of the business areas and the investment unit. The capital need for these risks is measured by independent risk management functions. It has to be noted that the categorization of risks between earnings and consequential risks varies depending on the industry. For Sampo Group's clients, for instance, the events that are subject to insurance policies are consequential risks and for Sampo Group these same risks are earnings risks.

Some risks, such as interest rate, currency and liquidity risks, are by their nature simultaneously linked to various activities. In order to manage these risks efficiently, Sampo Group companies have to have a detailed understanding of expected cash flows and their variance within each of the company's activities. In addition, a thorough understanding of how the market values of assets and liabilities may fluctuate at the total balance sheet level under different scenarios is needed. These balance sheet level risks are commonly defined as Asset and Liability Management ("ALM") risks. In addition to interest rate, currency and liquidity risk, inflation risk and risks relating to GDP growth rates are central ALM risks in Sampo Group. The ALM risks are one of the focus areas of senior management because of their relevance to risks and earnings in the long run.

In general, concentration risk arises when the company's risk exposures are not diversified enough. When this is the case, an individual extremely unfavourable claim or financial market event, for instance, could threaten the solvency of the company.

Concentrations can evolve within separate activities – large single name or industry specific insurance or investment exposures – or across activities when a single name or an industry is contributing widely to the profitability and risks of the company through both insurance and investment activities.

Concentration risk may also materialize indirectly when profitability and capital position react similarly to general economic developments or to structural changes in the institutional environment in different areas of business.

More detailed risk definitions can be found in **Appendix 2 Risk Definitions**.

Core Risk Management Activities

To create value for all stakeholders in the long run, Sampo Group companies must have the following forms of capital in place:

- Financial flexibility in the form of adequate capital and liquidity.
- Good technological infrastructure.
- Intellectual capital in the form of comprehensive proprietary actuarial data and analytical tools to convert this data to information.
- Human capital in the form of skillful and motivated employees.
- Social and relationship capital in the form of good relationships with society and clients to understand the changing needs of different stakeholders.

At the company level, these resources are continuously developed. They are in use when the following core activities related to risk pricing, risk taking, and active management of risk portfolios are conducted.

Appropriate selection and pricing of underwriting risks

- Underwriting risks are carefully selected and are priced to reflect their inherent risk levels.
- Insurance products are developed proactively to meet clients' changing needs and preferences.

Effective management of underwriting exposures

- Diversification is actively sought.
- Reinsurance is used effectively to reduce largest exposures.

Careful selection and execution of investment transactions

- Risk return ratios and sustainability issues of separate investments opportunities are carefully analysed.
- Transactions are executed effectively.

Effective mitigation of consequential risks

- Counterparty default risks are mitigated by carefully selecting counterparties, applying collateral agreements and assuring adequate diversification.
- High quality and cost-efficient business processes are maintained.
- Continuity and recovery plans are continuously developed to secure business continuity.

Effective management of investment portfolios and the balance sheet

- Balance between expected returns and risks in investment portfolios and the balance sheet is optimized, considering the features of insurance liabilities, internally assessed capital needs, regulatory solvency rules and rating requirements.
- Liquidity risks are managed by having an adequate portion of investments in liquid instruments. The portion is mainly dependent on the features of the liabilities.

At the Group level, the risk management focus is on group-wide capitalization and liquidity. It is also essential to identify potential risk concentrations and to have a thorough understanding of how reported profits of companies would develop under different scenarios. These concentrations and correlations may have an effect on the Group level capitalization and liquidity buffers as well as on the Group level management actions.

When the above-mentioned core activities are successfully implemented, a balance between profits, risks and capitalization can be achieved at both company and group level and shareholder value can be created.

IF GROUP

If Group

If Group (If) conducts property and casualty insurance operations in the Nordic and Baltic countries and underwrites policies that cover various risks for both individuals and corporations over a geographically diverse area. Corporate customers with global operations are further served by branch offices in France, Germany, the Netherlands and the United Kingdom as well as via an international partner network. In addition to geographical diversification, the underwriting business is also well diversified over product lines and clients.

The Nordic P&C (property and casualty) insurance market is relatively concentrated with the four largest insurers accounting for approximately 70 to 90 per cent of the markets in Norway, Finland and Sweden. In Denmark, the market is less concentrated. Many of the main insurers are established in more than one Nordic country, but If is the only company with a significant market share in all Nordic countries. Other market characteristics are high customer retention levels and low expense ratios in the range of 15 to 20 per cent.

If remains committed to reinforcing the market position as the uncomplicated insurer. The basis for this position is that an insurance should be easy to understand, buy and use, which requires strong customer focus, leading digital capabilities and underwriting excellence.

Underwriting Risks and Performance

If's Nordic insurance operations are organized in accordance with customer segments into the cross-border Business Areas Private, Commercial (small and medium sized companies) and Industrial (large corporates). The Baltic operations comprise a separate Business Area carried out through the Estonian company with branches in Latvia and Lithuania. Business Area Private accounts for more than half of the total premium income.

During 2018 the total underwriting performance for If increased from EUR 621.7 million to EUR 630.6 million. The performance for each Business Area is presented below:

- Business Area Private: The underwriting performance improved during the year due to premium growth supported by good customer loyalty, relatively stable claims costs and continued operational cost efficiency.
- Business Area Commercial: The underwriting performance improved during the year supported by premium growth, largely due to good customer loyalty and new partner agreements. Also, a lower large claims costs compared to the preceding year together with continued operational cost efficiency contributed positively to the overall performance development.
- Business Area Industrial: The underwriting performance deteriorated during the year, mainly reflecting the impact of a worse claims outcome compared to the preceding year. However, the premium development was strong, and the operational cost efficiency improved.
- Business Area Baltic: The underwriting performance improved during the year due to premium growth in all countries, a favourable frequency claims outcome and continued operational cost efficiency.

The three major Solvency II Lines of Business in If are Motor vehicle liability insurance, Other motor insurance and Fire and other damage to property insurance. The table Underwriting Performance, If, 31 December 2018 and 31 December 2017 presents the development of the premiums, claims, operating expenses, reinsurer's share and underwriting performance per Solvency II Lines of Business for the last two years.

Underwriting Performance

If, 31 December 2018 and 31 December 2017

	Premiums written		Premiums earned		Claims incurred		Operating expense		Reinsurers share per LoB		Total underwriting performance direct insurance	
Underwriting performance by SII LoB, EURm	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**
Medical expense insurance	137.9	131.3	136.9	129.0	76.5	69.6	36.4	34.0	0.1	0.1	23.8	25.3
Income protection insurance	422.9	397.4	410.9	381.9	252.1	236.5	93.4	80.3	-1.6	-0.5	67.0	65.6
Workers' compensation insurance	184.7	198.6	189.8	199.3	53.8	43.5	40.0	36.7	2.8	5.3	93.2	113.8
Motor vehicle liability insurance	551.3	589.7	560.4	599.1	254.4	307.7	157.7	185.0	0.6	-0.1	147.7	106.4
Other motor insurance	1,338.5	1,334.3	1,315.5	1,296.7	910.4	892.0	257.6	244.9	1.6	0.7	145.9	159.0
Marine, aviation and transport insurance	114.8	117.6	114.6	117.6	71.4	95.1	23.7	24.9	7.2	-2.2	12.3	-0.2
Fire and other damage to property insurance	1,424.4	1,433.7	1,418.7	1,424.8	914.7	877.8	275.2	300.4	87.9	50.2	140.9	196.4
General liability insurance	273.2	271.0	266.1	264.9	108.8	131.5	46.0	51.8	34.2	12.7	77.2	68.9
Assistance	13.2	14.4	13.8	14.2	12.3	12.4	3.0	2.5	0.0	0.0	-1.5	-0.7
Other life insurance	40.7	37.8	39.2	36.5	11.4	8.6	8.3	8.6	1.9	2.0	17.5	17.3
Annuities stemming from non-life insurance contracts and relating to health insurance obligations	0.0	0.0	0.0	0.0	59.7	77.3	0.0	0.0	0.0	0.0	-59.7	-77.3
Annuities stemming from non-life insurance contracts and relating to insurance obligations other than health insurance obligations	0.0	0.0	0.0	0.0	41.3	60.8	0.0	0.0	0.0	0.0	-41.4	-60.8
Total (excluding other expenses)	**4,501.6**	**4,525.7**	**4,465.9**	**4,464.0**	**2,766.8**	**2,812.8**	**941.3**	**969.2**	**134.8**	**68.3**	**623.0**	**613.7**
Other expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7	8.0
Total	**4,501.6**	**4,525.7**	**4,465.9**	**4,464.0**	**2,766.8**	**2,812.8**	**941.3**	**969.2**	**134.8**	**68.3**	**630.6**	**621.7**

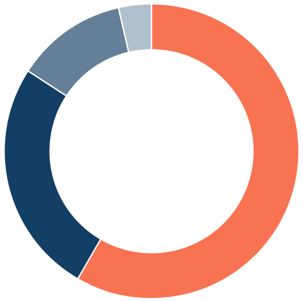
The figures are segmented in accordance with Solvency II defined Lines of Business, which differ from the insurance class segmentation according to local GAAP or IFRS requirements that are used in other tables.

As shown in the following graph Breakdown of Gross Written Premiums by Business Area, Country and Line of Business, If, 31 December 2018, the If insurance portfolio is well diversified across Business Areas, Countries and Lines of Business. The six Lines of Business are segmented in accordance with insurance class segmentation used in IFRS.

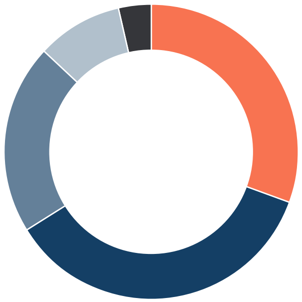
There are minor differences between the figures reported by Sampo Group and If due to differences in foreign exchange rates used in consolidation.

Breakdown of Gross Written Premiums by Business Area
If, 31 December 2018, total EUR 4,502 million

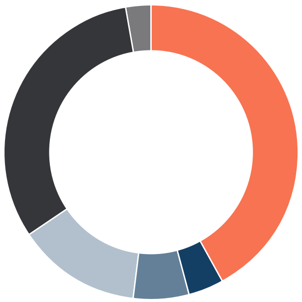
by Business Area



by Country



by Line of Business



The following adjustments from IFRS LoBs to Solvency II LoBs are made:

- *IFRS Line of Business Motor other and Motor third party liability (1,890) include Solvency II Line of Business Motor vehicle liability insurance (551) and Other motor insurance (1,339).*
- *IFRS Line of Business Accident (615) includes Solvency II Line of Businesss Income protection insurance (423), Other life (41), Medical expense insurance (138) and Assistance (13).*
- *The item Other (including group eliminations) is not shown in the breakdowns above but is included in total gross written premiums.*

Premium and Catastrophe Risk and Their Management and Control

Definitions of premium and catastrophe risk can be found in **Appendix 2 Risk Definitions**.

Despite the diversified portfolio, risk concentrations and consequently severe claims may arise through, for example, exposures to natural catastrophes such as storms and floods. The geographical areas most exposed to such events are Denmark, Norway and Sweden. In addition to natural catastrophes, single large claims could have an impact on the insurance operations' result. The negative economic impact of natural catastrophes and single large claims is effectively mitigated by having a well-diversified portfolio and a group-wide reinsurance program in place.

The sensitivity of the underwriting result and hence underwriting risk is presented by changes in certain key figures in the table Sensitivity Test of Underwriting Result, If, 31 December 2018 and 31 December 2017.

The Underwriting Committee ("UWC") shall give its opinion on and propose actions in respect of various issues related to underwriting risk. The committee also considers and proposes changes to the Underwriting Policy ("UW Policy"), which is the principal document for underwriting, and sets general principles, restrictions and directions for the underwriting activities. This document shall be reviewed and decided at least yearly by the Boards of Directors.

Sensitivity Test of Underwriting Result

If, 31 December 2018 and 31 December 2017

			Effect on pretax profit, EURm	
Key figure	Current level (2018)	Change in current level	2018	2017
Combined ratio, business area Private	83.7 %	+/- 1 percentage point	26	+/- 26
Combined ratio, business area Commercial	86.9 %	+/- 1 percentage point	12	+/- 12
Combined ratio, business area Industrial	92.3 %	+/- 1 percentage point	4	+/- 4
Combined ratio, business area Baltics	88.8 %	+/- 1 percentage point	1	+/- 1
Net premiums earned (EURm)	4,290	+/- 1 per cent	43	+/- 43
Net claims incurred (EURm)	2,954	+/- 1 per cent	30	+/- 30
Ceded written premiums (EURm)	176	+/- 10 per cent	18	+/- 17

The Chairman of the UWC is responsible for the reporting of policy deviations and other issues dealt with by the committee.

The UW Policy is supplemented with guidelines outlining in greater detail how to conduct underwriting within each Business Area. These guidelines cover areas such as tariff and rating models for pricing, guidelines in respect of standard conditions and manuscript wordings, as well as authorities and limits. In accordance with the Instructions for the Underwriting Committee, the Committee monitors compliance with the established underwriting principles.

The Business Areas manage the underwriting risk on a day-to-day basis. A crucial factor affecting the profitability and risk of non-life insurance operations is the ability to accurately estimate future claims and expenses and thereby correctly price insurance contracts. The premiums within the Private Business Area and the premiums for smaller risks within the Commercial Business Area are set through tariffs. The underwriting of risks in the Industrial Business Area and of more complex risks within the Commercial Business Area is based to a greater extent on principles and individual underwriting than on strict tariffs. In general, pricing is based on statistical analyses of historical claims data and assessments of the future development of claims frequency and claims inflation.

If's Reinsurance Policy stipulates guidelines for the purchase of reinsurance. The need and optimal choice of reinsurance is evaluated by looking at the expected cost versus the benefit of the reinsurance, the impact on result volatility and impact on capital requirements. The main tool for this evaluation is If's internal model in which frequency of claims, large claims and natural catastrophes are modelled.

A group-wide reinsurance program has been in place in If since 2003. In 2018, retention levels were between SEK 100 million (approximately EUR 9.8 million) and SEK 250 million (approximately EUR 24.4 million) per risk and SEK 250 million (approximately EUR 24.4 million) per event.

Reserve Risk and Its Management and Control

Definition of reserve risk can be found in **Appendix 2 Risk Definitions**.

The main reserve risks for If are stemming from uncertainty in the claim amounts caused by higher than expected claim inflation, life expectancy increase, retirement age or annuity indexing system, with the consequences that both annuities and lump sum payments would increase.

In the table Technical Provisions by Line of Business and Major Geographical Area, If, 31 December 2018, the technical provisions and durations of If are presented by Line of Business and Major Geographical Area. When the breakdown of technical provisions is compared to the breakdown of gross written premiums it can be seen that Finland's and Sweden's share of technical provisions is larger than the share of gross written premiums. This is mainly due to Sweden and Finland having a long duration of Motor other and Motor third party liability and Finland also having a long duration of Workers compensation. The long duration is mainly due to annuities in these Lines of Business, which increases the amount of technical provisions. The duration of the provisions, and thus the sensitivity to changes in interest rates, varies with each product portfolio. The weighted average duration for 2018 across the product portfolios was 6.6 years.

Technical Provisions by Line of Business and Major Geographical Area

If, 31 December 2018

	Sweden		Norway		Finland		Denmark		Baltics		Total	
	EURm	Duration	EURm	Duration	EURm	Duration	EURm	Duration	EURm	Duration	EURm	Duration
Motor other and MTPL	2,327	7.8	526	1.8	1,026	13.0	164	1.7	106	3.7	4,149	8.0
Workers' compensation	0	0.0	204	3.2	1,175	12.2	253	7.9	0	0.0	1,632	10.5
Liability	262	2.8	111	1.7	110	3.4	76	4.7	21	2.5	581	3.0
Accident	338	6.6	385	5.3	161	3.9	99	1.6	7	0.6	990	5.1
Property	427	1.2	466	1.0	237	1.0	106	0.9	32	0.9	1,269	1.0
Marine, aviation, transport	22	0.7	40	0.9	12	1.3	28	0.7	2	0.8	105	0.8
Total	**3,376**	**6.4**	**1,733**	**2.5**	**2,722**	**10.6**	**726**	**3.6**	**169**	**2.8**	**8,726**	**6.6**

Reserves are exposed mainly to inflation and discount rates and to some extent to life expectancy. The sensitivity of If's technical provisions to an increase in inflation, an increase in life expectancy and a decrease in the discount rate is presented in the table Sensitivities of Technical Provisions, If, 31 December 2018.

The technical provisions are further analyzed by claims years. The output from this analysis is illustrated both before and after reinsurance in the claims cost trend tables. These are disclosed in the **Note 26** to the **Financial Statements**.

The anticipated inflation trend is considered when calculating all provisions and is of the utmost importance for claims settled over a long period of time, such as Motor other and Motor third party liability and Workers' compensation. The anticipated inflation is based on external assessments of the inflation trend in various areas, such as the consumer price index and payroll index, combined with If's own estimation of costs for various types of claims. For Lines of Business such as Motor other and Motor third party liability and Workers' compensation, legislation differs significantly between countries. Some of the technical provisions for these lines include annuities which are sensitive to changes in mortality assumptions and discount rates. The proportion of technical provisions related to Motor other and Motor third party liability and Workers' compensation was 66 per cent.

Sensitivities of Technical Provisions

If, 31 December 2018

Technical provision item	Risk factor	Change in risk parameter	Country	Effect EURm 2018
Nominal provisions	Inflation increase	Increase by 1%-point	Sweden	185.0
			Denmark	15.4
			Norway	49.8
			Finland	33.8
Annuities and estimated share of claims provisions to future annuities	Decrease in mortality	Life expectancy increase by 1 year	Sweden	24.2
			Denmark	1.6
			Finland	66.1
Discounted provisions (annuities and part of Finnish IBNR)	Decrease in discount rate	Decrease by 1%-point	Sweden	66.4
			Denmark	15.2
			Finland	293.1

The Board of Directors of If decides on the guidelines governing the calculation of technical provisions. The Chief Actuary is responsible for developing and presenting guidelines on how the technical provisions are to be calculated and for assessing whether the level of total provisions is sufficient. On If level, the Chief Actuary issues a quarterly report on the adequacy of technical provisions.

The Actuarial Committee is a preparatory and advisory board for If Chief Actuary. The committee secures a comprehensive view over reserve risk, discusses and gives recommendations on policies and guidelines for calculating technical provisions.

The actuaries continuously monitor the level of provisions to ensure that they comply with the established guidelines. The actuaries also develop methods and systems to support these processes.

The actuarial estimates are based on historical claims and existing exposures that are available at the balance sheet date. Factors that are monitored include loss development trends, the level of unpaid claims, changes in legislation, case-law and economic conditions. When setting property and casualty provisions, the Chain Ladder and Bornhuetter-Fergusson methods are generally used, combined with projections of the number of claims and average claims costs. For life provisions, the IBNR calculations are based on the estimated claims cost (risk premium) over the average time from claim occurrence to reporting.

Market Risks and Investment Performance

Fixed income investments and listed equity instruments form a major part of the investment portfolio of EUR 11,092 million (11,685). A large part of the fixed income investments was at 31 December 2018 concentrated to financial institutions. The role of real estate, private equity, biometric and other alternative investments is immaterial.

The composition of the investment portfolios by asset classes in If at year end 2018 and at year end 2017 and average maturities of fixed income investments are shown in the table Investment Allocation, If, 31 December 2018 and 31 December 2017.

Investment Allocation

If, 31 December 2018 and 31 December 2017

	31 Dec 2018			31 Dec 2017		
Asset Class	**Market value, EURm**	**Weight**	**Average maturity, years**	**Market value, EURm**	**Weight**	**Average maturity, years**
Fixed income total	**9,949**	**90%**	**2.7**	**10,200**	**87%**	**2.7**
Money market securities and cash	370	3%	0.0	575	5%	0.1
Government bonds	884	8%	3.1	1,040	9%	2.5
Credit bonds, funds and loans	8,696	78%	2.8	8,584	73%	2.9
Covered bonds	*2,683*	*24%*	*2.4*	*3,084*	*26%*	*2.6*
Investment grade bonds and loans	*3,770*	*34%*	*2.7*	*3,490*	*30%*	*2.9*
High-yield bonds and loans	*1,469*	*13%*	*3.4*	*1,344*	*12%*	*2.8*
Subordinated / Tier 2	*428*	*4%*	*4.0*	*343*	*3%*	*4.7*
Subordinated / Tier 1	*346*	*3%*	*2.5*	*323*	*3%*	*3.2*
Hedging swaps	*0*	*0%*	-	*0*	*0%*	-
Policy loans	0	0%	0.0	0	0%	0.0
Listed equity total	**1,113**	**10%**	**-**	**1,448**	**12%**	**-**
Finland	0	0%	-	0	0%	-
Scandinavia	769	7%	-	1,045	9%	-
Global	344	3%	-	403	3%	-
Alternative investments total	**31**	**0%**	**-**	**39**	**0%**	**-**
Real estate	12	0%	-	20	0%	-
Private equity	19	0%	-	19	0%	-
Biometric	0	0%	-	0	0%	-
Commodities	0	0%	-	0	0%	-
Other alternative	0	0%	-	0	0%	-
Trading derivatives	**-2**	**0%**	**-**	**-3**	**0%**	**-**
Asset classes total	**11,092**	**100%**	**-**	**11,685**	**100%**	**-**
FX Exposure, gross position	**229**	**-**	**-**	**207**	**-**	**-**

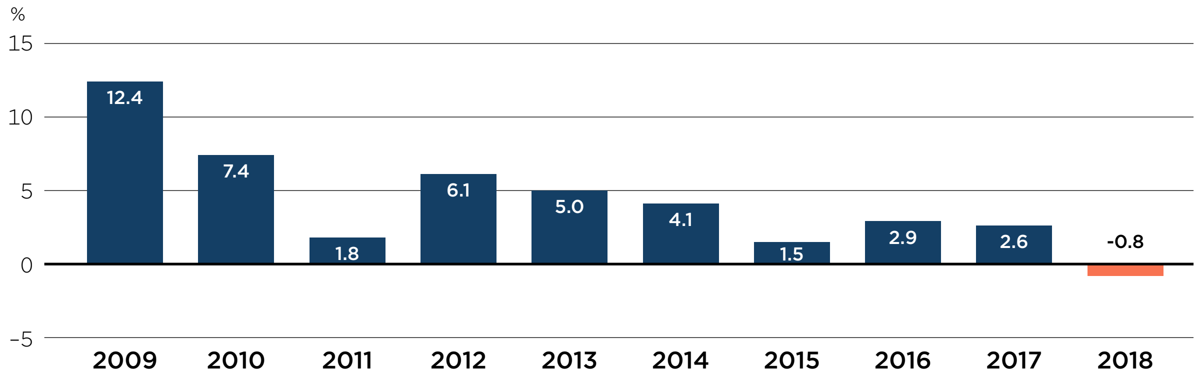
During 2018 the market volatility increased, spreads widened and the performance in equities was weak. The return of investments during 2018 amounted to -0.8 per cent. The average return of investments has been 4.3 per cent during the years 2009–2018. Returns have trended down together with lowering interest rates, tightening credit spreads and, in 2018, weak equity markets.

If's investment management strategy is conservative, with a low equity share and low fixed-income duration.

Both investment performance and market risk are actively monitored and controlled by the Investment Control Committee monthly and reported to the Own Risk and Solvency Assessment Committee ("ORSA Committee") quarterly. In addition, the allocation limits, issuer and counterparty limits, the sensitivity limits for interest rates and credit spreads as well as regulatory capital requirements are regularly monitored.

Annual Investment Returns at Market Values

If, 2009–2018



Market Risks of Fixed Income and Equity Instruments

Spread Risk and Equity Risk

Spread risk and equity risk are derived only from the asset side of the balance sheet. Exposures in fixed income and equity instruments are presented by sector, asset class and rating in the following table that also include counterparty risk exposures relating to derivative transactions. Counterparty default risks are described in more detail in section **Counterparty Default Risks**. Due to differences in the reporting treatment of derivatives, the figures in the table are not fully comparable with other tables in Sampo Group's Financial Statements.

Exposures by Sector, Asset Class and Rating

If, 31 December 2018

EURm	AAA	AA+ - AA-	A+ - A-	BBB+ - BBB-	BB+ - C	D	Non-rated	Fixed income total	Listed equities	Other	Counter-party risk	Total	Change from 31 Dec 2017
Basic industry	0	0	32	62	0	0	31	125	35	0	0	160	-23
Capital goods	0	0	32	66	0	0	75	174	379	0	0	553	-141
Consumer products	0	56	145	330	21	0	90	643	207	0	0	850	-167
Energy	0	50	0	0	63	0	172	286	25	0	0	311	27
Financial institutions	0	970	1,285	537	55	0	32	2,878	0	0	1	2,880	136
Governments	133	0	0	0	0	0	0	133	0	0	0	133	41
Government guaranteed	10	26	0	0	0	0	0	36	0	0	0	36	-84
Health care	7	11	26	57	0	0	8	108	58	0	0	166	0
Insurance	0	0	47	75	26	0	41	190	0	0	0	190	38
Media	0	0	0	0	0	0	21	21	0	0	0	21	0
Packaging	0	0	0	0	0	0	5	5	0	0	0	5	0
Public sector, other	593	122	0	0	0	0	0	715	0	0	0	715	-114
Real estate	0	5	78	161	44	0	494	782	0	12	0	794	100
Services	0	0	2	72	55	0	52	180	0	0	0	180	4
Technology and electronics	9	0	3	0	9	0	79	99	0	0	0	99	16
Telecommunications	0	0	0	167	48	0	6	220	63	0	0	283	54
Transportation	0	58	28	32	0	0	152	270	1	0	0	271	-35
Utilities	0	0	36	220	69	0	43	368	0	0	0	368	4
Others	0	26	0	0	0	0	15	41	0	0	0	42	2
Asset-backed securities	0	0	0	0	0	0	0	0	0	0	0	0	0
Covered bonds	2,629	54	0	0	0	0	0	2,683	0	0	0	2,683	-401
Funds	0	0	0	0	0	0	0	0	344	19	0	362	-60
Clearing house	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	**3,380**	**1,379**	**1,713**	**1,779**	**388**	**0**	**1,317**	**9,956**	**1,113**	**31**	**1**	**11,102**	**-603**
Change from 31 Dec 2017	**-464**	**-146**	**-147**	**256**	**208**	**0**	**38**	**-255**	**-335**	**-8**	**-4**	**-603**	**0**

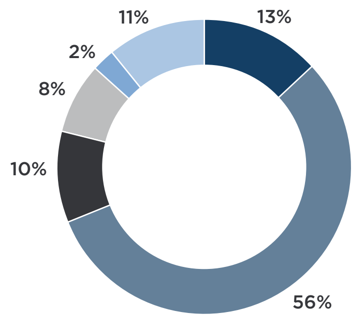
The figures include bank account balances related to insurance activities.

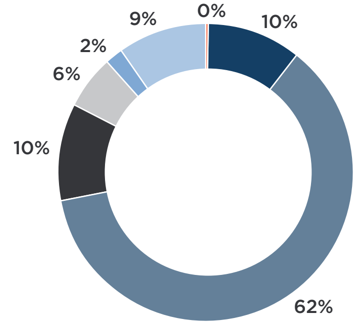
Most of the fixed income exposures are in investment grade issues and currently the role of Nordic covered bonds and Nordic banks as issuers is central. Within fixed income investments part of the money market securities, cash and investment grade government bonds form a liquidity buffer.

Regarding equities most of the equity investments are in Scandinavian markets that are selectively picked direct investments. When investing in non-Nordic equities, funds or other assets, third party managed investments are mainly used. The changes of equity positions during the year can be seen in the figure Breakdown of Listed Equity Investments by Geographical Regions, If, 31 December 2018 and 31 December 2017.

Breakdown of Listed Equity Investments by Geographical Regions

If





Market Risks of Balance Sheet

Asset and Liability Management (ALM) Risk

ALM risk is defined in **Appendix 2 Risk Definitions**.

The ALM risk is considered through the risk appetite framework and its management and governance are based on If's Investment Policies. In general, to maintain the ALM risk within the overall risk appetite, the cash flows of insurance liabilities are matched by investing in fixed income instruments denominated in the same currencies as the liabilities. Derivatives are used in case assets with healthy risk return ratios are not available in the same currency as the liability. During the current low interest rate environment, the liquidity of assets has been a special focus of If's investment strategy.

Interest Rate Risk

In general, If is negatively affected when interest rates are decreasing or staying at low levels, because the duration of liabilities in If is longer than the duration of assets. If has over the years decreased its combined ratio to counteract falling interest rates. Interest rate sensitivity in terms of the average duration of fixed income investments was 1.4. The respective duration of insurance liabilities was 6.6. Interest rate risk is managed by changing the duration of assets and interest rate derivatives based on the market view and risk appetite.

In the financial accounts, most of the technical provisions are nominal, while a significant part, namely the annuity and annuity IBNR reserves, are discounted using interest rates in accordance with regulatory rules. Thereby If is, from a financial accounting perspective, mainly exposed to changes in inflation and the regulatory discount rates. From an economic perspective, in which the cash flows of insurance liabilities are discounted with prevailing interest rates, If is exposed to changes both in inflation and nominal interest rates. For more information see the table **Sensitivities of Technical Provisions, If, 2018** in the section Underwriting Risks and Performance.

Currency Risk

If writes insurance policies that are mostly denominated in the Scandinavian currencies and in euro. The FX transaction risk is reduced by matching technical provisions with investment assets in the corresponding currencies or by using currency derivatives. Hence, the so called structural FX risk is first mitigated as a rule after which If can open short or long FX positions (active FX risk) within its FX risk limits. The transaction risk positions against SEK are shown in the table Transaction Risk Position, If, 31 December 2018. The table shows the net transaction risk exposures and the changes in the value of positions given a 10 per cent decrease in the value of the base currency.

In addition to transaction risk, If is also exposed to translation risk which at the Group level stems from foreign operations with other base currencies than SEK. Translation risk, and its management principles in Sampo Group, are described in the **Appendix 4 Profitability, Risks and Capital**.

Transaction Risk Position

If, 31 December 2018

Base currency, SEKm	EUR	USD	JPY	GBP	SEK	NOK	CHF	DKK	Other	Total, net
Insurance operations	-3,277	-135	0	-3	-14	-2,092	-5	-823	-17	-6,366
Investments	1,961	1,527	0	2	0	2,134	0	79	1	5,703
Derivatives	1,206	-1,396	0	0	24	46	9	746	11	646
Transaction risk, net position	**-110**	**-4**	**0**	**-1**	**11**	**88**	**4**	**1**	**-6**	**-17**
Sensitivity: SEK -10%	-11	0	0	0	1	9	0	0	-1	-2

If's transaction risk position in SEK represents exposure in foreign subsidiaries /branches within If with base currency other than SEK.

Cash Flows According to Contractual Maturity

If, 31 December 2018

EURm	Carrying amount total	Carrying amount without contractual maturity	Carrying amount with contractual maturity	Cash flows 2019	2020	2021	2022	2023	2024–2033	2034-
Financial assets	**12,612**	**1,422**	**11,190**	**1,457**	**2,024**	**2,616**	**2,020**	**1,280**	**857**	**0**
of which interest rate swaps	0	0	0	0	0	0	0	0	0	0
Financial liabilities	**1,119**	**8**	**1,111**	**-15**	**-15**	**-320**	**-3**	**-98**	**0**	**0**
of which interest rate swaps	2	0	2	-1	-1	-1	0	0	0	0
Net technical provisions	**8,726**	**0**	**8,726**	**-3,013**	**-1,061**	**-596**	**-411**	**-336**	**-1,947**	**-1,886**

In the table, financial assets and liabilities are divided into contracts that have an exact contractual maturity profile, and other contracts. Only the carrying amount is shown for the other contracts. In addition, the table shows expected cash flows for net technical provisions, which by their nature, are associated with a certain degree of uncertainty.

Liquidity Risk

In If, liquidity risk is limited, since premiums are collected in advance and large claims payments are usually known a long time before they fall due. Liquidity risks are managed by cash management functions which are responsible for liquidity planning. Liquidity risk is reduced by having investments that are readily tradable in liquid markets. The available liquid financial assets, being that part of the assets, which can be converted into cash at a specific point in time, are analysed and reported to the ORSA Committee.

The maturities of technical provisions and financial assets and liabilities are presented in the table Cash Flows According to Contractual Maturity, If, 31 December 2018. The average maturity of fixed income investments was 2.7 years in If. The table shows the financing requirements resulting from expected cash inflows and outflows arising from financial assets and liabilities as well as technical provisions.

If has a relatively low amount of financial liabilities and thus the Group's respective refinancing risk is relatively small.

Counterparty Default Risks

In If, the major three sources of counterparty risk are reinsurance, financial derivatives and other receivables.

Counterparty default risk arising from receivables from policyholders and other receivables related to commercial transactions is very limited, because non-payment of premiums generally results in cancellation of the insurance policies.

Reinsurance Counterparty Risk

In If, reinsurance is used regularly and If has a number of programs in place. If is using reinsurance to utilize its own capital base efficiently and reduce the cost of capital, limit large fluctuations of underwriting results and have access to the reinsurers' competence base. The Reinsurance Committee ("RC") is a collaboration forum for reinsurance related issues in general and shall give its opinion on and propose actions in respect of such issues. The committee shall consider and propose changes to the Reinsurance Policy and the Internal Reinsurance Policy. The Chairman is responsible for reporting policy deviations and other issues dealt with by the committee.

The distribution of reinsurance receivables and reinsurers' portion of outstanding claims on 31 December 2018

Reinsurance Recoverables and Pooled Solutions
If, 31 December 2018 and 31 December 2017

	31 Dec 2018		31 Dec 2017	
Rating	**Total, EURm**	**% of total**	**Total, EURm**	**% of total**
AAA	0	0%	0	0%
AA+ - A-	82	37%	59	27%
BBB+ - BBB-	1	0%	1	1%
BB+ - C	0	0%	0	0%
D	0	0%	0	0%
Non-rated	0	0%	0	0%
Captives and statutory pool solutions	142	63%	160	73%
Total	**225**	**100%**	**220**	**100%**

per rating category is presented in the table Reinsurance Recoverables and Pooled Solutions, If, 31 December 2018 and 31 December 2017.

Because the recoverables and pooled solutions reported above are not covered by collaterals the whole amount is exposed to counterparty risk.

The Reinsurance Security Committee ("RSC") shall give input and suggestions to decisions in respect of various issues regarding reinsurance default risk and risk exposure, as well as proposed deviations from the Reinsurance Security Policy. The Chairman is responsible for reporting policy deviations and other issues dealt with by the committee. If has a Reinsurance Security Policy that sets requirements for the reinsurers' minimum credit ratings and the maximum exposure to individual reinsurers. Also, the own credit-analysis plays a central role when counterparties are selected.

As seen from the above table most of the reinsurers have ratings between AA+ and A-. The ten largest individual reinsurance recoverables amounted to EUR 151 million, representing 67 per cent of the total reinsurance recoverables.

The cost of risk transfer related to the reinsurance recoverables and pooled solutions amounted to EUR 51.9 million. Of this amount, 100 per cent was related to reinsurance counterparties with a credit rating of A- or higher.

Counterparty Risk Related to Financial Derivatives

In If, the default risk of derivative counterparties is a by-product of managing market risks. The role of long term interest rate derivatives has been immaterial and counterparty risk stems mainly from short-term FX derivatives. The counterparty risk of bilaterally settled derivatives is mitigated by a careful selection of counterparties, by diversification of counterparties to prevent risk concentrations and by using collateral techniques, e.g. ISDA Master Agreements backed by Credit Support Annexes. If settles interest rate swaps in central clearing houses, which while further mitigating bilateral counterparty risk also exposes If to the systemic risk related to centralised clearing parties.

Operational Risks

Operational risks are identified and assessed through the Operational and Compliance Risk Assessment (OCRA) process. Self-assessments to identify, measure, monitor and manage operational risks are performed and reported by the line organization periodically. Identified risks are assessed from a likelihood and impact perspective. The residual risk for each risk is assessed using a traffic light system. The process is supported by an operational risk coordinator network and the results are challenged and aggregated by the Risk Management function. The most significant risks are reported to the Operational Risk Committee (ORC), the Own Risk and Solvency Assessment Committee (ORSA committee) and to the Board of Directors.

A system is implemented for incident reporting procedures and follow up. Incident data is used to analyse risk and severe incidents are tracked to ensure proper actions are taken.

If has issued several steering documents which are relevant for the management of operational risk. These include but are not limited to the Operational Risk Policy, Business Continuity and Security Policy and Information Security Policy. If also has processes and instructions in place to manage the risk of external and internal fraud. Internal training on ethical rules and guidelines is provided to employees on a regular basis. Policies and other internal steering documents are reviewed and updated on a regular basis.

Capitalization

If's subsidiaries calculate their solo regulatory Solvency Capital Requirements (SCR) as follows:

- If P&C Insurance Ltd (publ) is applying internally developed methods approved by the Swedish FSA (SFSA) for the calculation of the main non-life underwriting risks while the standard formula (SF) with transitional equity measures is applied for other risk modules. From these module-specific SCRs the company level solo SCR is calculated by a process approved by the SFSA. The end-result is a Partial Internal Model (PIM) SCR.
- Other companies use pure SF when calculating SCRs.

For If Group, there is no regulatory requirement to calculate SCR or own funds. However, for management purposes a so-called Economic Capital (EC) is calculated by applying internal methods for the main non-life underwriting risks in all geographical areas and for market risks as well. SF is applied for other risks. EC is used for different purposes, for instance as an internal basis for capital allocation.

As input to the Sampo Group level capital requirement, If applies the SF with transitional equity measures. Since the SF SCR does not consider any geographical diversification between countries the contribution of underwriting risks of If are very conservative at Sampo Group level.

To maintain consistency within this Sampo Group risk report, only the SF figures applying transitional equity measures of If are disclosed in the following paragraphs.

In If, own funds (OF) at the end of 2018 were EUR 3,599 million (3,818) while the SF SCR applying transitional measures on equity holdings was EUR 1,833 (1,938) million. Hence, the solvency ratio was 196 (197) per cent and the buffer was EUR 1,766 (1,880) million. In the figure Solvency, If, 31 December 2018, SCR is divided into risk contributions. The diversification benefit between risks is also presented in the figure.

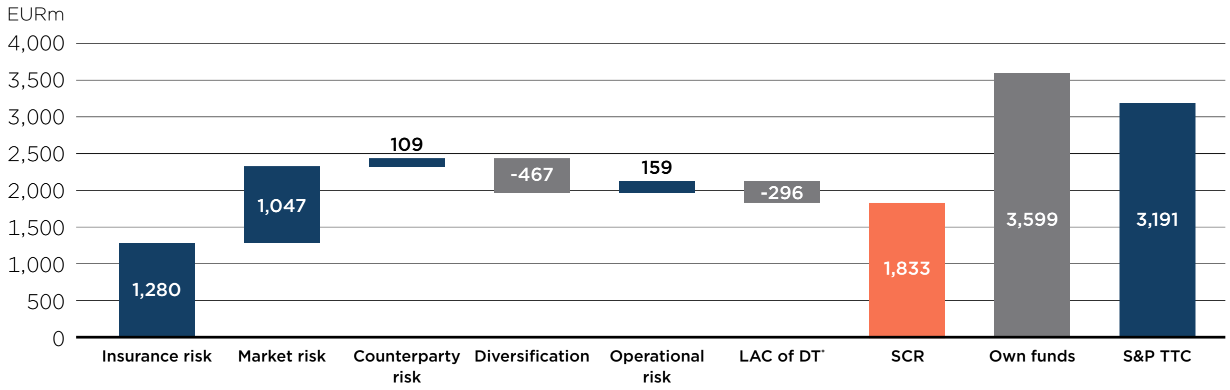
The graph includes also the rating requirement from Standard & Poor's for an A rating. Because capital need based on rating agency criteria - Total Target Capital ("TTC") for Single-A - is higher than capital need based on SCR, If's internally set capital floor is based on TTC being EUR 3,191 (3,098) million as at 31 December 2018.

The structure of If's OF as presented in the table Eligible Own Funds, If, 31 December 2018 and 31 December 2017 is strong. Tier 1 items are covering 83 per cent of OF and the role of Tier 3 items is immaterial. Norwegian Natural Perils Fund ("NNPF") is a material part of Tier 2, covering 50 per cent.

Over the last three years If has paid approximately 90 per cent of its net profit as dividends to Sampo plc. As a result, the retained earnings of If - part of the reconciliation reserve - have consistently been a source of Tier 1 growth.

Solvency

If, 31 December 2018



Loss absorbing capacity of deferred taxes

Eligible Own Funds

If, 31 December 2018 and 31 December 2017

EURm		2018	2017
Tier 1	**Total**	**2,971**	**3,192**
	Ordinary share capital	266	277
	Reconciliation reserve	2,609	2,915
	Subordinated liabilities	97	0
Tier 2	**Total**	**626**	**625**
	Subordinated liabilities	313	321
	Untaxed reserves	313	304
Tier 3	**Total**	**2**	**1**
	Deferred tax assets	2	1
Eligible own funds		**3,599**	**3,818**

EUR 409 (321) million i.e. 11.4 (8.4) per cent of OF consisted of subordinated debt at the end of 2018 (2017). As at 31.12.2018 Sampo plc holds If's subordinated liabilities with a nominal value of EUR 98.9 million, as presented in the table Solvency II Compliant Subordinated Liabilities, If, 31 December 2018.

As a summary, If's solvency is adequate, and the capital structure is strong. High and stable profitability and capacity to issue subordinated debt if needed puts If in a strong position to generate capital and to maintain a capital level needed for operations in the future as well.

Solvency II Compliant Subordinated Liabilities

If, 31 December 2018

Issuer	Instrument	Nominal amount	Carrying amount in EUR	First Call	Tiering	Nominal amount in Sampo plc's portfolio
If P&C Insurance Ltd (publ) (Sweden)	30NC10	EUR 110,000,000	109,619,137	08/12/2021	Tier 2	EUR 98,935,000
If P&C Insurance Holding Ltd (Sweden)	30NC5	SEK 500,000,000	48,551,421	01/12/2021	Tier 2	0
If P&C Insurance Holding Ltd (Sweden)	30NC5	SEK 1 500,000,000	145,657,353	01/12/2021	Tier 2	0
If P&C Insurance Holding Ltd (Sweden)	PerpNC5	SEK 1,000,000,000	96,655,437	22/03/2023	Tier 1	0
			400,483,348			

TOPDANMARK GROUP

Topdanmark Group

Topdanmark provides insurance and pension services in Denmark through the non-life insurance company Topdanmark Forsikring A/S and the life insurance company Topdanmark Livsforsikring A/S.

The strategy emphasizes creating synergies by having both non-life and life insurance business within the same group, and to improve customer experience and cost efficiency by digitalization, innovation and new technology. In June 2018 Topdanmark had a major change in the organisation to emphasize and speed up these strategic elements.

For many years Topdanmark has aimed at achieving a low risk profile. The risk strategy is to lower the risk by diversifying both market risk and insurance risk and by avoiding big individual risks or risk concentrations.

To increase the business and to mitigate the commercial risk elements Topdanmark applies a multibrand strategy and multi distribution channel strategy. It is a strategy for Topdanmark to offer customers a choice of how to communicate with Topdanmark regarding sales, services and claims handling.

Topdanmark Forsikring is the second largest non-life insurer in Denmark. Topdanmark Forsikring mainly provides insurance cover for personal, SME and agricultural customers. This fits well with the strategy of providing services in Denmark.

The insurance risk of Topdanmark Forsikring is mitigated by a comprehensive reinsurance programme. The reinsurance program focuses on catastrophe risk such as storm, cloudburst, fire and other cumulative risks, where several policyholders are affected by the same event. The biggest retentions are on storm with 100 million DKK while the biggest retention on fire is 25 million DKK. The insurance risk is dominated by Workers compensation reserve risk. The level of risk is based on time lack between event and settlement of the claim and the risk of supreme court judgements on administrative practice, which can have an effect on former years settlements of claims.

The risk is measured by a partial internal model covering nearly all insurance risk in Topdanmark Forsikring. The partial internal model has been approved by the Danish Supervisory Authorities for solvency calculations. The efficiency of the reinsurance programme is assessed by the partial internal model.

Topdanmark has no strategic financial investments. The portfolio is diversified on asset classes and within each asset class. The risk appetite is stipulated by the Board by an overall risk framework for market risk. There is a high level of match between assets and liabilities with the aim of keeping the interest risk low. The biggest part of the financial investments is in Danish mortgage bonds with an AAA rating.

Topdanmark Livsforsikring is the fourth biggest commercial life insurance company in Denmark. The company is providing pension schemes, life insurance products and some non-life health products. These products are bundled together on the same policy for one policyholder. The majority of policies are part of company pension schemes, but policies are also written on an individual basis.

New policies are written as unit-linked or with profit products. The majority of new policies are unit-linked pension products, on which the policyholder holds the market risks. The risk profiles are different for these two main types of products. The main risks for the company are the market risks and the life insurance and biometric risks.

Unit-linked products have a low risk as the policyholders hold the market risk themselves. Topdanmark Livsforsikring holds the risk on the insurance cover. The insurance risk is life insurance risk with mortality, longevity and health risk features.

Products with participating features have a very different risk structure. Policies have been split into contribution groups according to the guaranteed benefit scheme. The policyholders are guaranteed a basic yield over the lifetime of the policy. Older policies have higher yield guarantees compared to newer policies. The yield credited to a policy stems from the investment yield and is smoothened by building up bonus potentials in years with high investment yield and transferring from the bonus potentials to the policies in less good years. The bonus system is traditional in Denmark and an efficient risk mitigating technique. The maximum of the mitigation effect is the size of the bonus potentials by group of policyholders.

Beside the bonus potentials, an important risk mitigation for Topdanmark Livsforsikring is diversification in the financial investments including a high share of AAA -rated Danish mortgage bonds. As part of the risk mitigation, the interest rate risk is kept low by asset and liability management.

Underwriting Risks and Performance

Non-Life Underwriting Performance and Risks

The premiums and underwriting performance by Solvency II lines of business are presented in the table Non-Life Underwriting Performance, Topdanmark, 31 December 2018 and 31 December 2017.

There was a moderate growth in premiums of 1.7 per cent in 2018, being a result of the company´s actions to maintain a balance between growth and profitability in a competitive market.

The combined ratio was 87.5 per cent before run-off gains and 83.6 per cent respectively after run-off gains.

The growth indicates a low risk development in the portfolio.

Non-Life Underwriting Performance

Topdanmark, 31 December 2018 and 31 December 2017

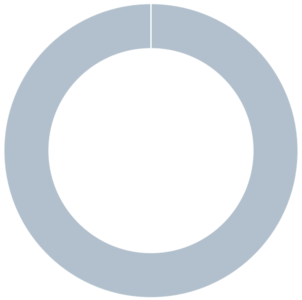
	Premiums written		Premiums earned		Claims incurred		Operating expense		Reinsurers share per LoB		Total underwriting performance direct insurance	
Underwriting performance by SII LoB, EURm	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**	**2018**	**2017**
Medical expense insurance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Income protection insurance	210.2	204.6	202.5	200.0	135.1	135.5	25.3	25.5	0.5	1.8	41.6	37.2
Workers' compensation insurance	87.4	85.0	87.0	82.8	75.0	75.7	10.7	11.7	-0.2	1.4	1.5	-5.9
Motor vehicle liability insurance	86.9	88.0	91.3	92.0	55.6	54.2	16.3	16.7	0.1	0.4	19.2	20.8
Other motor insurance	193.0	191.4	193.5	192.4	117.3	114.0	29.6	28.6	1.3	1.3	45.3	48.5
Marine, aviation and transport insurance	7.2	7.0	6.6	7.1	4.5	5.8	1.3	1.5	0.2	0.1	0.7	-0.2
Fire and other damage to property insurance	542.1	535.9	540.7	532.5	363.8	292.2	95.2	91.9	9.7	44.4	71.9	104.1
General liability insurance	75.5	73.3	71.9	70.0	36.8	39.7	11.8	12.3	3.4	3.0	19.9	14.9
Assistance	32.7	30.4	32.3	30.0	21.8	23.5	4.8	4.7	0.0	0.0	5.7	1.8
Other Life insurance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Annuities stemming from non-life insurance contracts and relating to health insurance obligations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Annuities stemming from non-life insurance contracts and relating to insurance obligations other than health insurance obligations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	**1,235.0**	**1,215.6**	**1,225.7**	**1,206.8**	**810.0**	**740.6**	**195.0**	**192.8**	**14.9**	**52.3**	**205.8**	**221.1**

As shown in the figure Breakdown of Gross Written Premiums by Business Area, Country and Line of Business, Topdanmark Non-Life, 2018, Topdanmark's insurance portfolio is diversified across Business Areas and Lines of Business.

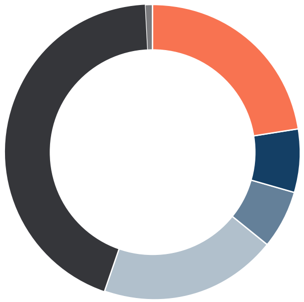
Breakdown of Gross Written Premiums
Topdanmark Non-Life, 31 December 2018, total EUR 1,235 million

by Business Area

by Country



by Line of Business



Premium and Catastrophe Risk and Their Management and Control

The main underwriting risk that influences the performance is the risk of catastrophe events. However, Topdanmark Forsikring has a very comprehensive reinsurance programme in place contributing to the low level of underwriting risk. The largest retention level of DKK 100 million plus reinstatement for each event is on storm events. The maximum retention on fire events is DKK 25 million and in Workers' compensation up to DKK 1 billion is covered with a retention of DKK 50 million.

With certain restrictions, terror is covered by the reinsurance contracts. For NBCR (nuclear, biological, chemical, radiological) risks a national Danish pool has been established. For 2019 the pool has reinsurance for DKK 4.5 billion in excess of DKK 0.5 billion. In excess of DKK 18.4 billion a state guarantee of DKK 15 billion exists.

Premium risk reduction measures taken at different levels of operations are as follows:

- Collection of data on risk and historical damage
- Use of collected and processed data in profitability reporting, risk analyses and in the internal model
- Ongoing follow-up on risk developments as well as quarterly forecasts for future risk development
- Pricing using a statistical model tool including customer scoring tools
- Reinsurance cover that reduces the risk especially for catastrophe events
- Ongoing follow-up on the risk picture and reinsurance coverage in the Risk Committee.

To maintain product and customer profitability, Topdanmark monitors changes in its customer portfolios. Provisions are recalculated, and the profitability reports are updated in the same context on a monthly basis. Based on this reporting, trends in claim levels are carefully assessed and price levels may be adjusted if considered necessary.

In the private market segment, customer scoring is used, and customers are divided into groups according to their expected profitability levels. The customer scoring has two roles. First it helps to maintain the balance between the individual customer's price and risk. Secondly it facilitates the fairness between individual customers by ensuring that no customers are paying too large premiums to cover losses from customers who pay too small premiums.

The historical profitability of major SME customers with individual insurance schemes is monitored using customer assessment systems.

In addition to the above described analysis, Topdanmark continuously improves its administration systems to achieve more detailed data, which in turn enables the company to identify the claims trends at an earlier point in time and compile information on the constituent parts of the various types of claims.

The non-life risk scenarios are presented in the table Non-Life Insurance Risk Scenarios, Topdanmark, 31 December 2018 and 31 December 2017.

Non-Life Insurance Risk Scenarios

Topdanmark, 31 December 2018 and 31 December 2017

EURm after tax	2018	2017
Underwriting risk		
Combined ratio - 1 percentage point increase	-9.5	-9.4
Provision risk		
Provisions on own account - 1% increase	-13.0	-13.1
Storm claims up to DKK 5,100m	-10.4	-10.5

Reserve Risk and Its Management and Control

The insurance lines of business are divided into short-tail i.e. those lines where the period from notification until settlement is short and long-tail i.e. those lines where the period from notification until settlement is long. The main short-tail lines in Topdanmark are buildings and other property and comprehensive motor insurance. For the short-tail lines the claims are mainly settled within the first year. Long-tail lines relate to personal injury and liability and consist of the lines Workers' compensation, Accident, Motor third party insurance and Commercial liability. Composition of non-life provisions for outstanding claims is presented in the following table.

Composition of Non-Life Provisions for Outstanding Claims

Topdanmark, 31 December 2018 and 31 December 2017

	2018		2017	
Provisions for outstanding claims	%	Duration	%	Duration
Short-tail	12.1	1.0	11.0	1.1
Annuity provisions in workers' compensation	24.3	10.6	23.0	10.4
Other claims provisions in workers' compensation	24.1	2.8	25.3	3.2
Accident	27.3	3.8	27.2	4.1
Motor personal liability	8.9	2.2	10.0	2.3
Commercial liability	3.3	1.8	3.5	1.6

Due to the longer period of claims settlement the long-tail lines of business are generally riskier than the short-tail lines. It is not unusual that claims in long-tail lines are settled three to five years after notification and in rare cases up to 10–15 years.

The reserve risk is calculated using Topdanmark's partial internal model for insurance risk. Workers' compensation claims provision has by far the biggest risk, followed by the other long-tail claims provisions.

During such a long period of settlement, the levels of compensation could be significantly affected by changes in legislation, case-law or practice in the compensation of damages adopted by the Danish Labour Market Insurance which decides on compensation for injury and loss of earnings potential in all cases of serious industrial injuries. The practice adopted by the Danish Labour Market Insurance also has some impact on the levels of compensation for accident and personal injury within motor, liability and commercial liability insurance. Supreme court decisions can also influence the provisions for former years especially for Workers' compensation.

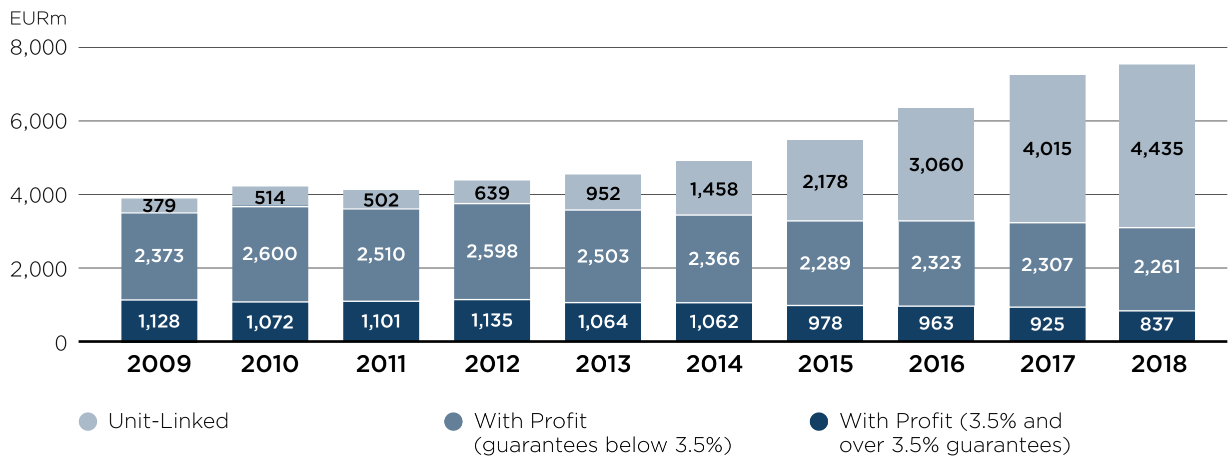
The provisioning risk represents mostly the ordinary uncertainty of calculation and claims inflation, i.e. an increase in the level of compensation due to the annual increase in compensation per policy being higher than the general development in prices or due to a change in judicial practice or legislation. The sufficiency of the provisions is tested in key lines by calculating the provisions using alternative models as well, and then comparing the compensation with information from external sources, primarily statistical material from the Danish Labour Market Insurance and the Danish Road Sector/Road Directorate.

The actuarial team has a continuous dialogue with the claims departments on any changes in the practices regarding new legislation, case-law or compensation practices as well as on the impact of such changes on the routines used to calculate individual provisions.

Life Underwriting Performance and Risks

The development of the provisions for with profit and for unit-linked business during the years 2009–2018 is illustrated in the following graph.

Development of With Profit and Unit-Linked Technical Provisions
Topdanmark Life Insurance, 2009–2018



The split of premiums between products during the last two years is presented in the table Sources of Gross Premiums, Topdanmark Life Insurance, 31 December 2018 and 31 December 2017.

The focus of sales is on unit-linked schemes and the premiums received are mostly of unit-linked schemes as shown in the table Sources of Gross Premiums, Topdanmark Life Insurance, 31 December 2018 and 31 December 2017. The regular premiums are growing steadily while the single premiums are fluctuating more from year to year.

The risk inherent in the life business is firstly related to the with profit technical provisions. When the majority of new contracts are written as unit-linked contracts, the risk will not increase as much as the volume of premiums and total provisions.

Group life insurance is a collective life insurance without savings – that is, a risk insurance – where the sum insured is paid only to the beneficiaries in case of the insured's death during the insurance period. It is irrelevant whether the death is due to accident or illness.

Sources of Gross Premiums

Topdanmark Life Insurance, 31 December 2018 and 31 December 2017

EURm	2018	2017
With profit schemes	66.1	74.9
Unit-linked schemes	273.7	235.1
Group life	43.2	68.3
Regular premiums	**383.0**	**378.3**
With profit schemes	71.3	52.9
Unit-linked schemes	902.3	713.8
Single premiums	**973.6**	**766.8**
Gross premiums	**1,356.6**	**1,145.1**

Risk return on shareholders' equity together with other main components of life business result are shown in the table Result of Life Insurance, Topdanmark 31 December 2018 and 31 December 2017.

The decline in profit is mainly due to a drop in the risk result on disability insurance and premiums waived. These results may fluctuate between years because of new claims for disability and recovery. In addition to this, the results for 2018 were impacted by weak financial markets.

Result of Life Insurance

Topdanmark, 31 December 2018 and 31 December 2017

EURm	2018	2017
Investment return on shareholders' equity	14.7	14.6
Sales and administration	-2.7	-3.4
Insurance risk	-0.3	2.3
Risk return on shareholders' equity	18.8	19.8
Profit on life insurance	**30.5**	**33.4**

Profit on life insurance consists of the following items:

- Investment return on shareholders' equity, which is the actual return on assets allocated to own funds.
- Sales and administration, which consists mainly of the cost fees received from the customers deducted by actual costs.
- Insurance risk, which is the insurance risk result on death, invalidity, and other such items.
- Risk return on shareholders' equity (divided into a fair risk return and a profit margin) from with profit schemes. The risk return is calculated for each contribution group and has been based on their estimated risk for the company and the desired level of profit margin. The risk return is conditional. The risk return is transferred to shareholders' equity if it can be covered primarily by collective bonus potentials.

The main risks of Topdanmark Livsforsikring can be summarized as follows:

- Limited loss-absorbing buffers (bonus potentials) combined with low interest rates environment
- Disability risk
- Longevity risk

Falling interest rates and, in particular, sustained low interest rates along with prolonged lives represent a significant risk scenario for insurers with guaranteed benefits as there will be a reduction of the collective and individual bonus potentials used for loss absorption by interest and risk group. When a risk event occurs, the effect on the profit will depend on the size of bonus potentials which are a loss absorbing capacity (LAC) within the insurance liabilities. When the loss absorbing capacity is higher than the losses, losses on the insurance liabilities are covered by the bonus potentials. For risk groups where the bonus potentials are fully used, the equity will hold the risk.

The bonus potentials are presented by contribution interest groups in the table Bonus Potentials by Contribution Interest Groups, Topdanmark Life Insurance, 31 December 2018. The contribution groups have been defined by Topdanmark Livsforsikring within frames set by the Danish FSA.

Bonus rate is defined as 'Share of individual and collective bonus potential as a percentage of the retrospective life insurance provisions'. As explained before, policies have been split into contribution groups according to the guaranteed benefit scheme. The policyholders are guaranteed a basic yield over the lifetime of the policy. The yield credited to a policy stems from the investment yield and is smoothened by building up bonus potentials in years with high investment yield and transferring from the bonus potentials to the policies in less good years.

Bonus Potentials by Contribution Interest Groups

Topdanmark Life Insurance, 31 December 2018

Contribution Interest group	9	10	1	3	2	4	5	6	7
Guaranteed rate	1%	1%	> 1% - 2%	> 1% - 2%	> 2% - 3%	> 2% - 3%	> 3% - 4%	> 4% - < 5%	5%
Life insurance provisions, EURm	328	64	1,144	101	377	123	353	473	11
Bonus rate: share of individual and collective bonus potentials as a percentage of the retrospective life insurance provisions.	13.1%	9.3%	12.2%	8.3%	8.2%	9.6%	16.8%	19.8%	152.4%

Life Insurance Underwriting Risk Control

The loss-absorbing buffers are a crucial part of the with profit concept in leveling of yields and claims over time. Therefore, Topdanmark Livsforsikring has continuous focus on the solvency position, the changes in the individual risks and the development of the loss-absorbing buffers. The latter is important because over time it can level out the market and insurance risks within the individual risk groups.

The Solvency Capital Requirement is calculated quarterly. When deemed necessary, due to market developments, the frequency of calculation is increased and, if necessary, the number and type of scenarios are increased.

Trends in product claim levels are assessed on top of the calculation of the insurance provisions. Profitability models are applied systematically as a follow-up on customer and portfolio levels. This assessment is used to identify price adjustment needs.

Loss Absorbing Buffers in the Event of Low Interest Rates

Customers' individual and collective bonus potential together creates the loss absorbing buffers in Danish life insurance against any losses incurred by customers on investment activities and insurance covers.

Low interest rates mean that the market value of the guarantees granted is high, and hence the related individual bonus potential is low. The lower the individual bonus potential, the higher the risk of any losses to be absorbed wholly or partially by shareholder's equity. In case interest rates are high, the same losses could, to a larger degree, be absorbed by the bonus potential.

Declines in the collective bonus potential are most frequent, due to the investment return being lower than the annual addition of interest to deposits.

In order to protect shareholders' equity, in general it will be relevant to reduce market risks in the event of lower interest rates.

All policies have been split into contribution groups according to the guaranteed benefit scheme. For all contribution groups, there are separate loss absorbing buffers and hence in each contribution group, the separate investment policy must be in line with risk taking capacity to ensure the ability to meet the guaranteed benefits. Market risk is adjusted continuously in accordance with the risk capacity of the contribution groups, and the movements in interest rates are monitored so that risk reducing actions can be taken when needed.

Disability

Disability risk is the risk of increased disability intensity or declines in the rates of resumption of work. Losses may incur due to an increase in disability frequency or due to inadequate health evaluation when the policy is written.

Extra costs, due to a permanent change in disability risk, will be partially covered by individual and collective bonus potential. The remainder affects result for the year and consequently shareholders' equity.

Longevity

Longevity risk is the risk that customers with life dependent policies, primarily annuities, live longer than expected. That will increase provisions for lifetime products.

Extra costs, due to longer lifetimes, will be partially covered by individual and collective bonus potential. The remainder affects profit/loss for the year and consequently shareholders' equity.

Following risk reduction measures and methods are used in Topdanmark Livsforsikring:

- All policies in the average return environment are divided according to the granted benefit guarantee and the investment policy is organized to ensure the ability to honor the guarantees
- Market risk can be adjusted freely in relation to the individual customer groups' risk capacity
- Normal fluctuations in ROI and risk results in the average interest rate environment are captured by bonus potentials per contribution group
- The individual bonus potentials in the average return environment are protected by cross-border protection
- Reinsurance
- Prices for death and disability are adjusted continuously in relation to the market situation and the observed injury history
- New subscription basis changes as needed
- Establishment of business processes that ensure that the products are sold at the right price / risk mix

The life insurance risk scenarios can be found in the following table.

Risk Scenarios in Life Insurance, Topdanmark

Topdanmark, 31 December 2018 and 31 December 2017

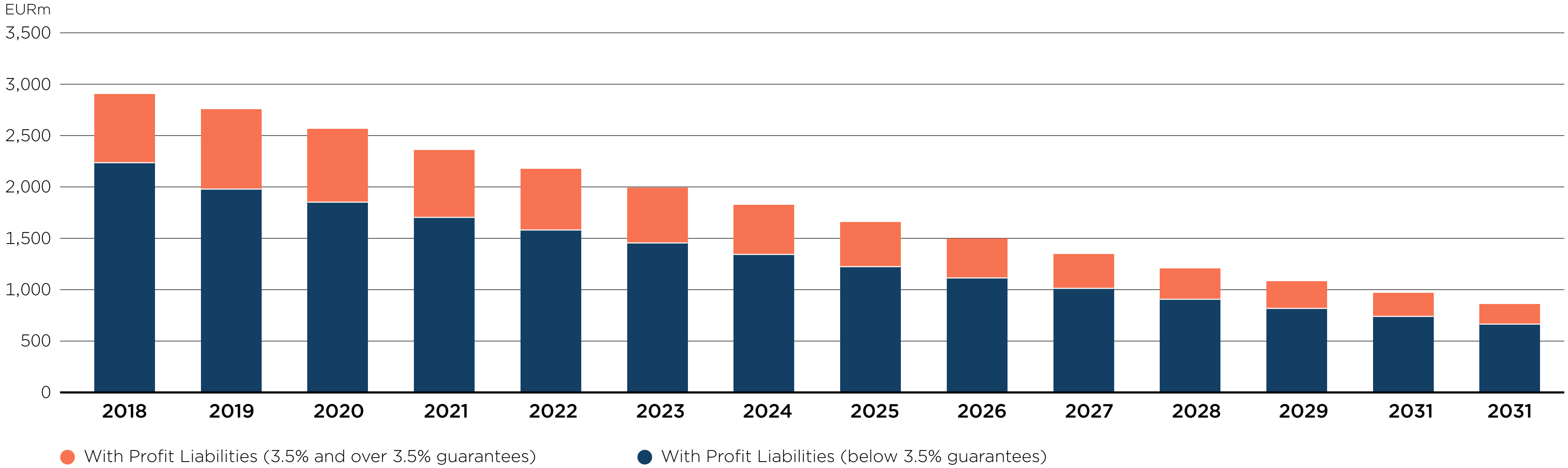
EURm after tax	2018	2017
Disability intensity - 35% increase*	-1.4	-1.4
Mortality intensity - 20% decline	-3.3	-3.7

**35% increase first year, subsequently 25%, coincident with 20% decline in reactivation rates*

To monitor effectiveness of the aforementioned risk reduction methods over time Topdanmark Risk Committee continuously monitors the company's risk profile and reinsurance cover. Also, forecasts are followed up.

The run-off profile of the life insurance with profit liabilities presented in the following graph shows that the provisions on high guarantees are decreasing. New with profit policies are written, but only with a very low guaranteed accumulated return.

Forecast of Run-off of With Profit Liabilities
Topdanmark Livsforsikring, 2018–2031



Market Risks and Investment Performance

In general, the long-term value creation shall be based mainly on the acceptance of insurance risks. To supplement the Group's profit from its insurance activities, Topdanmark accepts a certain level of financial market risks as well, given its strong liquidity position and stable, high earnings from insurance operations. Hence, in addition to fixed income instruments, Topdanmark has invested, among other things, in equities, properties and CDOs in order to improve the average investment return.

Market risks are limited to the extent that is considered appropriate, so that it is highly probable that the company gains a profit even in the very unfavourable financial market scenarios. Large risk exposures or highly correlated risks are covered to prevent unnecessary losses and market risks originating from insurance operations. The investment portfolio shall be managed in a way that market risk taking shall not endanger the normal operations or implementation of planned actions in unfavourable market conditions.

To reach the above general goals, the Investment Policy sets the company's objectives, strategies, organization and reporting practices on investments. The investment strategy is more precisely determined in terms of market risk limits and specific requirements for certain types of positions and sub-portfolios (risk appetite). The investment strategy is determined by the Board and revised at least once a year. Appropriate financial risk mitigation techniques are used.

When selecting the investment assets, a portfolio composition that matches the risk features of the corresponding liabilities is sought. The purpose of the policy is also to ensure that the company has implemented effectively the organization, systems and processes necessary to identify, measure, monitor, manage and report on investment risks to which it is exposed.

At the same time, the policy sets the framework for investment of customers' savings, schemes of right to bonus and unit-linked savings (customer funds) in Topdanmark Livsforsikring, so that the company can continue to offer attractive savings products to its clients with competitive returns in relation to the accepted investment risks.

In addition to Investment Policies, companies have a capital plan and a capital emergency plan if sudden changes occur in the asset or liability side.

When market risks are measured and managed, all exposures are included, regardless of whether they arise from active portfolio management on the investment side or from annuities, which are considered as market risk.

Asset Allocations and Investment Performance: Topdanmark Excluding Unit-Linked

As described earlier, in life insurance different contribution groups have their own investment strategies and their loss absorbing buffers and hence it is relevant to assess allocations and returns of these assets only in relation to their respective contribution groups. However, the company bears some market risk and thus the investment allocations are shown in the Investment Allocations Excluding Unit-Linked, Topdanmark, 31 December 2018 and 31 December 2017 -table without assets covering unit-linked liabilities.

Investment Allocations Excluding Unit-Linked

Topdanmark, 31 December 2018 and 31 December 2017

	Topdanmark Non-Life				Topdanmark Life			
	31 Dec 2018		31 Dec 2017		31 Dec 2018		31 Dec 2017	
Asset class	**Market value, EURm**	**Weight**	**Market value, EURm**	**Weight**	**Market value, EURm**	**Weight**	**Market value, EURm**	**Weight**
Fixed income total	**1,992**	**91%**	**2,173**	**92%**	**3,283**	**72%**	**3,172**	**71%**
Money market securities and cash	258	12%	175	7%	329	7%	282	6%
Government and mortgage bonds	1,585	72%	1,842	78%	2,507	55%	2,398	54%
Credit bonds	14	1%	16	1%	168	4%	214	5%
Index-linked bonds	68	3%	70	3%	167	4%	171	4%
CDOs	68	3%	70	3%	112	2%	106	2%
Listed equity total	**104**	**5%**	**117**	**5%**	**430**	**9%**	**491**	**11%**
Denmark	30	1%	35	1%	84	2%	104	2%
Scandinavia	2	0%	3	0%	8	0%	13	0%
Global	72	3%	80	3%	337	7%	373	8%
Alternative investments total	**93**	**4%**	**75**	**3%**	**852**	**19%**	**784**	**18%**
Real estate	47	2%	31	1%	501	11%	459	10%
Unlisted equities and hedge funds	46	2%	45	2%	351	8%	325	7%
Asset classes total	**2,189**	**100%**	**2,366**	**100%**	**4,564**	**100%**	**4,446**	**100%**

The exposure in equities outside Denmark and credit bonds has been adjusted by the use of derivatives. Unlisted equities and hedge funds include also private equity and direct holdings in non-listed equities.

The equity portfolios are well diversified and without major single positions, when associated companies are disregarded.

The main investment assets are government and mortgage bonds, which comprise primarily Danish government and mortgage bonds. The assets of this asset class are interest rate sensitive and to a significant extent equivalent to the interest rate sensitivity of the non-life insurance provisions. Consequently, the return on government and mortgage bonds should be assessed in connection with return and revaluation of non-life insurance provisions.

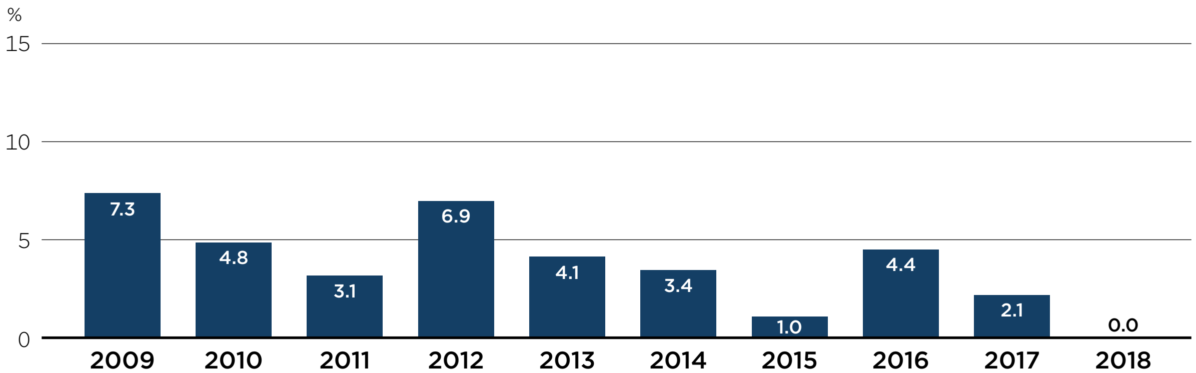
Credit bonds are composed of a well-diversified portfolio, primarily exposed to businesses in Europe and in the United States, predominantly in the investment grade segment.

Index-linked bonds comprise bonds – primarily Danish mortgage bonds – for which the coupon and principal are index-linked.

The CDO category primarily includes positions in CDO equity tranches. The underlying assets consist for the most part of senior secured bank loans, while the remaining part consists primarily of investment grade investments in corporate bonds. The real estate portfolio comprises mainly owner-occupied real estate.

The annual investment return for 2018 compared to earlier years is presented in the graph Annual Investment Returns at Market Values, Topdanmark Excluding Life Insurance, 2009–2018.

Annual Investment Returns at Market Values
Topdanmark Excluding Life Insurance, 2009–2018



Market Risks of Balance Sheet

Interest Rate Risk

Interest rate risk exposure is net of assets, liabilities and derivative instruments whose carrying amount is dependent on the interest rate level. Regarding insurance liabilities Topdanmark is exposed to interest rate risk due to provisions for outstanding claims in non-life insurance and guaranteed benefits in life insurance.

Shifting the market yield curve upwards and downwards or changing its shape leads to changed market values of assets and derivatives and thus to unrealized gains or losses.

When assessing the value and sensitivity of insurance provisions Topdanmark uses the Solvency II discount curve that has its basis on market yield curve with volatility adjustment (VA). The VA component of DKK yield curve comprises a corrective element based on the spreads of Danish mortgage bonds and European credit bonds. The VA component was 30bp at the end of 2017 and 45bp at the end of 2018.

Generally, the interest rate risk is limited and controlled by investing in interest-bearing assets in order to reduce the overall interest rate exposure of the assets and liabilities to the desired level. Therefore, the Danish mortgage bonds and government bonds have a central role in the asset portfolios. To further decrease the interest rate sensitivity of balance sheet, swaps and standard swaptions have been used for hedging purposes.

Equity Risk

The Danish part of the equity portfolio is composed based on OMXCCAP index. The rest of the equity holdings are in the foreign equity portfolio that is based on MSCI World DC in its original currency. As a net result, Topdanmark's equity holdings are well-diversified.

Real Estate Risk

The real estates are all located in Denmark, with the material part in the areas of Copenhagen and Århus. The holding covering life insurance provisions is diversified over office buildings and residential buildings. The majority of the holding related to Topdanmark's property within equity is Topdanmark's own offices.

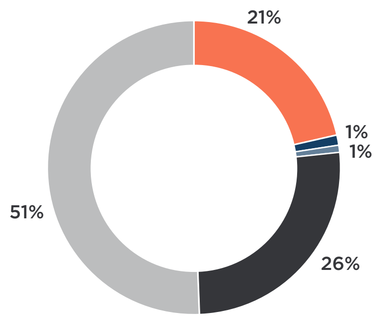
Spread Risk

Most of Topdanmark's interest-bearing assets comprise of AAA-rated Danish mortgage bonds and debt issued or guaranteed by top-rated European states. The risk of losses is considered to be minor due to the high credit quality of the issuers and because investments have been made at spreads in balance with the Topdanmark's desired risk ratio levels. The portfolio is well diversified both geographically and regarding type of debtor and therefore the exposure to the concentration of risks is insignificant.

Breakdown of Listed Equity Investments by Geographical Regions

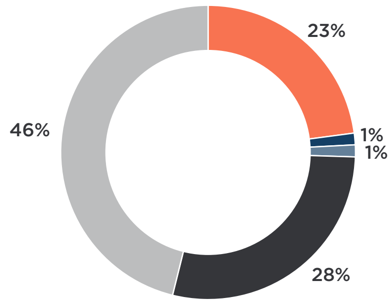
Topdanmark

31 December 2018
Total EUR 534 million



- Denmark 114
- Norway 6
- Sweden 4
- Finland 0
- Western Europe 139
- Eastern Europe 0
- North America 270
- Latin America 0
- Far East 0

31 December 2017
Total EUR 608 million



- Denmark 139
- Norway 8
- Sweden 8
- Finland 0
- Western Europe 173
- Eastern Europe 0
- North America 280
- Latin America 0
- Far East 0

Equities held by unit-linked customers in Topdanmark Livsforsikring are excluded.

Investment policy stipulates that the portfolio must be well-diversified also in counterparties and that the portfolio must not be particularly exposed to individual counterparties. The main source of spread risk is the government and mortgage bonds. Due to high allocation of these investments in the portfolios, spread risk is the most material source of market risk SCR and it was DKK 1,286 million on 31 December 2018.

Concentration Risk

Topdanmark's fixed income investments by rating classes are presented in the table Interest-bearing Assets by Rating, Topdanmark, 31 December 2018 and 31 December 2017.

Topdanmark has no significant concentrations on the investment side, except for the category "Treasury and mortgage bonds" that consists primarily of Danish government and AAA-rated Danish mortgage bonds.

As earlier described, these assets have an interest rate sensitivity that significantly corresponds to the interest rate sensitivity of the technical provisions.

Currency Risk

In practice, the only source of currency risk is investment assets because insurance liabilities are in Danish Krones. The currency risk is mitigated by derivatives and net exposures in different currencies are minor except in Euros.

Currency risk is assessed based on SCR. The value of base currency is shocked by 25 per cent against most of the currencies except 0.39 per cent against EUR where the largest exposure exists.

Interest-bearing Assets by Rating

Topdanmark, 31 December 2018 and 31 December 2017

Rating class, %	2018	2017
AAA+AA	75.9	77.8
A	3.8	2.9
BBB	0.4	0.6
<BBB	11.0	11.6
Money market deposits	8.9	7.1

Inflation Risk

Future inflation is implicitly included in the models Topdanmark uses to calculate its provisions. The general principles regarding the inclusion of an allowance for inflation differs between Workers' compensation and Illness/Accident insurance. In the former the provisions are calculated based on the expected future indexation of wages and salaries, and in latter based on the expected net price index.

An expected higher future inflation rate would generally be included in the provisions with a certain time delay, while at the same time the result would be impacted by higher future indexation of premiums. To reduce the risk of inflation within Workers' compensation and Illness/Accident insurance, Topdanmark uses index-linked bonds and derivatives to hedge a significant proportion of the expected cash flows sensitive to future inflation.

Market Risk Sensitivities

The adjacent table is a summary of selected market risk sensitivities. It can be seen from the table that the net effect of 1 percentage point parallel change in interest rates would be a less than 10 per cent drop in equity or property prices.

Liquidity Risk

Topdanmark Group has a strong liquidity position. Firstly, as premiums are paid prior to the beginning of the risk period the liquidity risk related to customers' payments is very limited. Secondly, the combination of insurance businesses is of a character in which it is highly unlikely that liquidity shock could occur, because insurance liabilities are by their nature stable liabilities and in asset portfolios money market investments are complemented by a large portfolio of liquid listed Danish government and mortgage bonds.

Experience from quite significant and sudden movements in long-term interest rates have confirmed that liquidity of these assets is not significantly affected by market shocks.

The maturity structure of technical provisions is presented in the adjacent table.

Because of the aforementioned reasons Topdanmark's liquidity risk is primarily related to the parent company Topdanmark A/S. Topdanmark A/S finances its activities and dividend programme by receiving dividend from its subsidiaries. Further financing requirements are covered by short-term money market loans, typically with a maturity of one month or less.

Market Risk Sensitivities

Topdanmark, 31 December 2018 and 31 December 2017

EURm after tax	Risk scenario	2018	2017
Effective interest rate	1 percentage point increase	3.3	6.4
Interest-bearing assets		*-64.2*	*-62.4*
Provisions for claims and benefits etc.		*67.5*	*68.8*
Index-linked bonds	5% decrease in value	-2.7	-2.8
Equities	10% decrease in value	-9.5	-10.6
CDOs < AA	10% decrease in value	-7.5	-8.0
Properties	10% decrease in value	-20.0	-17.7
Currency	Annual loss with up to a 2.5% probability	-0.1	-0.8

Expected Cash Flows for Provisions and the Bond Portfolio

Topdanmark, 31 December 2018 and 31 December 2017

		Cash flow years					
EURm	**Carrying amount**	**1**	**2-6**	**7-16**	**17-26**	**27-36**	**>36**
Provisions for claims							
2017	1,748	-542	-701	-390	-160	-76	-11
2018	1,741	-522	-736	-378	-151	-69	-12
Life insurance provisions guarantees and profitsharing							
2017	3,232	-347	-938	-1,424	-689	-219	-61
2018	3,098	-344	-941	-1,366	-619	-195	-57
Bond portfolio including interest rate derivatives							
2017	4,513	2,616	872	1,362	78	0	0
2018	4,362	1,938	1,355	1,381	150	0	0

Life insurance provisions for unit-linked products are covered by corresponding investment assets and therefore are not stated in the table.

The expected cash flows of the bond portfolio are calculated based on option adjusted durations that are used to measure the duration of the bond portfolio. The option adjustment relates primarily to Danish mortgage bonds and reflects the expected duration capturing the shortening effect of the borrower´s option to have the bond to be redeemed through the mortgage institution at any point in time.

Counterparty Default Risks

Topdanmark is exposed to counterparty risk in both its insurance and investment activities. The default risk related to fixed income and equity investments is covered by spread-risk and equity-risk models in SCR calculations and hence they are not discussed in this context.

The main sources of counterparty risk are deposits made to individual banks, derivative contracts with banks and current receivables from reinsurance companies with the addition of potential receivables that will arise in case of a 200-year catastrophe event. Topdanmark's counterparty risk is assessed by the SCR standard formula.

Reinsurance

Within insurance activities the reinsurance companies' ability to pay is the most important counterparty risk factor. Topdanmark minimises this risk by primarily buying reinsurance cover from reinsurance companies with a minimum rating of A- and by spreading reinsurance cover over many reinsurers.

For reinsurance counterparties, the Board approves security guidelines for how large a portion of a reinsurance contract can be placed per a separate reinsurer. This portion is dependent on the reinsurer's rating as well as on Topdanmark's own assessment of the reinsurer. The largest risk concentrations may occur in case of major catastrophe events, including storms and cloudbursts.

Financial Derivative Activities

To limit the counterparty risk of financial contracts, the choice of counterparties is restrictive, and collateral is required when the value of the financial contracts exceeds the predetermined limits. The size of the limits depends on the counterparty's credit rating and the terms of the contract.

Operational Risks

The Board of Directors has set the overall principles and framework for how to organize internal control activities and how to ensure independency between the various organizational functions.

These organizational functions include business areas and other functions that have ongoing responsibility for managing and limiting operational risks and thus minimizing the risk of errors or offenses which have economic and reputational loss consequences for the company. Full organizational independence is not required if it is not possible to organize it or if it is considered appropriate not to have full independence. In case there is no established full organizational independence, there is a requirement for compensatory checks.

With well-documented business practices and procedures as well as effective control environment, Topdanmark minimizes the risk of errors in internal processes and insurance fraud. There are contingency plans for the most important areas. In addition, business practices and procedures in all critical areas are continuously reviewed by Internal Audit. Internal Audit assesses risks and may make recommendations for limiting individual risks.

Topdanmark continuously develops its IT systems. Responsibility for risk management in this connection lies with the responsible business entities. Projects must always prepare a risk assessment containing a description of risks, possible consequences and measures to limit these risks.

Topdanmark monitors and regularly reports on operational risks. For this purpose, the company has a process of recording operational risk events. The events are collected centrally into a register and communicated further in the management system. This way the organization can learn from its errors.

Topdanmark has numerous documents in which instructions regarding operational risks are given. The most important ones are Policy and Guidelines for Operational Risks, Compliance and Internal Control, Information Security Policy, IT-Preparedness Strategy and IT-Preparedness Plan.

Operational risks are included as part of Topdanmark's ORSA and reported to the Risk Committee in Topdanmark's Risk Registry.

Capitalization

Solvency Capital Requirement

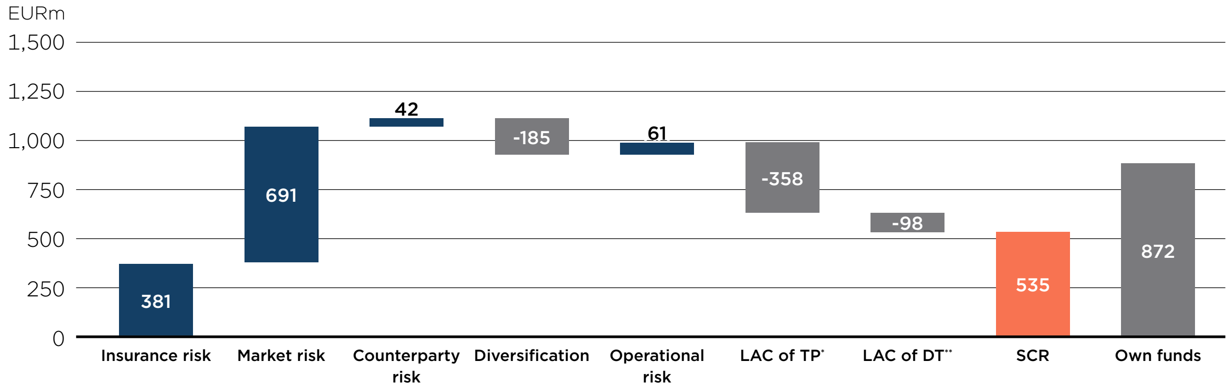
Topdanmark's Statutory Solvency Capital Requirement is calculated as follows:

- Topdanmark Forsikring calculates most of its non-life and health risks and their respective solvency capital requirement by a partial internal model approved by the DFSA. Other risks are calculated by Solvency II SCR standard formula (SF). The SCR partial internal model elements are integrated into the SCR standard formula. Topdanmark Livsforsikring applies the SCR standard formula.
- The DFSA has permitted Topdanmark to use the volatility adjusted Solvency II interest rate curve.
- Topdanmark's SCR is calculated using the SCR standard formula and the partial internal model mentioned earlier for Topdanmark Forsikring.

In case Topdanmark's SCR was calculated by only applying the SCR standard formula, the SCR would be DKK 675 million higher than the now applied SCR.

Topdanmark's standard formula SCR and eligible own funds are shown in the table Solvency, Topdanmark, 31 December 2018. The figures are presented in a different way compared to Topdanmark's Annual Report. Topdanmark presents the figures in their Annual Report as net figures after deduction of loss absorbing capacity and bonus potentials. Sampo presents the gross figures. Topdanmark presents SCR including elements from a partial internal model while Sampo presents SCR applying the standard formula. The reason is that Topdanmark's partial internal model has been approved by the Danish FSA, but Sampo Group does not have a corresponding approval from the Finnish FSA.

Solvency, Topdanmark
31 December 2018



* Loss absorbing capacity of technical provisions
**Loss absorbing capacity of deferred taxes

Own Funds

The purpose of the capital plan is - based on Topdanmark's strategy and risk appetite - to estimate future eligible own funds and solvency capital requirements, assuming that Topdanmark continues the operations in line with own expectations. The future eligible own funds are affected by earnings, dividends and issue of capital. The eligible own funds estimate covers a 5-year period.

At the company and group level, the starting point of eligible own funds is equity that is adjusted by some corrective items of which the most significant are:

Own Funds:

Shareholders' equity
– Proposed dividend
+ Deferred tax on security funds
+ Profit margin
– Intangible assets
+ Tax effect
+ Usable share, subordinated loan Tier 1 (max. 20% of Tier 1 capital)
+ Usable share, subordinated notes (max. 50% of SCR)

Own funds

The proposed dividends are deducted from own funds on the balance sheet date. Extraordinary dividends are deducted when decided by the Board of Directors based on authorization from the General Meeting.

Eligible Own Funds

Topdanmark, 31 December 2018 and 31 December 2017

EURm		2018	2017
Tier 1	**Total**	**690**	**674**
	Ordinary share capital	12	12
	Reconciliation reserve	625	609
	Subordinated liabilities	54	54
Tier 2	**Total**	**181**	**181**
	Subordinated liabilities	181	181
	Untaxed reserves	0	0
Tier 3	**Total**	**0**	**0**
	Deferred tax assets	0	0
Eligible own funds		**872**	**856**

Eligible own funds include the following Solvency II Compliant Subordinated Liabilities of Topdanmark as at 31 December 2018. Sampo Group's holdings in these assets are also presented in the following table.

Solvency II Compliant Subordinated Liabilities

Topdanmark, 31 December 2018

Issuer	Instrument	Nominal amount	Carrying amount in EUR	First Call	Tiering	Nominal amount in Sampo Group's portfolios
Topdanmark Forsikring A/S (Denmark)	10NC5	DKK 500,000,000	67,592,403	11.12.2020	Tier 2	135,000,000
Topdanmark Forsikring A/S (Denmark)	10NC5.5	DKK 850,000,000	113,829,631	11.6.2021	Tier 2	270,000,000
Topdanmark A/S (Denmark)	PerpNC5	DKK 400,000,000	53,566,885	23.11.2022	Tier 1	130,000,000
			234,988,918			

MANDATUM LIFE GROUP

Mandatum Life Group

Mandatum Life operates in Finland and in the Baltic countries and offers savings and pension policies as well as policies covering mortality, morbidity and disability risks.

Mandatum Life is a leading pension provider in the corporate segment which is the cornerstone of Mandatum Life's customer strategy. Management and personnel of these corporate customers comprise major High Net Worth Individual and retail customer potential for other focus business areas e.g. wealth management and unit-linked business and life and health risk business. During the last few years, Mandatum Life has extended its business area outside the life insurance activities e.g. to mutual fund business. These areas are still small from a performance point of view, but they do increase activities on operational risk management side.

Existing with profit liabilities and assets backing these liabilities are still the most critical areas from risk management point of view, since business in question constitutes a major part of Mandatum Life's solvency capital requirement. Mandatum Life's strategy is to maintain a sufficiently strong solvency position, which makes it possible to seek a higher long-term investment return than average guarantees.

Underwriting Risks and Performance

In this section, the underwriting risks and performance as well as the development of technical provisions are presented. Further details of technical provisions can be found in **Appendix 5 Valuation for Solvency Purposes**.

The unit-linked business has been Mandatum Life's main focus area since 2001. Since then the trend of unit-linked technical provisions has been upward and the average annual growth in unit-linked technical provisions has been over 20 per cent per annum. Due to the nature of the unit-linked business, volatility between the years has been relatively high.

In contrast to the unit-linked trend, the trend of with profit technical provisions has been downward since 2005 (except for year 2014 when group pension portfolio from Suomi Mutual was transferred to Mandatum Life). In particular, the parts of technical provisions with the highest guarantees (4.5 per cent and 3.5 per cent) have decreased. The development of with profit and unit-linked portfolios is presented in the figure Development of With Profit and Unit-Linked Technical Provisions, Mandatum Life, 2009–2018.

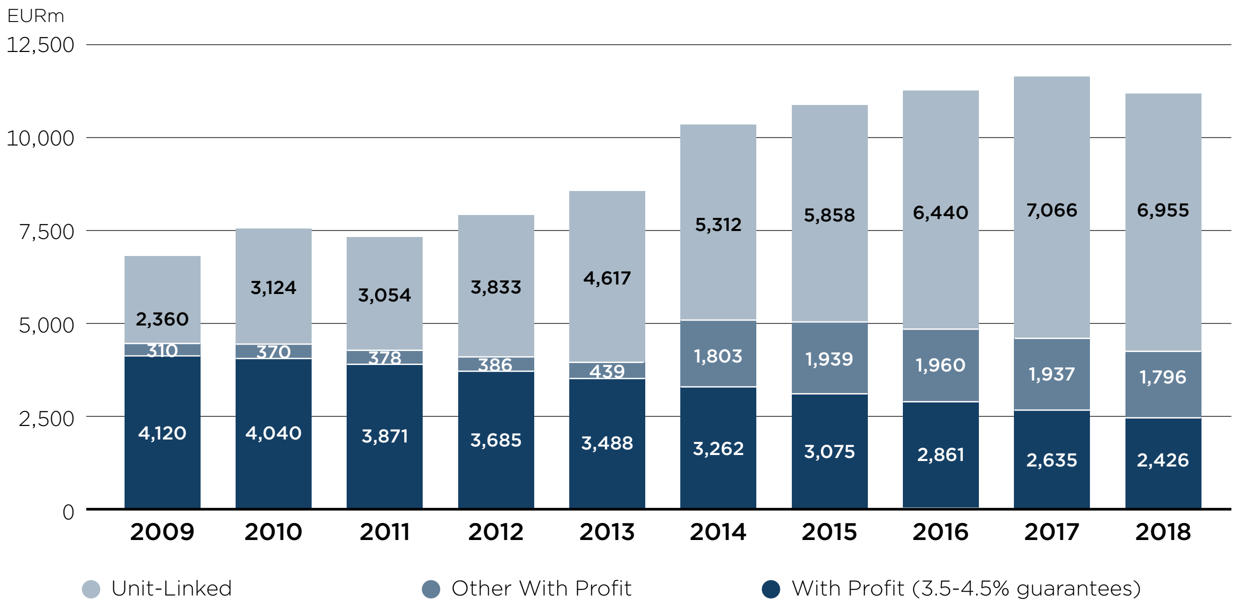
The above-mentioned group pension portfolio transferred from Suomi Mutual and related assets are separated from the rest of the Mandatum Life balance sheet into a segregated group pension portfolio. The segregated group pension portfolio has its own profit sharing rules, investment policy and Asset and Liability Committee. The with profit liabilities other than in the segregated group pension portfolio are hereafter referred to as the "original" with profit liabilities.

During the year 2018 insurance liabilities developed as planned. Unit-linked business increased although technical provisions related to unit-linked liabilities decreased slightly due to negative development of financial markets in general. The technical provisions with the highest guarantees fell by EUR 209 million. In total, the with profit technical provisions decreased by EUR 352 million and were EUR 4,221 million.

The development of insurance liabilities during 2018 is shown in the table Analysis of the Change in Provisions Before Reinsurance, Mandatum Life, 31 December 2018.

Development of With Profit and Unit-Linked Technical Provisions

Mandatum Life, 2009–2018



Analysis of the Change in Provisions Before Reinsurance

Mandatum Life, 31 December 2018

EURm	Liability 2017	Premiums	Claims paid	Expense charges	Guaranteed interest	Bonuses	Other	Liability 2018	Share %
Unit-linked, excl. Baltic	**6,901**	**953**	**-684**	**-73**	**0**	**1**	**-288**	**6,810**	**61%**
Individual pension insurance	1,411	58	-19	-14	0	0	-136	1,298	12%
Individual life	2,491	138	-297	-21	0	0	-115	2,195	20%
Capital redemption operations	2,231	679	-363	-29	0	0	0	2,519	23%
Group pension	768	78	-5	-9	0	1	-36	797	7%
With profit and others, excl. Baltic	**4,558**	**104**	**-438**	**-33**	**122**	**1**	**-106**	**4,208**	**38%**
Group pension insurance, segregated portfolio	**1,065**	**1**	**-57**	**-1**	**23**	**0**	**-22**	**1,008**	**9%**
Basic liabilities. guaranteed rate 3.5%	687	1	-57	-1	23	0	5	658	6%
Reserve for decreased discount rate (3.5% -> 0.50%)	261	0	0	0	0	0	-11	250	2%
Future bonus reserves	117	0	0	0	0	0	-17	100	1%
Group pension	**1,997**	**29**	**-207**	**-5**	**63**	**1**	**1**	**1,879**	**17%**
Guaranteed rate 3.5%	1,744	4	-175	-3	59	0	-26	1,603	14%
Guaranteed rate 2.5%, 1.5% or 0.0%	253	26	-32	-3	4	1	27	276	2%
Individual pension insurance	**825**	**8**	**-138**	**-5**	**31**	**0**	**42**	**763**	**7%**
Guaranteed rate 4.5%	624	5	-80	-4	26	0	-4	567	5%
Guaranteed rate 3.5%	134	2	-32	-1	4	0	20	128	1%
Guaranteed rate 2.5% or 0.0%	67	1	-27	0	1	0	26	68	1%
Individual life insurance	**162**	**31**	**-25**	**-10**	**5**	**0**	**-11**	**153**	**1%**
Guaranteed rate 4.5%	54	4	-5	-1	2	0	-3	52	0%
Guaranteed rate 3.5%	80	9	-15	-3	3	0	2	76	1%
Guaranteed rate 2.5% or 0.0%	28	17	-6	-6	0	0	-10	25	0%
Capital redemption operations	**26**	**0**	**-1**	**0**	**0**	**0**	**-2**	**24**	**0%**
Guaranteed rate 3.5%	0	0	0	0	0	0	0	0	0%
Guaranteed rate 2.5% or 0.0%	26	0	-1	0	0	0	-2	24	0%
Future bonus reserves	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0%**
Reserve for decreased discount rate	**325**	**0**	**0**	**0**	**0**	**0**	**-93**	**232**	**2%**
Longevity reserve	**105**	**0**	**0**	**0**	**0**	**0**	**-10**	**95**	**1%**
Assumed reinsurance	**1**	**1**	**-1**	**0**	**0**	**0**	**2**	**3**	**0%**
Other liabilities	**51**	**34**	**-10**	**-13**	**0**	**0**	**-13**	**50**	**0%**
Total, excl. Baltic	**11,459**	**1,057**	**-1,122**	**-107**	**122**	**2**	**-393**	**11,017**	**99%**
Baltic	**180**	**25**	**-31**	**-4**	**1**	**0**	**-11**	**159**	**1%**
Unit-linked liabilities	165	23	-29	-3	0	0	-11	145	1%
Other liabilities	15	2	-2	-1	1	0	0	14	0%
Mandatum Life Group total	**11,638**	**1,082**	**-1,153**	**-111**	**122**	**2**	**-405**	**11,176**	**100%**

In most of the original with profit policies the guaranteed interest rate is 3.5 per cent. In individual policies sold in Finland before 1999, the guaranteed interest rate is 4.5 per cent, which is also the statutory maximum discount rate of these policies. Mandatum Life has sold policies with lower guaranteed rates as well, but their share is small.

With respect to with profit policies with the 4.5 per cent guaranteed rate, the maximum discount rate used when discounting technical provisions has been decreased to 3.5 per cent over the lifetime of these policies. As a result, technical provisions have been supplemented by a separate reserve (reserve for decreased discount rate). The amount of this reserve was EUR 39 million at the end of 2018 (43).

In addition, the above-mentioned reserve for decreased discount rate includes supplemental reserves for years 2019–2021 to lower discount rates of with profit liabilities as follows:

- EUR 169 million has been reserved to lower the discount rate to 0.25 per cent for years 2019–2020; and
- EUR 24 million for the year 2021 to lower the discount rate to 2.5 per cent.

In total, the reserve for decreased discount rate that Mandatum Life has set up as part of the original insurance portfolio's technical provisions was EUR 232 million.

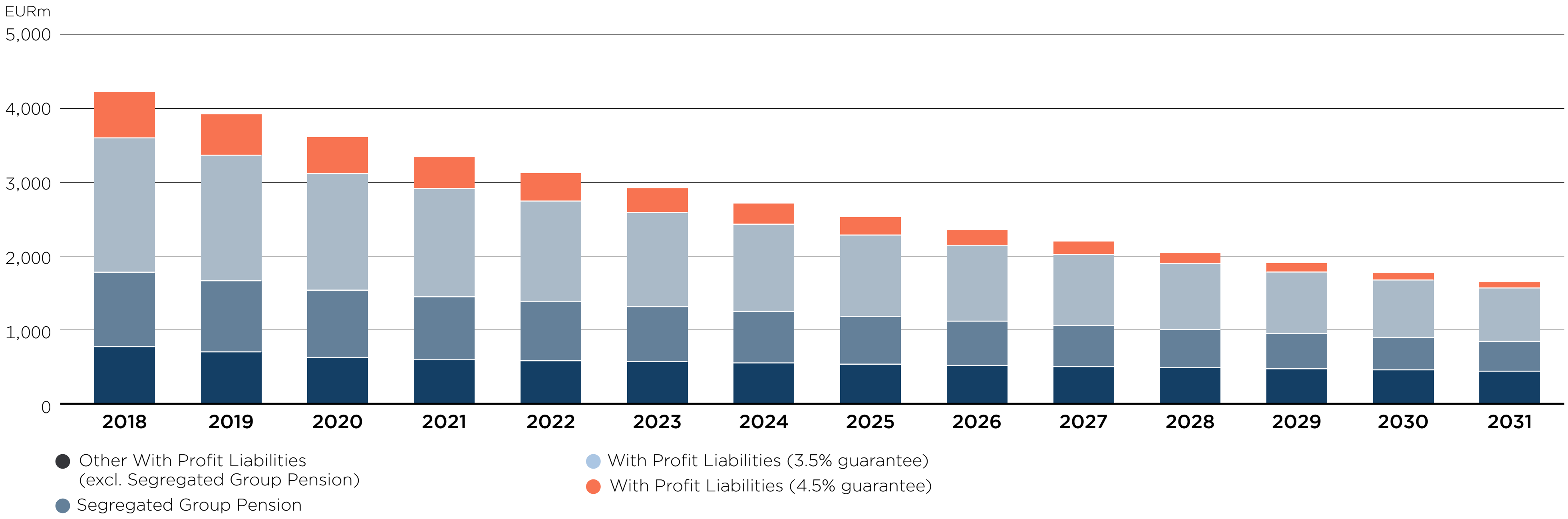
The guaranteed interest for the segregated group pension policies is mainly 3.5 per cent. More important from a risk management point of view is that the discount rate of liabilities is 0.5 per cent and related reserve for decreased discount rate was EUR 250 million (261) at the end of 2018. The segregated group pension portfolio includes a separate future bonus reserve. The reserve amounts to EUR 100 million (117). This future bonus reserve can be used also to cover possible investment losses or to finance possible reserve strengthening due to changes in the applied discount rate of segregated technical provisions.

Because of this the future bonus reserve has a significant role in the risk management of the segregated group pension portfolio. For this reason, it has also its own profit sharing rules as mentioned before.

The decreasing trend of with profit liabilities is expected to continue. Liabilities with the highest guarantees and highest capital consumption are expected to decrease from EUR 2,426 million to below EUR 900 million during the remaining Solvency II transitional period of the technical provision (1 January 2019–31 December 2031). The duration of the segregated group pension portfolio is around 10 years and the duration of the original with profit portfolio is around 10 years.

The figure Forecast of With Profit Liabilities, Mandatum Life, 2018–2031 shows the expected trend of existing with profit liabilities.

Forecast of With Profit Liabilities
Mandatum Life, 2018–2031



Biometric Risks

Mandatum Life's main biometric risks are longevity, mortality and disability. In general, the long duration of policies and restriction of Mandatum Life's right to change policy terms and conditions and tariffs increase biometric risks. A definition of the biometric risk can be found in **Appendix 2 Risk Definitions**. If the premiums turn out to be inadequate and cannot be increased, technical provisions have to be supplemented by an amount corresponding to the increase in expected losses.

Longevity risk is the most critical biometric risk in Mandatum Life. The solvency capital requirement of longevity risk is also highly dependent on the interest rate level, which in practice means that the lower the applied discount rate is, the higher the longevity SCR would be. Most of the longevity risk arises from the with profit group pension portfolio. With profit group pension policies have mostly been closed for new members for years and due to this the average age of members is relatively high, almost 70 years. In the unit-linked group pension and individual pension portfolio the longevity risk is less significant because most of these policies are fixed term annuities including death cover compensating the longevity risk.

The annual longevity risk result and longevity trend is analyzed regularly. For the segregated group pension portfolio, the assumed life expectancy related to the technical provisions was revised in 2014 and for the other group pension portfolios in 2002 and 2007. In total, these changes increased the 2018 technical provision by EUR

95 million (105) including a EUR 79 million longevity reserve for the segregated group pension portfolio. The cumulative longevity risk result has been positive since these revisions. The longevity risk result of group pension for the year 2018 was EUR 8.3 million (6.8) after a EUR 9.7 million release from the longevity reserve.

The mortality risk result in life insurance is positive. A possible pandemic is seen as the most significant risk that could adversely affect the mortality risk result.

The insurance risk result of other biometric risks has been profitable overall, although the different risk results vary considerably. In the longer term, disability and morbidity risks are mitigated by the company's right to raise insurance premiums for existing policies in case the claims experience deteriorates.

The table Claim Ratios After Reinsurance, Mandatum Life, 31 December 2018 and 31 December 2017 shows the insurance risk result in Mandatum Life's Finnish life insurance policies. The ratio of the actual to expected claims costs was 75 per cent in 2018 (76). Sensitivity of the insurance risk result can also be assessed based on the information in the table. For instance, the increase of mortality by 100 per cent would increase the amount of benefit payments from EUR 10 million to EUR 21 million.

The underwriting portfolio of Mandatum Life is relatively well diversified and does not include any major concentration of biometric risks. To further mitigate the effects of possible risk concentrations, Mandatum Life has catastrophe reinsurance in place.

In general, biometric risks are managed by careful risk selection, by setting prices to reflect the risks and costs, by setting upper limits for the protection granted and by use of reinsurance. Mandatum Life's Underwriting Policy sets principles for risk selection and limits for sums insured. The Reinsurance Policy governs the use of Reinsurance. The Board approves the Underwriting policy, Reinsurance Policy, pricing guidelines and the central principles for the calculation of technical provisions.

The Insurance Risk Committee is responsible for maintaining the Underwriting Policy and monitoring the functioning of the risk selection and claims processes. The Committee also reports all deviations from the Underwriting Policy to the RMC. The Insurance Risk Committee is chaired by the Chief Actuary who is responsible for ensuring that the principles for pricing policies and for the calculation of technical provisions are adequate and in line with the underwriting and claims management processes.

Reinsurance is used to limit the amount of individual mortality and disability risks. The Board of Directors annually approves the Reinsurance Policy and determines the maximum amount of risk to be retained on the company's own account. The highest retention of Mandatum Life is EUR 1.5 million per insured.

The risk result is followed actively and thoroughly analyzed annually. Mandatum Life measures the efficiency of risk selection and the adequacy of tariffs by collecting information about the actual claims expenditure for each product line and each type of risk and comparing it to the claims expenditure assumed in insurance premiums of every risk cover.

Claims Ratios After Reinsurance

Mandatum Life, 31 December 2018 and 31 December 2017

	31 Dec 2018			31 Dec 2017		
EURm	Risk income	Claims expense	Claims ratio	Risk income	Claims expense	Claims ratio
Life insurance	**48.7**	**24.5**	**50%**	**47.6**	**23.5**	**49%**
Mortality	29.3	10.3	35%	29.0	12.0	41%
Morbidity and disability	19.4	14.2	74%	18.6	11.5	62%
Pension	**86.4**	**77.1**	**89%**	**85.6**	**77.5**	**91%**
Individual pension	13.3	13.9	104%	12.8	13.5	105%
Group pension	73.1	63.3	87%	72.8	64.0	88%
Mortality (longevity)	69.9	61.6	88%	68.2	61.4	90%
Disability	3.2	1.7	54%	4.6	2.6	57%
Total	**135.1**	**101.7**	**75%**	**133.2**	**101.0**	**76%**

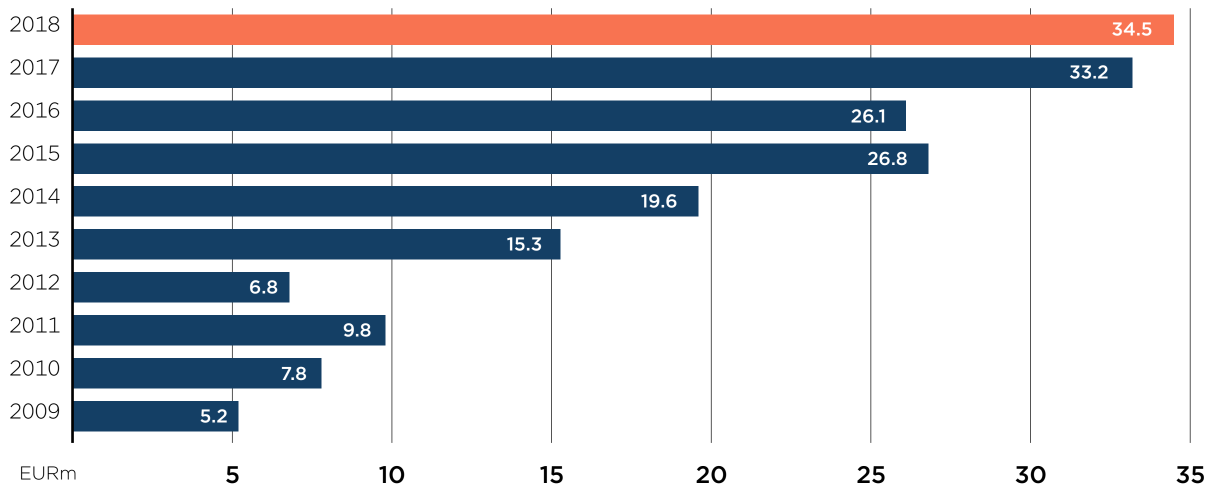
Technical provisions are analyzed and the possible supplemental needs are assessed regularly. Assumptions related to technical provisions are reviewed annually. The adequacy of the technical provisions is tested quarterly. Tariffs for new policies are set and the Underwriting Policy and assumptions used in calculating technical provisions are updated based on adequacy tests and risk result analysis.

Policyholder Behavior and Expense Risks

From an Asset and Liability Management point of view, surrender risk is not material because in Mandatum Life around 90 per cent of with profit technical provisions consists of pension policies in which surrender is possible only in exceptional cases. Surrender risk is therefore only relevant in individual life and capital redemption policies of which the related technical provisions amount to less than 5 per cent (below EUR 200 million) of the total with profit technical provisions. Furthermore, the supplements to technical provisions are not paid out at surrender which also reduces the surrender risk related to the with profit policies. Due to the limited surrender risk, the future cash flows of Mandatum Life's insurance liabilities are quite predictable.

Policy terms and tariffs cannot usually be changed materially during the lifetime of the insurance, which increases the expense risk. The behavior of financial markets has also an influence on expense risk since normally company's fee income is linked to policy reserves in unit-linked policies. The main challenge is to keep the expenses related to insurance administrative processes and complex IT infrastructure at an effective and competitive level. In year 2018, the expense result of Mandatum Life Group was EUR 35 million (33). Mandatum Life does not defer insurance acquisition costs. Since 2012 the expense result has grown significantly, especially due to increased fee income from unit-linked business, as presented in the figure Expense Result, Mandatum Life Group, 2009–2018.

Expense Result
Mandatum Life Group, 2009–2018



Market Risks and Investment Performance

This section covers market risk related to the Mandatum Life's with profit business i.e. that part of the business where Mandatum Life carries investment risk. As mentioned earlier, the behavior of financial markets has also an influence on unit-linked business since normally company's fee income is linked to policy reserves in unit-linked policies. This risk is taken into account as part of expense risk.

In Mandatum Life, the approach to market risk management is based on an analysis of technical provisions' expected cash flows, interest level and current solvency position, i.e. active Asset and Liability Management. A common feature for all with profit technical provisions is the guaranteed rate and bonuses. The cash flows of Mandatum Life´s technical provisions are relatively well predictable because in most of the company's with profit policies, surrenders and additional investments are not possible.

Mandatum Life's market risks arise mainly from equity investments and interest rate risk related to fixed income assets and insurance liabilities with a guaranteed interest rate. The most significant interest rate risk in the life insurance business is that fixed income investments will not, over a long period of time, generate a return at least equal to the guaranteed interest rate of technical provisions. The probability of this risk increases when market interest rates fall and stay at a low level. The duration gap between balance sheet's technical provisions and fixed income investments is constantly monitored and managed. Control levels based on internal risk capacity model are used to manage and ensure adequate capital in different market situations.

Mandatum Life has prepared for low interest rates on the liability side by e.g. reducing the minimum guaranteed interest rate in new contracts and by supplementing the technical provisions with reserve for decreased discount rate. In addition, existing contracts have been changed to accommodate improved management of reinvestment risk. Guarantees and other main features of with profit liabilities are presented in section **Underwriting Risks and Performance**.

Fixed income investments and listed equity instruments form a major part of the investment portfolio, but the role of alternative investments – real estate, private equity, biometric and other alternative investments – is also material being 13.2 per cent.

Investment allocations and average maturities of fixed income investments as at year-end 2018 and 2017 are presented in the table Investment Allocation, Mandatum Life, 31 December 2018 and 31 December 2017.

Investment Allocation

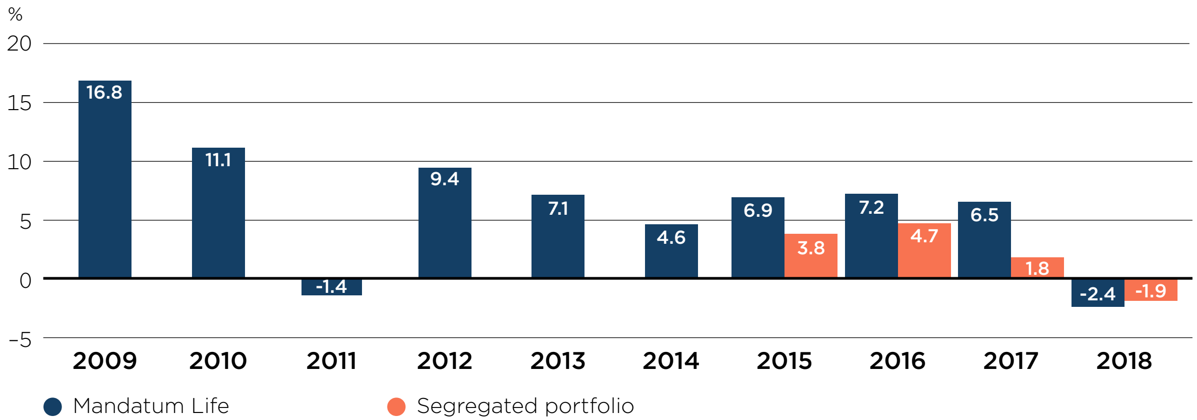
Mandatum Life, 31 December 2018 and 31 December 2017

	31 Dec 2018			31 Dec 2017		
Asset class	**Market value, EURm**	**Weight**	**Average maturity, years**	**Market value, EURm**	**Weight**	**Average maturity, years**
Fixed income total	**3,524**	**63%**	**2.8**	**3,953**	**63%**	**2.5**
Money market securities and cash	486	9%	0.0	904	14%	0.0
Government bonds	50	1%	1.6	54	1%	2.5
Credit bonds, funds and loans	2,988	53%	3.3	2,994	48%	3.2
Covered bonds	*133*	*2%*	*1.4*	*163*	*3%*	*2.0*
Investment grade bonds and loans	*1,563*	*28%*	*2.7*	*1,793*	*29%*	*2.8*
High-yield bonds and loans	*953*	*17%*	*3.6*	*760*	*12%*	*3.2*
Subordinated / Tier 2	*99*	*2%*	*5.6*	*55*	*1%*	*7.3*
Subordinated / Tier 1	*240*	*4%*	*5.7*	*223*	*4%*	*6.6*
Hedging swaps	*0*	*0%*	-	*0*	*0%*	-
Policy loans	0	0%	0.0	0	0%	1.8
Listed equity total	**1,334**	**24%**	**-**	**1,578**	**25%**	**-**
Finland	459	8%	-	494	8%	-
Scandinavia	1	0%	-	0	0%	-
Global	875	16%	-	1,084	17%	-
Alternative investments total	**741**	**13%**	**-**	**731**	**12%**	**-**
Real estate	213	4%	-	214	3%	-
Private equity*	230	4%	-	226	4%	-
Biometric	12	0%	-	16	0%	-
Commodities	0	0%	-	0	0%	-
Other alternative	286	5%	-	274	4%	-
Trading derivatives	**2**	**0%**	**-**	**2**	**0%**	**-**
Asset classes total	**5,602**	**100%**	**-**	**6,263**	**100%**	**-**
FX Exposure, gross position	**410**	**-**	**-**	**679**	**-**	**-**

**Private equity also includes direct holdings in non-listed equities*

Annual investment returns from 2009 onwards are presented in the table Annual Investment Returns at Market Values, Mandatum Life, 2009–2018.

Annual Investment Returns at Market Values
Mandatum Life, 2009-2018



Market Risks of Fixed Income and Equity Exposures

Fixed income and equity exposures are presented by sector, asset class and rating together with counterparty risk exposures relating to reinsurance and derivative transactions. Counterparty default risks are described in more detail in section **Counterparty Default Risks**. Due to differences in the reporting treatment of derivatives, the figures in the table may not be fully comparable with other tables in the Financial Statements.

Exposures by Sector, Asset Class and Rating

Mandatum Life, 31 December 2018

EURm	AAA	AA+ - AA-	A+ - A-	BBB+ - BBB-	BB+ - C	D	Non-rated	Fixed income total	Listed equities	Other	Counter-party risk	Total	Change from 31 Dec 2017
Basic industry	0	0	13	1	22	0	39	75	44	0	0	119	-27
Capital goods	0	0	4	12	4	0	52	72	151	0	0	223	-85
Consumer products	0	5	67	89	51	0	22	234	227	0	0	461	-47
Energy	0	11	0	0	0	0	27	38	12	0	0	50	-2
Financial institutions	0	543	927	213	41	0	2	1,725	20	5	6	1,756	-498
Governments	0	0	0	0	0	0	0	0	0	0	0	0	0
Government guaranteed	0	0	0	0	0	0	0	0	0	0	0	0	0
Health care	0	14	0	26	76	0	54	170	70	0	0	240	40
Insurance	0	0	10	47	0	0	17	73	3	8	0	84	19
Media	0	0	7	0	0	0	16	23	4	0	0	27	-3
Packaging	0	0	0	0	8	0	9	17	10	0	0	27	-1
Public sector, other	0	32	42	0	0	0	0	74	0	0	0	74	-5
Real estate	0	0	1	42	0	0	93	136	0	186	0	322	67
Services	0	0	0	28	124	0	63	216	77	0	0	293	72
Technology and electronics	15	0	36	0	49	0	10	110	100	0	0	210	-5
Telecommunications	0	0	0	68	58	0	0	126	35	0	0	161	60
Transportation	0	0	4	5	0	0	1	9	25	0	0	34	-18
Utilities	0	2	0	85	27	0	0	114	0	0	0	114	-28
Others	0	0	0	0	20	0	2	22	3	33	0	57	15
Asset-backed securities	0	0	0	0	0	0	0	0	0	0	0	0	0
Covered bonds	133	0	0	0	0	0	0	133	0	0	0	133	-30
Funds	0	0	0	0	0	0	157	157	554	509	0	1,220	-182
Clearing house	0	0	0	0	0	0	0	0	0	0	4	4	0
Total	**148**	**607**	**1,110**	**615**	**479**	**0**	**564**	**3,524**	**1,334**	**741**	**9**	**5,608**	**-659**
Change from 31 Dec 2017	**-7**	**-6**	**-631**	**-11**	**217**	**0**	**9**	**-428**	**-244**	**10**	**3**	**-659**	

The role of non-investment grade bonds is material in Mandatum Life's portfolio. Within fixed income investments a part of the money market securities issued by Nordic banks and cash in Nordic banks form a liquidity buffer. At the moment, the total amount of these investments is higher than what is needed for liquidity purposes.

Nordic equity exposure includes almost only direct investments to Finnish equities and they account for almost one third of equity exposure. Two thirds of equity investments are globally allocated consisting mainly of fund investments, but the role of direct investments is increasing in that part of the portfolio as well.

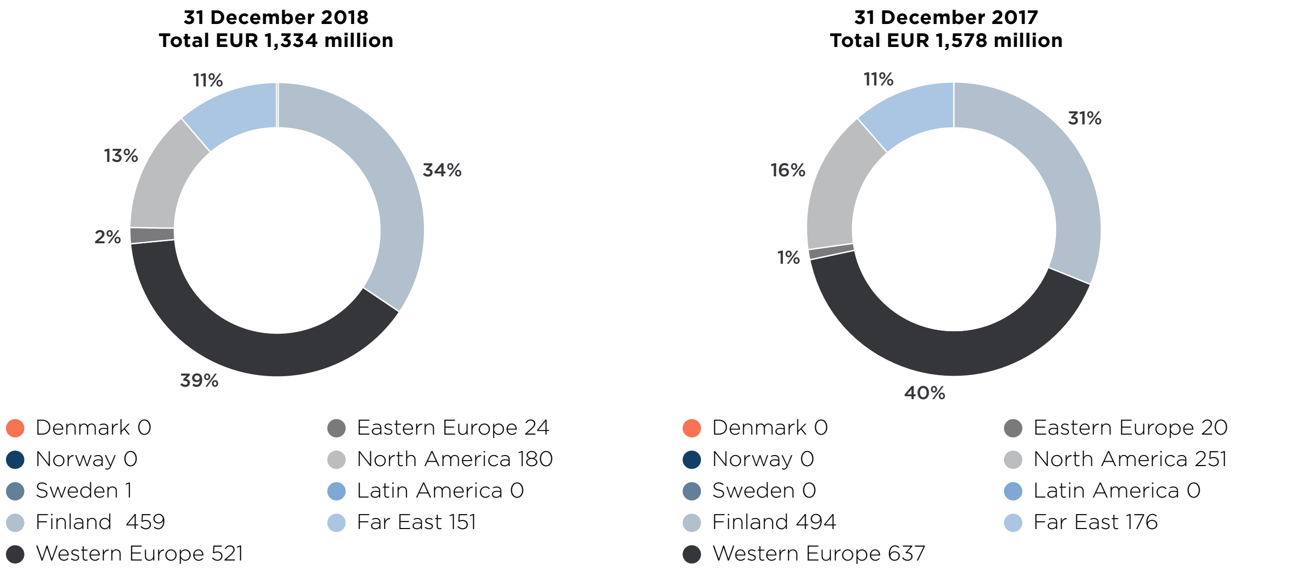
Alternative Investments

The role of alternative investments has been material in Mandatum Life over the years. The current allocation weight is 13 per cent. The weight of these investments will be maintained at current levels.

Within the total portfolio the size of private equity and alternative investments has slightly increased. Since the beginning of 2018, these asset classes have been managed by Sampo plc's investment operations instead of external asset managers. The real estate portfolio is also managed by Sampo Group's own real estate management unit. The real estate portfolio includes both direct investments in properties and indirect investments in real estate funds as well as in shares of real estate companies and it has been quite stable.

Breakdown of Listed Equity Investments by Geographical Regions

Mandatum Life



Market Risks of Balance Sheet

The Board of Directors of Mandatum Life annually approves the Investment Policies for both segregated assets and other assets regarding the company's investment risks. These policies set principles and limits for investment portfolio activities and they are based on the features of insurance liabilities, risk taking capacity and shareholders' return requirements.

The Investment Policy for segregated assets defines the risk bearing capacity and the corresponding control levels for the respective portfolio. Since the future bonus reserves of the segregated group pension portfolio are the first buffer against possible investment losses, the risk bearing capacity is also based on the amount of the future bonus reserve. Different control levels are based on the fixed stress scenarios of assets.

The Investment Policy for other investment assets defines the company level risk bearing capacity, the control levels for the maximum acceptable risk and respective measures to manage the risk. The control levels are set above the Solvency II SCR and are based on predetermined market stress tests. The general objective of these control levels and respective guidelines is to maintain the required solvency. When the above-mentioned control levels are crossed, the Asset and Liability Committee reports to the Board which then takes responsibility for the decisions related to the capitalization and the market risks in the balance sheet.

The cash flows of Mandatum Life's with profit technical provisions are relatively predictable, because in most of the company's with profit products, surrenders and premiums are restricted. In addition, the company's claims costs do not contain a significant inflation risk element.

The long-term target for investments is to provide sufficient return to cover the guaranteed interest rate plus bonuses based on the principle of fairness as well as the shareholder's return requirement with an acceptable level of risk. In the long run, the most significant risk is that fixed income investments will not generate an adequate return compared to the applied discount rate.

In addition to investment and capitalization decisions, Mandatum Life has implemented active measures on the liability side to manage the balance sheet level interest rate risk. The company has reduced the minimum guaranteed interest rate in new contracts, supplemented the technical provisions with discount rate reserves and adjusted policy terms and conditions as well as policy administration processes to enable more efficient interest rate risk management.

Interest Rate Risk

Mandatum Life is negatively affected when rates are decreasing or staying at low levels, because the duration of liabilities is longer than the duration of assets. A growing part of Mandatum Life's business, i.e. unit-linked and life and health business, is not interest rate sensitive, which partially mitigates the whole company's interest rate risk.

The average duration of fixed income investments was 2.5 years including the effect of hedging derivatives. The respective duration of the insurance liabilities was around 10 years. Interest rate risk is managed at the balance sheet level by changing the duration of assets and by using interest rate derivatives.

Currency Risk

Currency risk can be divided into transaction and translation risk. Mandatum Life is exposed to transaction risk, which refers to currency risk arising from contractual cash flows in foreign currencies. For more detailed risk definition of currency risk see **Appendix 2 Risk Definitions**.

In Mandatum Life, transaction risk arises mainly from investments in currencies other than euro as the company's technical provisions are denominated in euro. Mandatum Life does not automatically close its FX position in foreign currencies, but the currency risk strategy is based on active management of the currency position. The objective is to achieve a positive return relative to a situation where the currency risk exposure is fully hedged.

The transaction risk positions of Mandatum Life against the euro are shown in the table Transaction Risk Position, Mandatum Life, 31 December 2018. The table shows the net transaction risk exposures and the changes in the value of positions given a 10 per cent decrease in the value of the base currency.

Transaction Risk Position
Mandatum Life, 31 December 2018

Base currency, EURm	EUR	USD	JPY	GBP	SEK	NOK	CHF	DKK	Other	Total, net
Technical provisions	0	0	0	0	-2	0	0	0	0	-2
Investments	0	1,829	1	116	57	43	139	8	131	2,324
Derivatives	0	-1,743	-1	-121	74	79	-142	-10	-74	-1,938
Transaction risk, net position	**0**	**86**	**0**	**-4**	**128**	**122**	**-3**	**-2**	**57**	**384**
Sensitivity: EUR -10%	0	9	0	0	13	12	0	0	6	38

Liquidity Risks

Liquidity risk is relatively immaterial for Mandatum Life because liability cash flows in most lines of business are fairly stable and predictable and an adequate share of the investment assets is in cash and short-term money market instruments.

In life insurance companies in general, a large change in surrender rates could influence the liquidity position. However, in Mandatum Life, only a relatively small part of the insurance policies can be surrendered, and it is therefore possible to forecast short-term cash flows related to claims payments with a very high accuracy.

The maturities of technical provisions and financial assets and liabilities are presented in the table Cash Flows According to Contractual Maturity, Mandatum Life, 31 December 2018. The average maturity of fixed income investments was 2.8 years in Mandatum Life.

The table shows the financing requirements resulting from expected cash inflows and outflows arising from financial assets and liabilities as well as technical provisions.

Mandatum Life has one issued financial liability and thus refinancing risk is immaterial.

Counterparty Default Risks

In Mandatum Life, the major three sources of counterparty risk are financial derivatives, reinsurance, and other receivables. Counterparty default risk arising from reinsurance or receivables from policyholders and other receivables related to commercial transactions is very limited.

Counterparty Risk Related to Financial Derivatives

In Mandatum Life, the default risk of derivative counterparties is a by-product of managing market risks. This stems from the fact that Mandatum Life is a frequent user of long-term interest rate derivatives in addition to FX forwards and options.

The counterparty risk of bilaterally settled derivatives is mitigated by careful selection of counterparties, by diversification of counterparties to prevent risk concentrations and by using collateral techniques, e.g. ISDA Master Agreements backed by Credit Support Annexes. Since 2016 Sampo Group companies apart from Topdanmark have settled interest rate swaps in central clearing houses, which, while further mitigating bilateral counterparty risk, also expose Sampo Group companies to the systemic risk related to centralized clearing parties.

Cash Flows According to Contractual Maturity
Mandatum Life, 31 December 2018

EURm	Carrying amount total	Carrying amount without contractual maturity	Carrying amount with contractual maturity	Cash flows 2019	2020	2021	2022	2023	2024–2033	2034-
Financial assets	**5,521**	**2,623**	**2,898**	**264**	**728**	**377**	**803**	**294**	**649**	**14**
of which interest rate swaps	2	0	2	0	0	0	1	1	0	1
Financial liabilities	**176**	**0**	**176**	**-37**	**-4**	**-5**	**-5**	**-5**	**-61**	**-206**
of which interest rate swaps	0	0	0	0	0	0	0	0	0	0
Net technical provisions	**3,644**	**0**	**3,644**	**-353**	**-321**	**-315**	**-286**	**-264**	**-1,776**	**-1,284**

In the table, financial assets and liabilities are divided into contracts that have an exact contractual maturity profile, and other contracts. Only the carrying amount is shown for the other contracts. In addition, the table shows expected cash flows for net technical provisions, which by their nature, are associated with a certain degree of uncertainty.

Operational Risks

The objective of operational risk management in Mandatum Life is to recognize the risks proactively, manage the risks efficiently and to minimize the potential effects of realized risks in as cost-effective a manner as possible.

Business units are responsible for the identification, assessment and management of their own operational risks, including organizing adequate internal controls. The Operational Risk Committee ("ORC") monitors and coordinates risk management issues regarding operational risks within Mandatum Life. The committee ensures that risks are identified, and internal control and risk management have been organized in a proper way. The committee also analyses deviations from operational risk management policies and monitors operational risks identified in the self-assessments as well as in occurred incidents. In addition to this, the Committee analyzes and handles operational risks, e.g. in relation to new products and services, changes in processes and risks as well as realized operational risk incidents. The committee meets four times a year at a minimum. Significant observations on operational risks are reported to the Risk Management Committee ("RMC") and the Board of Directors. The ORC is also responsible for maintaining and updating the continuity and contingency plans as well as the Internal Control Policy.

In order to limit operational risks, Mandatum Life has approved a number of policies including e.g. Internal Control Policy, Compliance Policy, Security Policies, Continuity Plan, Procurement and Outsourcing Policy, Complaints Handling Policy and a number of other policies related to ongoing operative activities. Deviations against different policies are followed up in each business unit and are reported to the Compliance Function and the ORC.

The internal control system aims at preventing and identifying negative incidents and minimizing their impact. In addition, would there be an operational risk event or a near miss, this must be analyzed and reported to the ORC.

Capitalization

Mandatum Life applies the Solvency II standard formula with transitional measures on equity to the calculation of SCR. Solvency II own funds (OF) is also affected by transitional measures, because Mandatum Life applies transitional measures on its technical provisions in regard to its original pension policies with 3.5 per cent and 4.5 per cent guarantees. Also, a volatility adjustment is applied when technical provisions are calculated. The size of Solvency II liabilities with transitional measures of EUR 10,474 million is less than the respective figure without transitional measures (EUR 10,963 million). Hence the transitional measures increase the amount of OF. Mandatum Life does not apply any undertaking-specific parameters in the underwriting risk modules or apply simplified calculations for any of the risk modules of the standard formula.

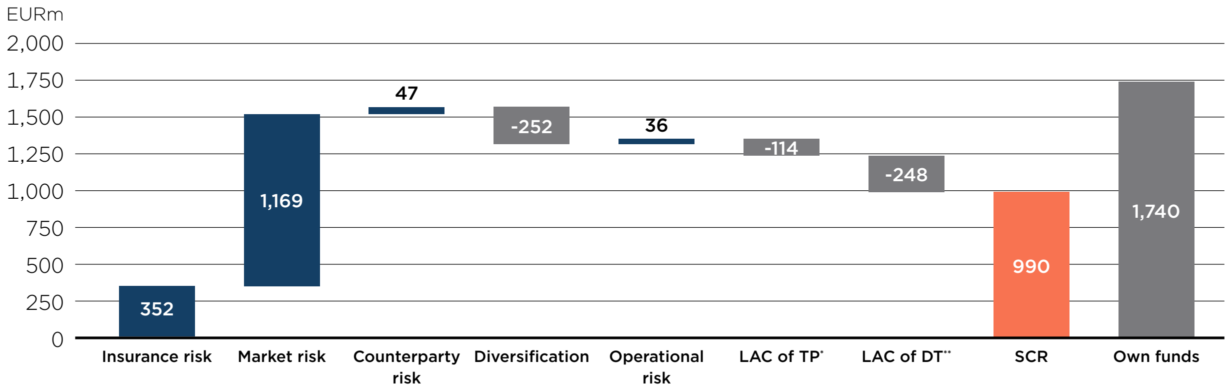
The OF of Mandatum Life was EUR 1,740 million while the SCR was EUR 990 million. The solvency ratio (OF/SCR) was 176 per cent and the buffer was EUR 749 million.

OF without transitional measures on Technical Provisions would be EUR 1,348 million, and the SCR without transitional measures on equity risk would be EUR 1,030 million.

In the figure Solvency, Mandatum Life, 31 December 2018 SCR is divided into risk contributions. The diversification benefit between risks is also presented in the figure.

The solvency position without the transitional measures is expected to develop favourably during the transitional period. The amount of with profit liabilities is decreasing (see figure **Forecast of With Profit Liabilities, Mandatum Life, 2018–2031** within chapter Underwriting Risks and Performance) and liabilities with the highest guarantees are expected to decrease significantly, from EUR 2,426 million to around EUR 900 million during the transitional period. Hence, the most capital consuming with profit liabilities will decrease during the period. This creates a decreasing trend to the SCR and simultaneously a positive trend to own funds without transitional measures is anticipated. Internally Mandatum Life forecasts the development of solvency ratios with and without the transitional measures and these both have influence on the company's business decisions.

Solvency
Mandatum Life, 31 December 2018



*Loss absorbing capacity of technical provisions
**Loss absorbing capacity of deferred taxes

Mandatum Life's structure of OF as presented in the table Eligible Own Funds, Mandatum Life, 31 December 2018 and 31 December 2017 consists of only Tier 1 items of which EUR 100 million (i.e. 5.7 per cent of OF) was subordinated debt at the end of 2018. This subordinated debt is classified as a restricted Tier 1 item due to grandfathering principles. Transitional measures on technical provisions contribute EUR 391 million to OF at the end of 2018.

In summary, the solvency and the capital structure of Mandatum Life is adequate. During the transitional period on technical provisions the liabilities with high guarantees will decrease significantly.

Eligible Own Funds

Mandatum Life, 31 December 2018 and 31 December 2017

EURm		2018	2017
Tier 1	**Total**	**1,740**	**1,977**
	Ordinary share capital	181	181
	Reconciliation reserve	1,459	1,696
	Subordinated liabilities	100	100
Tier 2	**Total**	**0**	**0**
	Subordinated liabilities	0	0
	Untaxed reserves	0	0
Tier 3	**Total**	**0**	**0**
	Deferred tax assets	0	0
Eligible own funds		**1,740**	**1,977**

RISK CONSIDERATIONS AT SAMPO GROUP LEVEL AND SAMPO PLC

Risk Considerations at Sampo Group Level and Sampo plc

Sampo Group is first and foremost exposed to general performance of the Nordic economies. However, the Nordic economies typically are at any given time in somewhat different stages of their economic cycles, because of reasons such as different economic structures and separate currencies. Also, geographically the Nordics as a large area is more a source of underwriting diversification than a concentration. Hence, inherently the Nordic area is a good basis for diversified business.

To further maintain diversification of businesses Sampo Group proactively prevents concentrations to the extent possible by segregating the duties of separate business areas. As a result, separate companies have very few overlapping areas in their underwriting and investments activities. Despite proactive strategic decisions on segregation of duties, concentrations in underwriting and investments may appear and hence liabilities and assets are monitored at the Group level to identify potential concentrations at single company or risk factor level.

It is regarded that the current business model where all companies have their own processes and agreements with counterparties is preventing accumulation of counterparty default risks and operational risks. Hence, these risks are mainly managed at company level.

In addition to the "segregation of duties at strategic level" principle, Sampo Group has two principles proactively preventing the Group risks. The amount of intragroup exposures between the Group companies are few and the parent company is the only source of liquidity and the main source of capital within the Group. These principles effectively prevent the contagion risk and hence potential problems of one company will not affect directly the other Group companies.

Underwriting and market risk concentrations and their management are described in the next sections as well as the parent company´s role as a risk manager of group-wide risks and as a source of liquidity.

Underwriting Risks at Sampo Group

With respect to the underwriting businesses carried out in the subsidiary companies, it has been established that If, Topdanmark and Mandatum Life all operate within the Nordic countries, but mostly in different geographical areas and in different lines of business and hence their underwriting risks are different by nature. There are some common risk factors like the life expectancy in Finland. Also, in Denmark If and Topdanmark have some overlapping areas. However, there are no material underwriting risk concentrations in the normal course of business.

Consequently, business lines as such are contributing diversification benefits rather than a concentration of risks. This general risk picture has not changed with increased holding in Topdanmark, because Topdanmark underwrites mainly Danish risks with a focus on client bases which only marginally overlap with If's client bases.

Underwriting Solvency Capital Requirement of Insurance Sub-Group
31 December 2018

Underwriting Risk, EURm	If	Topdanmark	Mandatum Life	Sampo plc	Diversified Sampo Group	Sum of the parts	Delta
Life underwriting	78	105	350	0	509	533	-23
Health underwriting	504	238	2	0	736	744	-8
Non-life underwriting	1,166	254	0	0	1,418	1,421	-3
Sum of sub-risks	**1,748**	**597**	**352**	**0**	**2,664**	**2,697**	**-33**
Diversification	-467	-217	-2	0	-932	-685	-246
Underwriting Risk	**1,280**	**381**	**351**	**0**	**1,732**	**2,012**	**-280**

In the table Underwriting Solvency Capital Requirements of Insurance Sub-Group, 31 December 2018, underwriting activities and sensitivities to related risks of three operative insurance companies are compared to each other based on their standard formula gross SCRs, because the reported Sampo Group underwriting SCR is based on them. Standard formula SCRs do not reflect the risks as well as internal models used by If and Topdanmark, but in this context, they can be used as a common basis for comparison purposes.

In terms of SCRs If is contributing most to the Group SCR and it has clear focus on non-life underwriting and related health underwriting. Business is well spread over all Nordic countries but having the smallest portion of the business in Denmark. Geographical diversification is not considered by standard formula and hence If's internally assessed capital need of EUR 624 million is much smaller.

Mandatum Life has focus on Finnish life insurance risks and hence it has practically no lines of business or geographical diversification benefits within underwriting. In Topdanmark capital consumption is most evenly spread over underwriting risks written solely in Denmark and its company specific diversification benefit over lines of businesses is relatively largest compared to other Sampo Group companies.

All in all, at Sampo Group level, the underwriting activities are well-diversified by lines of businesses, geographical areas and client-groups. At Sampo Group level the SF gives diversification benefit of EUR 280 million because underwriting activities at the Group level are more evenly distributed over lines of businesses than in separate companies. Sampo considers that diversified Group SCR of EUR 1,732 million is relatively conservative measure of the underwriting capital requirement, because SF at the sub-group and Sampo Group level does not take into account geographical and client base diversifications.

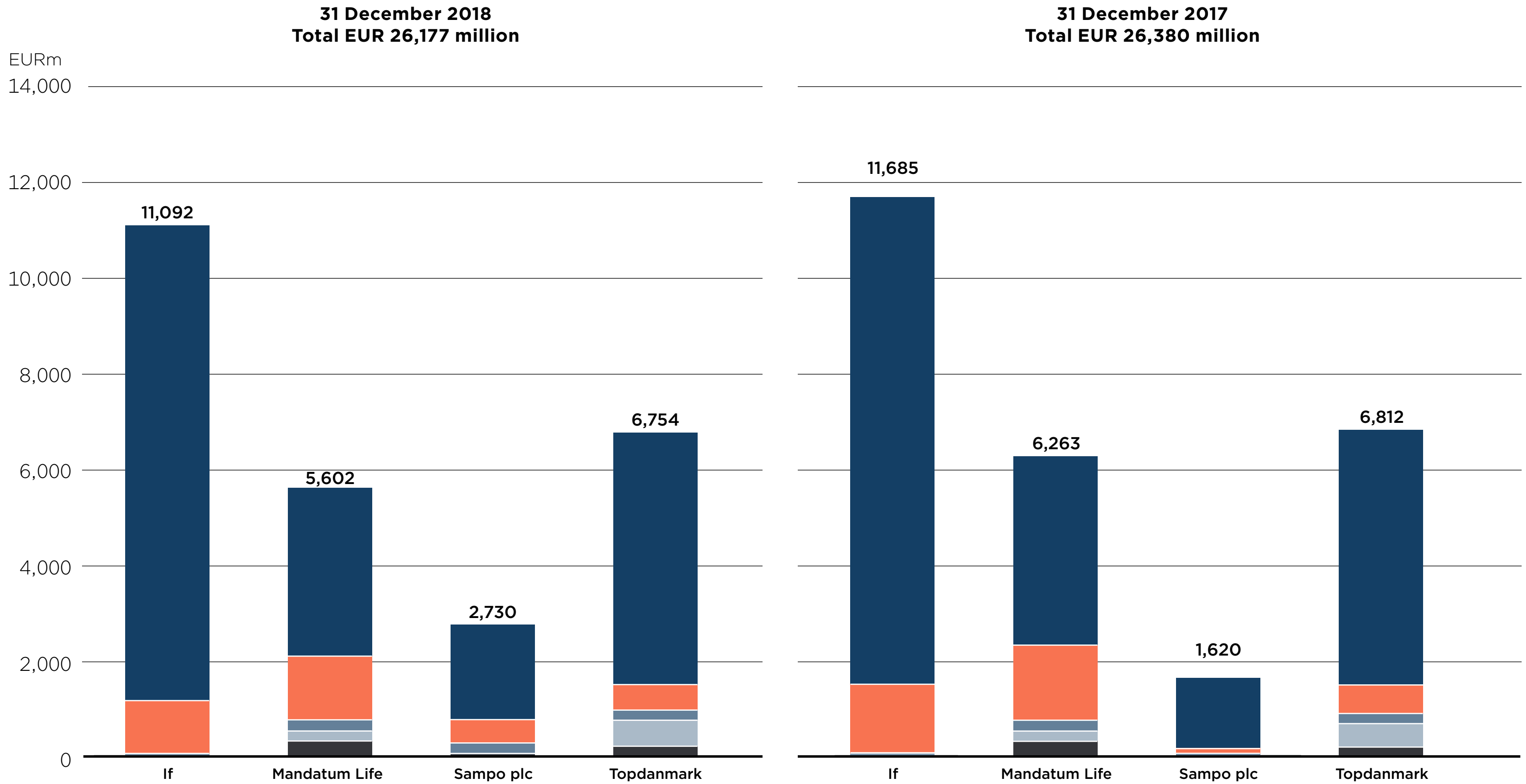
Market Risks at Sampo Group Level

For all subsidiaries, their insurance liabilities and the company specific risk appetite are the starting points for their investment activities. The insurance liabilities including loss absorbing buffers as well as the risk appetite of Mandatum Life, If and Topdanmark differ, and as a result the structures and risks of the investment portfolios and balance sheets of the three companies differ respectively. Companies' average investment returns, and volatilities of investment returns also differ as presented earlier in the Annual Investment Returns at Market Values, 2009–2018 -tables.

The total amount of Sampo Group's investment assets as at 31 December 2018 was EUR 26,177 million (26,380) as presented in the following figure. Mandatum Life's and Topdanmark's investment assets presented here do not include assets which cover unit-linked contracts.

Development of Investments

If, Mandatum Life, Sampo plc and Topdanmark



	2018 If	2018 Mandatum Life	2018 Sampo plc	2018 Topdanmark	2017 If	2017 Mandatum Life	2017 Sampo plc	2017 Topdanmark
Fixed income	90%	63%	73%	78%	87%	63%	92%	78%
Listed equity	10%	24%	18%	8%	12%	25%	7%	9%
Private equity*	0%	4%	8%	3%	0%	4%	1%	3%
Real estate	0%	4%	0%	8%	0%	3%	0%	7%
Other alternative investments	0%	5%	1%	3%	0%	5%	0%	3%

Sampo plc's figures do not include debt instruments issued by the insurance subsidiaries
**Private Equity also includes direct holdings in non-listed equities*

Investment activities and market risk taking are arranged pro-actively in such a way that there is virtually no overlap between the wholly-owned subsidiaries' single-name risks except with regards to Nordic banks where companies have their extra funds in forms of the short-term money market assets and cash. From the asset side's diversification perspective Topdanmark is a positive factor because the role of Danish assets is dominant in portfolios and especially the role of Danish covered bonds is central. In Sampo Group's other insurance companies' portfolios the weight of Danish investments has been immaterial.

When market risks of three operative insurance sub-groups and respective figures of the parent company Sampo are compared to each other by their SCRs the following things can be seen at Sampo Group level.

Mandatum Life takes the largest market risks both in absolute and relative terms and currently equity risk is its dominant risk contributor. In If currency and spread risks are the main risk contributors and there is relatively larger diversification effect than in Mandatum Life because of more evenly spread market risk profile. Topdanmark is matching its liabilities with assets and hence the role of interest rate risk and currency risk is minor and equity, spread and property risks are main contributors of market risk SCR. In all companies, there is some concentration risk, but at Sampo Group level it does not exist, because the sub-groups' largest concentrations are not in the same single names.

Market Risk Solvency Capital Requirements of Sub-Groups and Sampo plc

31 December 2018

Market risk, EURm	If	Topdanmark	Mandatum Life	Sampo plc	Diversified Sampo Group	Sum of the parts	Delta
Interest rate / down shock	162	58	101	0	320	320	0
Equity	319	246	718	267	1,537	1,549	-12
Property	3	179	46	1	228	228	0
Spread	450	315	373	2	1,140	1,140	0
Concentration / Group level	8	14	20	253	0	296	-296
Currency / Group level	457	3	152	490	1,120	1,102	17
Sum of sub-risks	**1,399**	**815**	**1,409**	**1,013**	**4,345**	**4,636**	**-291**
Diversification	-352	-123	-241	-347	-995	-1,064	68
Market risk	**1,047**	**691**	**1,169**	**665**	**3,350**	**3,572**	**-223**

A summary of Sampo Group's market risk sensitivities is presented in the table Market Risk Sensitivities, Sampo Group, 31 December 2018.

In the next paragraphs concentrations by homogenous risk groups and by single names are presented first and after that balance sheet level risks are discussed shortly.

Holdings by Sector, Geographical Area and Asset Class

Regarding fixed income and equity exposures financial institutions and covered bonds have a material weight in the group-wide portfolios whereas the role of public sector investments is quite limited. Most of these assets are issued by Nordic corporates and institutions. Most corporate issuers, although being based in the Nordic countries, are operating at global markets and hence their performance is not that dependent on the Nordic markets.

Market Risk Sensitivities

Sampo Group, 31 December 2018

EURm	Scenario	If	Mandatum Life	Topdanmark	Sampo plc	Sampo Group
Equities	-10%	-111	-133	-9	-49	-302
	10%	111	133	9	49	302
Interest rates	-100 bps	154	84	1	155	483
	+100 bps	-149	-74	-1	-141	-443
Other	-10%	-3	-74	-44	-26	-145
	10%	3	74	44	26	145
Local currency	-5%	-1	20	-3	98	-
	5%	1	-20	3	-98	-

Topdanmark's interest rate scenario figures show the net of financial assets and technical provisions. The company figures do not sum up to the Sampo Group figures due to eliminations and the exclusion of Topdanmark's technical provisions from the Sampo Group figures. The figures in this table do not completely reconcile with the table Market Risk Sensitivities, Topdanmark, 31 December 2018 and 31 December 2017 due to differences in calculation methods.

Exposures by Sector, Asset Class and Rating

Sampo Group, 31 December 2018

EURm	AAA	AA+ - AA-	A+ - A-	BBB+ - BBB-	BB+ - C	D	Non-rated	Fixed income total	Listed equities	Other	Counter-party risk	Total	Change from 31 Dec 2017
Basic industry	0	0	45	63	22	0	93	223	81	0	0	305	-47
Capital goods	0	0	36	78	4	0	128	246	530	0	0	776	-226
Consumer products	0	62	211	419	72	0	112	877	434	0	0	1,311	-214
Energy	0	61	0	0	63	0	199	323	37	0	0	361	24
Financial institutions	0	2,459	2,705	981	95	0	34	6,274	284	5	15	6,578	89
Governments	133	0	0	0	0	0	0	133	0	0	0	133	41
Government guaranteed	10	26	0	0	0	0	0	36	0	0	0	36	-84
Health care	7	25	26	82	76	0	62	277	128	0	0	405	39
Insurance	0	0	57	122	26	0	58	263	3	25	0	290	57
Media	0	0	7	0	0	0	37	44	4	0	0	48	-4
Packaging	0	0	0	0	8	0	14	22	10	0	0	32	-1
Public sector, other	593	154	42	0	0	0	0	789	0	0	0	789	-119
Real estate	0	5	79	203	44	0	587	918	0	201	0	1,118	167
Services	0	0	2	100	179	0	115	396	287	0	0	683	249
Technology and electronics	24	0	38	0	59	0	89	210	100	0	0	309	11
Telecommunications	0	0	0	235	105	0	6	346	99	0	0	444	114
Transportation	0	58	32	37	0	0	153	279	26	0	0	305	-81
Utilities	0	2	36	305	96	0	43	482	0	0	0	482	-24
Others	0	26	0	0	20	0	17	63	3	33	0	99	17
Asset-backed securities	0	0	0	0	0	0	0	0	0	0	0	0	0
Covered bonds	2,762	54	0	0	0	0	0	2,816	0	0	0	2,816	-431
Funds	0	0	0	0	0	0	157	157	911	742	0	1,810	-40
Clearing house	0	0	0	0	0	0	0	0	0	0	51	51	34
Total excluding Topdanmark	**3,529**	**2,933**	**3,316**	**2,625**	**868**	**0**	**1,905**	**15,175**	**2,937**	**1,006**	**66**	**19,183**	**-427**
Change from 31 Dec 2017	**-471**	**144**	**-831**	**235**	**425**	**0**	**20**	**-478**	**-204**	**215**	**40**	**-427**	

Topdanmark												**Total**
Group excluding life insurance	1,511	0	75	1	1	0	147	1,734	99	98	262	2,194
Life insurance	2,409	0	94	11	14	0	356	2,884	407	944	336	4,571
Total Topdanmark	**3,920**	**0**	**169**	**12**	**15**	**0**	**503**	**4,618**	**507**	**1,042**	**598**	**6,765**

Most of the financial institutions and covered bonds are in the Nordic countries as can be seen in the table Fixed Income Investments in the Financial Sector, Sampo Group Excluding Topdanmark, 31 December 2018.

The public sector exposure includes government bonds, government guaranteed bonds and other public sector investments as shown in the table Fixed Income Investments in the Public Sector, Sampo Group Excluding Topdanmark, 31 December 2018. The public sector has had a relatively minor role in Sampo Group's portfolios and these exposures have been mainly in the Nordic countries. In Topdanmark's portfolios AAA rated government bonds and covered bonds have a material role.

The listed equity investments of Sampo Group totaled EUR 3,470 million at the end of year 2018 (3,749). At the end of year 2018, the listed equity exposure of If was EUR 1,113 million (1,448). The proportion of listed equities in If's investment portfolio was 10.0 per cent. In Mandatum Life, the listed equity exposure was EUR 1,334 million at the end of year 2018 (1,578) and the proportion of listed equities was 23.8 per cent of the investment portfolio. In Topdanmark Group, the listed equity exposure was EUR 534 million at the end of year 2018 (608). Within Topdanmark Group, the allocation to listed equity is higher in the life company.

Fixed Income Investments in the Financial Sector
Sampo Group Excluding Topdanmark, 31 December 2018

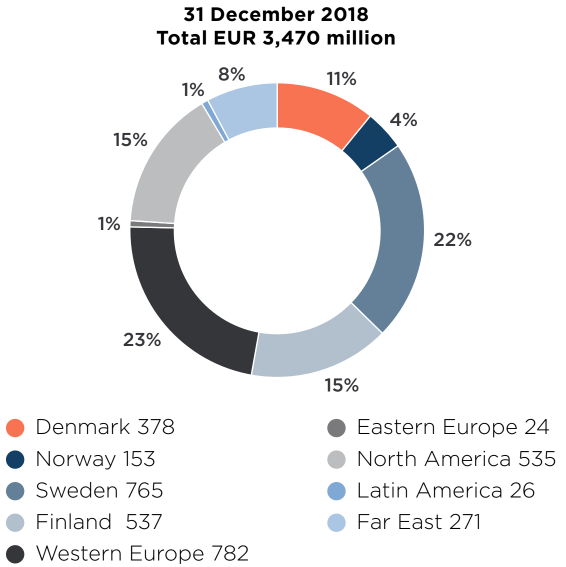
EURm	Covered bonds	Cash and money market securities	Long-term senior debt	Long-term subordinated debt	Total	%
Sweden	1,769	6	745	111	2,630	28.7%
Finland	112	1,675	487	355	2,629	28.7%
Norway	586		274	296	1,156	12.6%
United States			696		696	7.6%
Denmark	205		196	162	563	6.1%
United Kingdom	12	251	149	17	429	4.7%
Netherlands			271	22	293	3.2%
Canada	115		87		202	2.2%
France		98	71		169	1.8%
Australia	18		105		123	1.3%
Switzerland			98		98	1.1%
Iceland			39	30	69	0.7%
Germany			32	0	32	0.4%
Guernsey			26		26	0.3%
New Zealand			19		19	0.2%
Estonia		16			16	0.2%
Bermuda				10	10	0.1%
Cayman Islands			3		3	0.0%
Total	**2,816**	**2,045**	**3,297**	**1,003**	**9,162**	**100.0%**

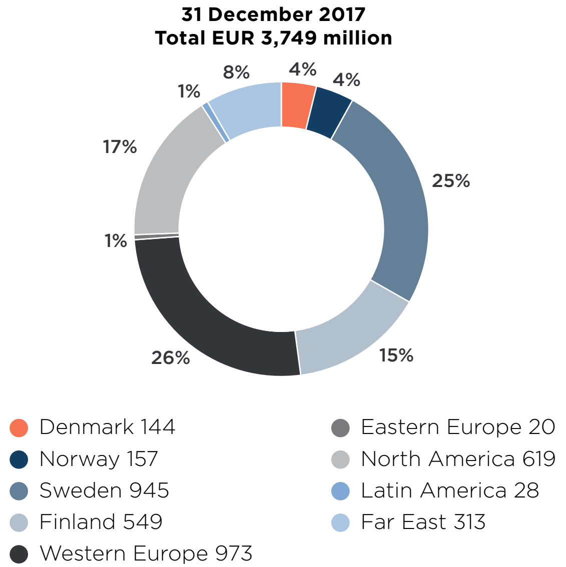
Fixed Income Investments in the Public Sector
Sampo Group Excluding Topdanmark, 31 December 2018

EURm	Governments	Government guaranteed	Public sector, other	Total
Sweden	89		416	506
Norway			298	298
Finland		26	58	84
United States	44			44
Japan			18	18
Denmark		10		10
Total	**133**	**36**	**789**	**958**

The geographical core of Sampo Group's equity investments is in the Nordic companies. The proportion of Nordic companies' equities corresponds to 53 per cent of the total equity portfolio. This is in line with Sampo Group's investment strategy of focusing on Nordic companies. However, these Nordic companies are mainly competing in global markets, only a few are operationally purely domestic companies. Hence, the ultimate risk is not highly dependent on the Nordic economies. A breakdown of the listed equity exposures of Sampo Group is shown in the figure Breakdown of Listed Equity Investments by Geographical Regions, Sampo Group, 31 December 2018 and 31 December 2017.

Breakdown of Listed Equity Investments by Geographical Regions
Sampo Group





Largest Holdings by Single Name

The largest exposures by individual issuers and counterparties are presented in the table Largest Exposures by Issuer and by Asset Class, Sampo Group Exluding Topdanmark, 31 December 2018. The largest single name investments in Topdanmark's portfolios are in AAA rated Danish covered bonds.

Largest Exposures by Issuer and Asset Class

Sampo Group Excluding Topdanmark, 31 December 2018

Issuer, EURm	Total	% of total investment assets	Cash & short-term fixed income	Long-term fixed income, total	Long-term fixed income: Government guaranteed	Long-term fixed income: Covered bonds	Long-term fixed income: Senior bonds	Long-term fixed income: Tier 1 and Tier 2	Equities	Uncollateralized part of derivatives
Nordea Bank	1,675	9%	642	1,029	0	490	207	332	0	4
Skandinaviska Enskilda Banken	899	5%	539	359	0	207	140	12	0	1
Danske Bank	780	4%	500	272	0	118	128	26	0	7
Svenska Handelsbanken	638	3%	0	638	0	545	55	38	0	0
Swedbank	539	3%	0	539	0	315	193	30	0	0
Sweden	434	2%	0	434	0	0	434	0	0	0
Norway	405	2%	0	405	0	0	304	101	0	0
DnB	388	2%	0	388	0	179	107	102	0	0
BNP Paribas	387	2%	349	37	0	0	37	0	0	1
Saxo Bank	265	1%	0	2	0	0	0	2	264	0
Total top 10 exposures	**6,411**	**34%**	**2,029**	**4,104**	**0**	**1,855**	**1,605**	**643**	**264**	**14**
Other	12,576	66%								
Total investment assets	**18,986**	**100%**								

The largest high yield and non-rated fixed income investment single-name exposures are presented in the table Ten Largest Direct High Yield and Non-rated Fixed Income Investments, Sampo Group Excluding Topdanmark, 31 December 2018. Furthermore, the largest direct listed equity exposures are presented in the table Ten Largest Direct Listed Equity Investments, Sampo Group, 31 December 2018.

The exposures in fixed income instruments issued by non-investment grade issuers are significant, because a relatively small number of Nordic companies are rated. Further, many of the rated companies have a rating lower than investment grade -rating (high yield).

Balance Sheet Concentrations

In general Sampo Group is structurally dependent on the performance of the Nordic economies as already described earlier. Sampo Group is also economically exposed to the low level of interest rates. The lower the rates and the flatter the yield curve, the more challenging the environment is for the current business models especially when duration of insurance liabilities is longer than asset duration in If and Mandatum Life. In Topdanmark interest rate risk of balance sheet is minor and hence Topdanmark is not increasing interest rate risk at the Group level.

Sampo Group would benefit materially in case interest rates would rise, because economic value of insurance liabilities would decrease more than value of assets backing them. At the same time net interest income of Nordea should increase as well.

Ten Largest Direct High Yield and Non-rated Fixed Income Investments and Direct Listed Equity Investments

Sampo Group Excluding Topdanmark, 31 December 2018

Ten largest direct high yield and non-rated fixed income investments	Rating	Total, EURm	% of total direct fixed income investments
High Street Shopping	NR	155	1.0%
Sponda	NR	114	0.8%
TDC	B+	98	0.7%
Teollisuuden Voima	BB+	96	0.6%
Sparebank 1 Boligkreditt	NR	81	0.5%
Evergood 4 ApS	B+	79	0.5%
Saab	NR	58	0.4%
Ellevio	NR	50	0.3%
Grönlandet Södra	NR	49	0.3%
Veningen	NR	49	0.3%
Total top 10 exposures		**827**	**5.6%**
Other direct fixed income investments		13,999	94.4%
Total direct fixed income investments		**14,826**	**100.0%**

Ten largest listed equity investments	Total, EURm	% of total direct equity investments
Saxo Bank	264	13.0%
Intrum	138	6.8%
Amer Sports	105	5.2%
Volvo	105	5.2%
Nobia	87	4.3%
Veidekke	74	3.7%
Asiakastieto	72	3.6%
ABB	67	3.3%
Telia Company	64	3.2%
Sectra	58	2.9%
Total top 10 exposures	**1,033**	**51.1%**
Other direct equity investments	988	48.9%
Total direct equity investments	**2,021**	**100.0%**

The Role of Sampo plc

Sampo plc is a long-term investor in Nordic financials and a source of liquidity within the Group. Hence, the healthy funding structure and the capacity to generate funds if needed are on continuous focus.

As at 31 December 2018 Sampo had long-term strategic holdings of EUR 9,200 million and they were funded mainly by capital of EUR 7,890 million and senior debt of EUR 4,067 million. Average remaining maturity of senior debt was 5.2 years and EUR 1,600 million of it had a maturity longer than 5 years. Senior debt is used to fund other financial assets as well. The average maturity of subordinated loans and fixed income instruments of EUR 512 million was two years. Funding structure of strategic holdings and other holdings can be considered strong.

The capacity to generate funds is dependent on leverage and liquidity buffers which can be inferred from the table Balance Sheet Structure, Sampo plc, 31 December 2018 and 31 December 2017.

The leverage of Sampo plc was modest at year end for example by these measures:

- The financial leverage measured as the portion of debt within all liabilities was 34 (29) per cent.
- Sampo's net debt of EUR 2,108 (1,424) million is modest when compared to Sampo's equity holdings and financial assets.

Balance Sheet Structure

Sampo plc, 31 December 2018 and 31 December 2017

EURm	31 Dec 2018	31 Dec 2017
Assets total	**12,073**	**10,939**
Liquidity	**1,447**	**1,199**
Investment assets	**770**	**235**
Real estate	2	2
Fixed income	23	58
Equity & private equity	745	175
Subordinated loans	**489**	**496**
Equity holdings	**9,200**	**8,958**
Subsidiaries	3,401	3,401
Associated	5,799	5,557
Other assets	**167**	**50**

EURm	31 Dec 2018	31 Dec 2017
Liabilities total	**12,073**	**10,939**
CPs issued	**124**	**293**
Long-term senior debt	**3,943**	**2,884**
Private placements	122	138
Bonds issued	3,821	2,746
Subordinated debt	**0**	**0**
Capital	**7,890**	**7,714**
Undistributable capital	98	98
Distributable capital	7,792	7,616
Other liabilities	**115**	**48**

In regard to liquidity, the liquid funds of Sampo plc were EUR 1,447 (1,199) million. Liquidity is mainly affected by received and paid dividends as well as changes in issued debt instruments and changes in investments. Sampo's dividend payment takes place in April and it will significantly lower the liquidity position of Sampo. A significant portion of subordinated loans issued by the Group companies (489) and a part of other investment assets (770) can be sold in case liquidity is needed. Short-term liquidity can be considered to be adequate.

All in all, Sampo plc is in a good position to refinance its current debt and even issue more debt. This capacity together with the tradable financial assets, means that Sampo plc is able to generate liquid funds.

Currently Sampo Group has a capital buffer in excess of minimum capital requirement. Because subordinated loans presented in the table Balance Sheet Structure, Sampo plc, 31 December 2018 and 31 December 2017 are issued by If, Mandatum Life, Nordea and Topdanmark, they are eliminated from Group's own funds. In case these assets would be sold, in addition to liquidity in Sampo plc, also own funds and Sampo Group Solvency ratio would increase.

Sampo plc balances risks within Sampo Group. When Sampo plc is managing its funding, capital structure and liquidity it takes into account that some of its operative companies have other base currencies (SEK, DKK) than EUR and that all its operative business areas are exposed to low interest rates. These risks may affect Sampo's decisions on issuance of debt instruments and composition of liquidity portfolio.

This is why part of Sampo plc's debt instruments are issued in SEK and interest rate duration is maintained relatively short. However, the market view is also affecting decisions and for instance at the moment SEK denominated dividends paid by If are still in SEK and SEK debt is converted into EUR using cross-currency swaps, due to tactical market view reasons.

SAMPO GROUP CAPITALIZATION

Sampo Group Capitalization

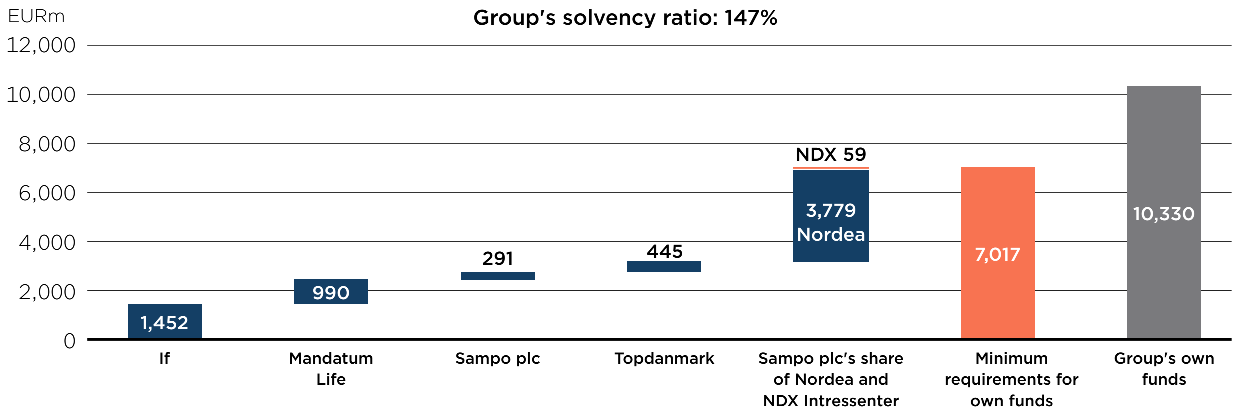
The principles of Sampo Group capitalization and the calculation methods are described in **Appendix 4 Profitability, Risks and Capital** in detail.

Group's Own Funds and Solvency According to Conglomerate Rules

Sampo Group's FICO solvency, calculated according to the Act on the Supervision of Financial and Insurance Conglomerates (2004/699), is presented in the figure FICO Solvency, Sampo Group, 31 December 2018. The Group solvency ratio fell from the previous year and was 147 (154) per cent.

Both the Group's own funds and the minimum requirements for own funds decreased in 2018. The Group's equity was lower than the year before as proposed dividends exceeded the total comprehensive income. Net changes in other items affecting own funds were limited. The total minimum requirement for own funds decreased by EUR 147 million as Sampo Group's calculation method of the capital requirements of If Sweden, Topdanmark and Nordea changed during the year. In addition, NDX Intressenter was included in Sampo Group solvency in Q2 2018.

FICO Solvency
Sampo Group, 31 December 2018



The Group's own funds consist of the Group's consolidated equity and sectoral items of financial institutions and insurance companies, minus intangible assets, proposed dividends and other adjustments. The Group consolidated equity including non-controlling interest, EUR 13,014 million as at 31.12.2018 (13,508), accounts for most of the own funds and is considered as Tier 1 capital for solvency purposes. Sectoral items, most of which come from Nordea's additional Tier 1 and Tier 2 capital and from the valuation adjustments of If, Mandatum Life and Topdanmark, accounted for EUR 2,585 million (2,517). The deductions in total were EUR 5,269 million (5,004).

The Group level capital requirement is sum of the parts presented in the above figure and no diversification benefit between business areas is considered. As at 31.12.2018 the total minimum requirements for own funds were EUR 7,017 million (7,163). The Group solvency (Group's own funds minus minimum requirements for own funds) was EUR 3,313 million (3,858).

Until Q4 2018 the total minimum capital requirement was calculated based on the subsidiaries' standard formula capital requirements. At the year-end 2018 Sampo started using Partial Internal Model SCRs for the majority of non-life insurance business of If and Topdanmark, which is in line with the FICO regulation. This decreased the total minimum capital requirement by approximately EUR 470 million in Q4 2018.

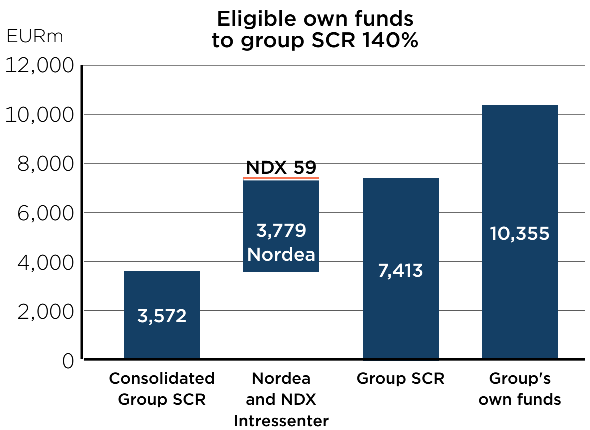
In Q4 2018 Nordea's Risk Exposure Amount (REA) increased by EUR 35 billion to EUR 156 billion stemming mainly from migration of existing items from Pillar 2 to Pillar 1 due to the re-domiciliation of the bank from Sweden to Finland. At the same time, the systemic risk buffer (SRB) decreased temporarily to zero per cent. As a consequence of these two effects, the nominal capital requirement for Sampo remained approximately at the same level as in Q3 2018, being EUR 3,779 million in Q4 2018. However, the SRB has to be applied in Finland starting 1 January 2019 (2 per cent in the first half of 2019 and 3 per cent from 1 July 2019) which will increase Nordea's capital requirement for Sampo accordingly in 2019 and decrease the Group solvency ratio.

Group's Own Funds and Solvency According to Solvency II

Sampo Group's own funds and SCR are presented in the figure Solvency by Solvency II rules, Sampo Group,

Solvency by Solvency II Rules

Sampo Group, 31 December 2018



SCR of 1.7 EURm of other financial sectors of Mandatum Life is is not displayed in the chart but is included in the group SCR

31 December 2018. Sampo Group's Ratio of Eligible own funds to Group SCR at the end of 2018 was 140 per cent (156). Solvency was adequate in every quarter during the year.

The treatment of Nordea's capital requirement in Sampo Group solvency is similar under FICO and Solvency II (FICO treatment described before) and the effects of the changes are similar as well. In Solvency II Sampo Group has not, however, applied for approval to use the PIM SCRs of If and Topdanmark and therefore the standard formula SCRs are applied in Solvency II, which increases the Group SCR compared to FICO capital requirement.

The Group SCR increased by EUR 413 million due to an increase in the capital requirement for Nordea during the year. The consolidated Group SCR calculated for the Solvency II Group remained at the same level being EUR 3,572 million (3,558). In addition, Sampo's share of NDX Intressenter was included in the Group SCR.

The table Eligible Own Funds, Sampo Group, 31 December 2018 and 31 December 2017 presents Sampo Group's own funds by tiers.

The Group's own funds consist of ordinary share capital, reconciliation reserve as well as subordinated liabilities, which are eligible at the Group level. As at 31.12 2018 the Group's own funds were EUR 10,355 million (10,945).

The entire ordinary share capital of EUR 98 million and reconciliation reserve of EUR 10,273 million (10,753) fully meet with the requirements for inclusion in Tier 1 unrestricted items. In comparison, IFRS Consolidated Group equity as at 31.12.2018 was EUR 13,014 million (13,508) (see **Appendix 5 Valuation for Solvency II purposes**). All in all, the structure of own funds is solid because Tier 1 items make up almost 90 per cent of all own funds and the reconciliation reserve is a major contributor.

The reconciliation reserve is a sum of retained earnings, net income for the financial year and other reserves deducted by proposed dividends and other distributions adjusted by Solvency II valuation differences, net deferred tax assets, own shares held directly and Topdanmark's minority interest. The composition of the reconciliation reserve is presented in the table Composition of the Reconciliation Reserve, Sampo Group, 31 December 2018 and 31 December 2017.

Own funds items included in Sampo Group's Tier 1 restricted and Tier 2 capital, amounting to EUR 133 million and EUR 333 million respectively as at 31.12.2018, consists of subordinated debt instruments held by external investors.

As at 31.12.2018 subordinated debt of EUR 100 million issued by Mandatum Life was fully in Sampo's investment portfolio and about a quarter of If's subordinated debt of EUR 400 million was held by Sampo plc as well. Topdanmark has issued three subordinated debt instruments by nominal amount of DKK 1,750 million and 31 per cent of these are held in Sampo Group companies' investment portfolios. The details of subordinated debt instruments issued by If, Topdanmark and Mandatum are shown in the companies' respective tables. Full instrument details are available in Sampo's web-pages **www.sampo.com/investors/debt-instruments/if** and **www.sampo.com/investors/debt-instruments/topdanmark**.

Eligible Own Funds
Sampo Group, 31 December 2018 and 31 December 2017

EURm	2018	2017
Tier 1 total	**10,010**	10,614
Ordinary share capital	98	98
Reconciliation reserve	10,273	10,753
Net effect of other financial sectors	-495	-274
Tier 1 - restricted	133	37
Tier 2 (Subordinated liabilities)	**333**	**331**
Tier 3 (Deferred tax assets)	**13**	**0**
Eligible own funds	**10,355**	**10,945**

Composition of the Reconciliation Reserve
Sampo Group, 31 December 2018 and 31 December 2017

EURm	2018	2017
Reserves, retained earnings and net income for the year (before SII adjustments)	12,916	13,410
Foreseeable dividends, distributions and charges	-1,583	-1,444
Own shares (held directly and indirectly)	-145	-149
Other non-available own funds	-301	-327
Net deferred tax assets shown separately in Tier 3	-13	-
Valuation adjustments according to Solvency II	-601	-737
Reconciliation reserve	**10,273**	**10,753**

If was the only Group company issuing subordinated debt during 2018. This SEK 1,000 million instrument was classified as a Tier 1 item in own funds.

Tier 3 own funds include net deferred tax assets (i.e. those deferred tax asset items which cannot be netted against available deferred tax liabilities, "DTL") from the Solvency II Balance sheet.

The Group's own funds decreased by EUR 590 million over the reporting period. Excess of assets over liabilities decreased as proposed dividends exceeded the Group's profit for the period. Also increased intangible assets at the Group level, which are not included in the Solvency II balance sheet, resulted in a small negative net effect. Because of higher Group SCR, Ratio of eligible own funds to Group SCR decreased to 140 per cent (156). Because of the limitation that the Tier 2 items can cover up to 20 per cent of the Minimum Consolidated Group SCR (MCR), there is a restriction affecting the availability and transferability of Tier 2 own funds at the Group level during the period when calculating Tier 2 capital and Ratio of eligible own funds to MCR.

Internal Considerations of Adequacy of Solvency

Sampo's regulatory Group solvency ratios, 147 (154) per cent (FICO) and 140 (156) per cent (Solvency II), are relatively low compared to many other insurance groups. Conglomerate rules do not consider any diversification benefits between the Group's business areas. Solvency II rules consider only the diversification within the consolidated Group. Therefore, the diversification benefit from the associated company is not considered. Because material part of capital consumption and profits stem from the associated company Nordea, the lack of its diversification benefit has a material effect on reported Solvency ratios.

In order to include the diversification benefit between business areas into the Group's capital need estimate, Sampo is using correlations of quarterly reported profits between business areas when assessing the diversification benefit in the context of Conglomerate Rules. With this adjustment, the resulting diversified Sampo Group proforma capital requirement would be EUR 5,595 (5,541) million and the proforma Group solvency ratio would be 185 per cent (199).

Correlations of Quarterly Reported Profits

Sampo Group, 2005–2018

Nordea/If	0.291
Nordea/Mandatum	0.232
Nordea/Topdanmark	0.339
If/Mandatum	0.847
If/Topdanmark	0.660
Mandatum/Topdanmark	0.664

Diversification Benefit as Internally Assessed

Sampo Group, 31 December 2018

EURm	FICO Solvency	Adjusted FICO Solvency	Diversification Benefit
Group´s Own Funds, total	10,330	10,330	0
Minimum Requirements for Own Funds, Total	7,017	5,595	1,422
Group Solvency Ratio	147%	185%	37%
Group Solvency	3,313	4,735	1,422

This internal solvency ratio estimate is more in line with reported figures of insurance groups, of which most do not have holdings in financial institutions to the level of Sampo Group's holdings.

Solvency in Sampo Group should be considered based on the following facts:

- All subsidiaries and associated companies are adequately capitalized. If and Nordea have strong capitalization and sound profitability. OF of If is maintained above the capital level based on the Single A rating target. Nordea's amount of capital is governed by the European Central Bank and Nordea is committed to maintain its AA rating. In addition, both If and Nordea have maintained high profitability and low volatility of profits. In Sampo plc's opinion, If and Nordea have themselves relatively high buffers included in their capital.
- Mandatum Life is smaller company than If and Nordea and its OF with transitional measures is relatively high compared to SCR. Mandatum Life's with profit business with high guarantees is decreasing annually by approximately EUR 200 million. Hence the capital need is decreasing over time.
- Topdanmark's result has been stable over the years and it is adequately capitalized.
- The companies also have capacity to issue more instruments eligible for their own funds.
- There are diversification benefits within the Group: The correlation of the business areas' reported profits are quite modest as presented in the table Correlations of Quarterly Reported Profits, Sampo Group, 2005–2018. In particular, Nordea's profits are weakly correlated with If's, Mandatum Life's and Topdanmark's profits. Hence, there is a clear diversification benefit within the Group.
- The parent company's capacity to generate liquidity is adequate.
- The Group solvency ratio should have an adequate buffer above the minimum solvency capital requirement.

APPENDIX

Appendix 1: Sampo Group Steering Framework and Risk Management Process

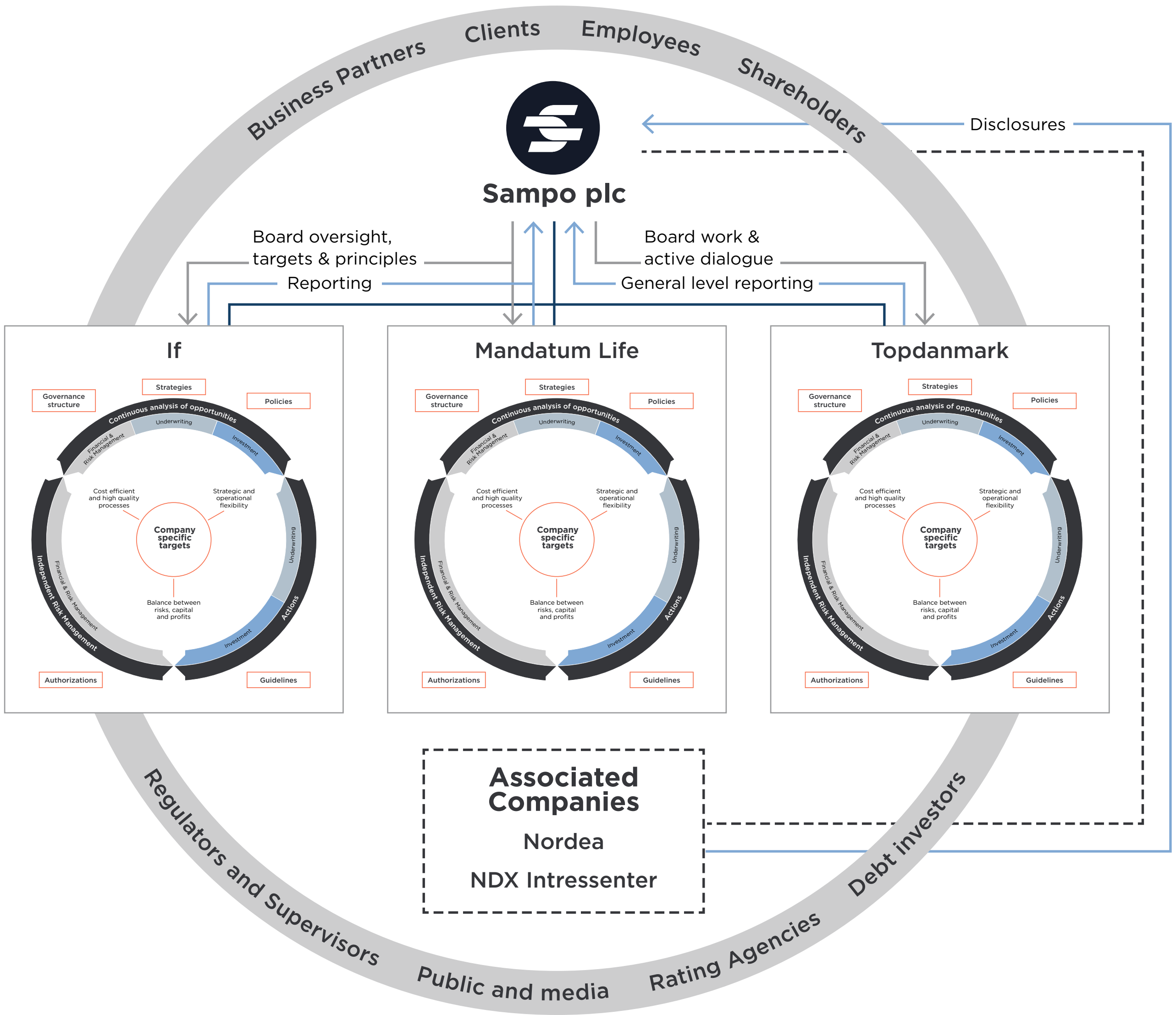
When Sampo Group is organizing its business and risk management activities, clear responsibilities and simple and flat operational structures are the fundamental principles. The responsibilities and operational structures followed in Sampo plc and wholly-owned subsidiaries, as illustrated in the figure Sampo Group's Steering Framework are described in the following paragraphs. Topdanmark has also adopted Sampo's main Group-wide principles and policies, including the risk management principles, although there may be some small differences. Thus, the steering framework and risk management processes of Topdanmark may be slightly different than described next.

Parent Company's Guidance

The Group's parent company steers the wholly-owned subsidiaries by setting targets for their capitalization and return on equity ("RoE") and by defining the main preconditions for the subsidiaries' operations in the form of the Group-wide principles.

Target Setting: The Board of Directors of Sampo plc decides on the subsidiaries' return on equity targets which are currently 17.5 per cent for both If and

Sampo Group's Steering Framework



SAMPO GROUP

Mandatum Life. In addition, If has a long-term target of maintaining the combined ratio below 95 per cent.

The parent company assesses the adequate level of capitalization and the suitability of the capital structure as described in the section Capitalization at the Sub-Group Level in **Appendix 4 Profitability, Risks and Capital**. Based on this analysis, the parent company estimates the amount of dividends distributed by the subsidiaries to the parent company. In Sampo Group, the excess capital from an operational point of view is held by the parent company which capitalizes the subsidiaries if needed.

The Board of Directors of Sampo plc decides on the main guidelines governing the subsidiaries' business activities and risk management. The most significant of these guidelines are the Code of Conduct, Risk Management Principles, Remuneration Principles and Compliance Principles. There are also further guidelines which are followed to prevent reputational and compliance risks, for example the Disclosure Policy.

Moreover, Sampo plc's Board of Directors' decisions and thereby also the guidance given to subsidiaries may be impacted by the external regulatory environment and expectations of different stakeholders on Sampo Group's operations. Further information on Sampo Group's relations with its stakeholders is available within the Code of Conduct at **www.sampo.com/codeofconduct**.

Subsidiaries' Activities and Risk Management

Subsidiaries organize their activities independently, considering the specific characteristics of their business operations and the guidance from the parent company relating to targets, capitalization and Group-wide principles. The stakeholders' expectations and external regulations also have a direct effect on the subsidiaries' activities.

Sampo Group's subsidiaries decide independently on the governance structure of their operations. The executive management of the subsidiaries have extensive experience in the insurance industry as well as in financial and risk management. The members of different committees and governing bodies represent expertise related to business and other functions. The subsidiaries' operations are monitored by the different governing bodies and ultimately by the Boards of Directors whose members are mainly in senior management positions in Sampo or in Sampo Group companies.

Since only the main guidelines are prepared by the parent company, the subsidiaries' management have the power and responsibility to incorporate the specific characteristics of their own operations into the company specific policies, limits, authorizations and guidelines.

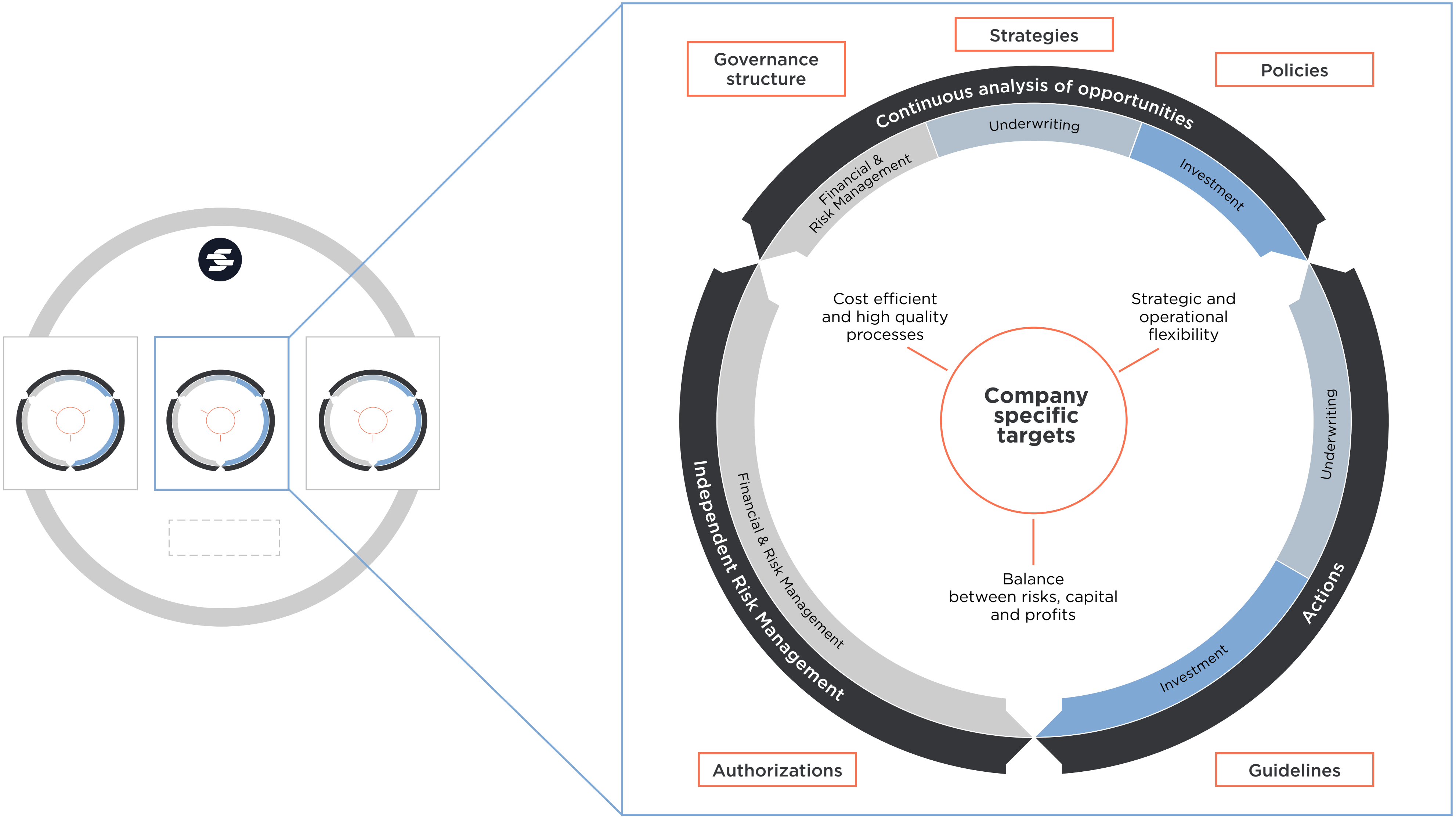
At the operative level, the subsidiaries focus on the effective execution of insurance operations and financial and risk management activities. Investments are managed according to the Investment Policies which are approved by the Boards of Directors of the respective subsidiaries. The parent company leads day-to-day management of investments; facilitates simultaneous effective execution of the subsidiaries' investment policies; and maintains Group-wide oversight of the investment portfolios. Topdanmark, however, manages its investments independently.

The risk management process consists of continuous activities that are partly the responsibility of the personnel involved in business activities and partly the responsibility of independent risk management specialists. Although the responsibilities of business lines and independent risk management are clearly segregated in Sampo Group, these functions are in continuous dialogue with each other. In Internal Control Policy Sampo Group has defined the roles and responsibilities of different internal stakeholders.

Parties independent of business activities are responsible for the risk management governance framework, risk policies, risk limits and authorizations which form the structure that sets the limits for business and investment units' risk taking as well as principles for risk monitoring. These structures are one prerequisite for the risk management process; they reflect capital adequacy targets and the risk appetite in general.

The figure Company Level Financial and Risk Management Process illustrates the prerequisites, the tasks together with the responsible functions and the targets of company level risk management.

Company Level Financial and Risk Management Process



The central prerequisites for facilitating successful risk management include the following:

- Risk management governance structure and authorizations (see **Risk Governance section**) and clear division of responsibilities between business lines and independent functions
- Companies' own risk policies and more detailed instructions related to risk management
- Prudent valuation, risk measurement and reporting procedures.

The tasks included in the risk management process can be classified as follows:

Independent Risk Management

Financial and risk management functions are explicitly responsible for preparing the above prerequisites of risk management. Operationally they are responsible for independent measurement and control, including the monitoring of operations in general as well as profitability, risk and capitalization calculations. The following items are examples of these responsibilities:

- Detailed reporting on risks to the subsidiaries' and Sampo's Risk Committees and the Boards of Directors
- Internal reporting on Capital need and actual available Capital at least on a quarterly basis
- Internal reporting on regulatory and rating agency capital charges and capital positions on a quarterly basis
- Disclosure of internal and regulatory capitalization figures quarterly.

Continuous Analysis of Opportunities and Risks

Both the business lines and the financial and risk management functions are active in supporting the business with continuous analysis and assessment of opportunities. This can be seen as a separate phase in the risk management process as the insurance and investment business units assess different business opportunities, especially their risk return ratios, on a daily basis. In the financial and risk management functions, on the other hand, a considerable amount of time is spent on risk assessment and capital planning.

This assessment of opportunities generates, for example, the following outputs:

- Identification of business opportunities (e.g. product and service development and investment opportunities) and analysis of respective earnings potential and capital consumption
- Intra-group and external dividend plans
- Hybrid and senior debt issuance initiatives.

Actions

Actions, i.e. transactions representing the actual insurance and investment operations, are performed in accordance with the given authorizations, risk policies and other instructions. These actions are the responsibility of business and centralized functions such as the investment unit. Activities related to capitalization and liquidity positions are included in this part of the process. In Sampo Group, proactive actions to manage profitability, risks and capital are seen as the most important phase of the risk and capital management process. Hence, risk policies, limits and decision-making authorizations, together with profitability targets, are set up in a way that they facilitate business and investment units to take carefully considered risks. Examples of the actions are as follows:

- Pricing of insurance policies and execution of investment asset transactions
- Dividend payments, share buy-backs, hybrid issuances and senior debt issuances
- Derivative and reinsurance transactions
- Business acquisitions and divestments.

High quality execution of the above tasks contributes to the achievement of the three central targets of the risk management process:

Balance Between Risks, Capital and Earnings

- The risks affecting profitability as well as other material risks are identified, assessed and analyzed.
- Capitalization is adequate in terms of risks inherent in business activities and strategic risks, considering the expected profitability of the businesses.
- Risk bearing capacity is allocated to different business areas in accordance with the strategy.
- Underwriting risks are priced to reflect their inherent risk levels, expected returns from investment activities are in balance with their risks, and consequential risks are mitigated sufficiently.

Cost Efficient and High-Quality Processes

- Client service processes and internal operative processes are cost efficient and of high quality.
- Decision making is based on accurate, adequate and timely information.
- Continuity of operations is ensured and in the case of a discontinuity event, recovery is fast and comprehensive.

Strategic and Operational Flexibility

- External risk drivers and potential business risks are identified, and the company is in a good position in terms of capital structure and management skills to react to changes in the business environment.
- Corporate structure, knowledge and processes in the companies facilitate effective implementation of changes.

When the above targets are met, risk management contributes positively to return on equity and mitigates the yearly fluctuations in profitability. The risk management process is therefore considered to be one of the contributors in creating value for the shareholders of Sampo.

Parent Company's Oversight and Activities

Sampo reviews the Group as a business portfolio and is active especially in matters related to the Group's capitalization and risks as well as related to the parent company's capital structure and liquidity.

Sampo reviews quarterly the performance of Sampo Group both on a company level and on the Group level based on the reporting provided by the subsidiaries and the associated companies. The information on the associated companies is, however, based on publicly available material and is therefore less detailed. Reporting on the subsidiaries' performance to the Board of Directors and Audit Committee ("AC") of Sampo is based mainly on the reporting produced by the subsidiaries. The reporting concentrates on the balance between risks, capitalization and profitability. The parent company is responsible for reporting on its own activities. Reporting from the wholly-owned subsidiaries is more detailed than reporting from Topdanmark.

At the Group level, the central focus areas are potential concentrations arising from the Group companies' operations as well as the Group's capitalization and the parent company's ability to generate liquidity. The parent company is also projecting and analyzing the Group companies' profitability, risks and capitalization with uniform scenarios to have company specific forecasts that are additive at the Group level.

Based on the aforementioned sub-group level and Sampo Group level internal work Sampo Group prepares annually or more often if needed a Single Own Risk and Solvency Assessment document ("Single ORSA report"). The Single ORSA report has virtually the same structure and contents as quarterly Audit Committee reporting. The only substance difference is the addition of Group-wide solvency forecasts, which are not normally part of the quarterly reporting.

Based on both the company and Group level information, the Board of Directors of Sampo decides on the Group's capitalization as well as sets the guidelines on the parent company's capital structure and liquidity reserve. The underlying objective for Sampo is to maintain a prudent capital structure and adequate liquidity in order to finance strategic projects if needed. Strong liquidity and the ability to get financing are essential factors in maintaining Sampo Group's strategic flexibility.

Risk Governance

This section describes the governance framework of Sampo Group and its subsidiaries from a risk management perspective. A more detailed description of Sampo Group's corporate governance and internal control system is included in the **Corporate Governance Statement** available at www.sampo.com/year2018.

Risk Governance at the Group Level

The Board of Directors of Sampo is responsible for ensuring that the Group's risks are properly managed and controlled. The Board of Directors of Sampo defines financial and capitalization targets for the subsidiaries and approves the Group level principles which steer the subsidiaries' activities. The risk exposures and capitalization reports of the subsidiaries are consolidated at the Group level on a quarterly basis and reported to the Board and to the Audit Committee of Sampo.

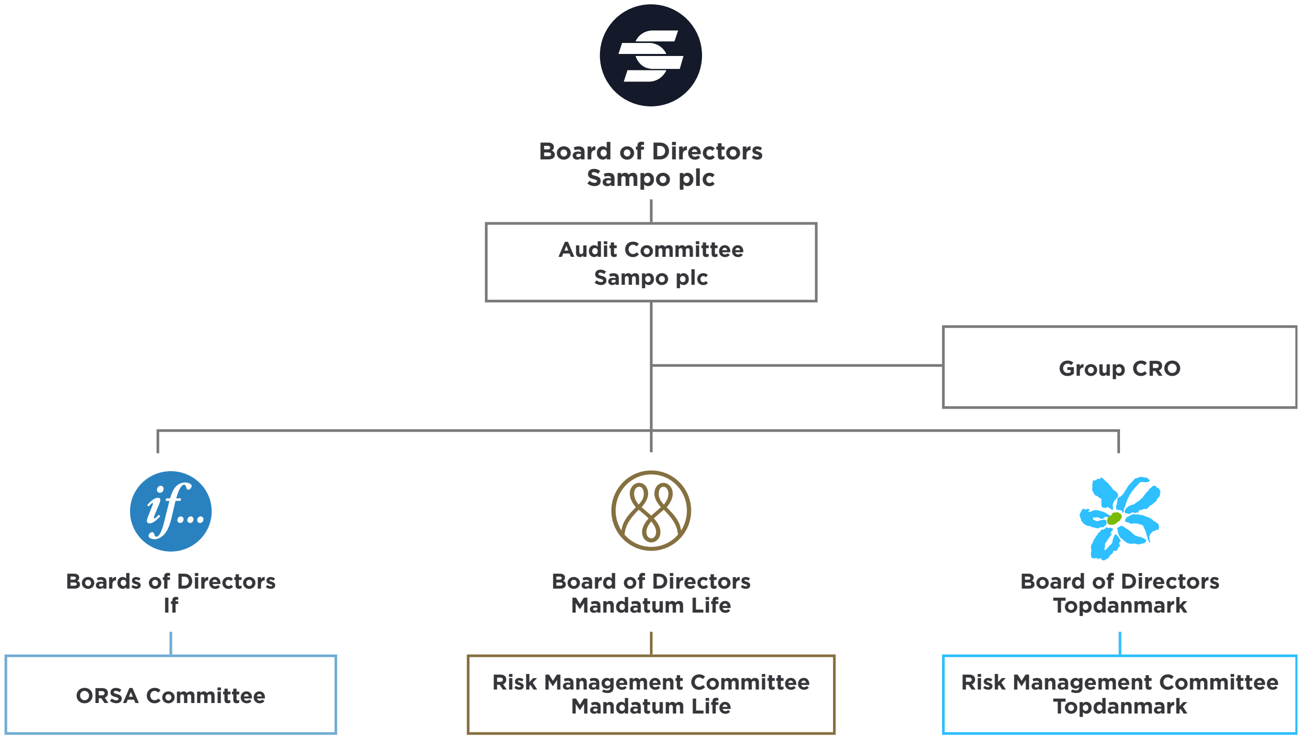
The reporting lines of different governing bodies at the Group level are described in the figure Risk Governance in Sampo Group.

The Audit Committee is responsible, on behalf of the Board of Directors, for the preparation of Sampo Group's risk management principles and other related guidelines. The AC shall ensure that the operations are in compliance with these guidelines, control Sampo Group's risks and risk concentrations as well as control the quality and scope of risk management in the Group companies. The committee shall also monitor the implementation of risk policies, capitalization and the development of risks and profit. At least three members of the AC must be elected from members of the Board who do not hold management positions in Sampo Group and are independent of the company. The AC meets on a quarterly basis.

The Group Chief Risk Officer ("CRO") is responsible for the appropriateness of risk management at the Group level. The CRO's responsibility is to monitor Sampo Group's aggregated risk exposure and coordinate and monitor company specific and the Group level risk management.

The Boards of Directors of If and Mandatum Life are the ultimate decision-making bodies and have the overall responsibility for the risk management process in If and Mandatum Life respectively. The Boards of Directors appoint the If ORSA Committee and the Mandatum Life Risk Management Committee and are responsible for identifying any need to change the policies, principles and instructions related to risk management.

Risk Governance in Sampo Group



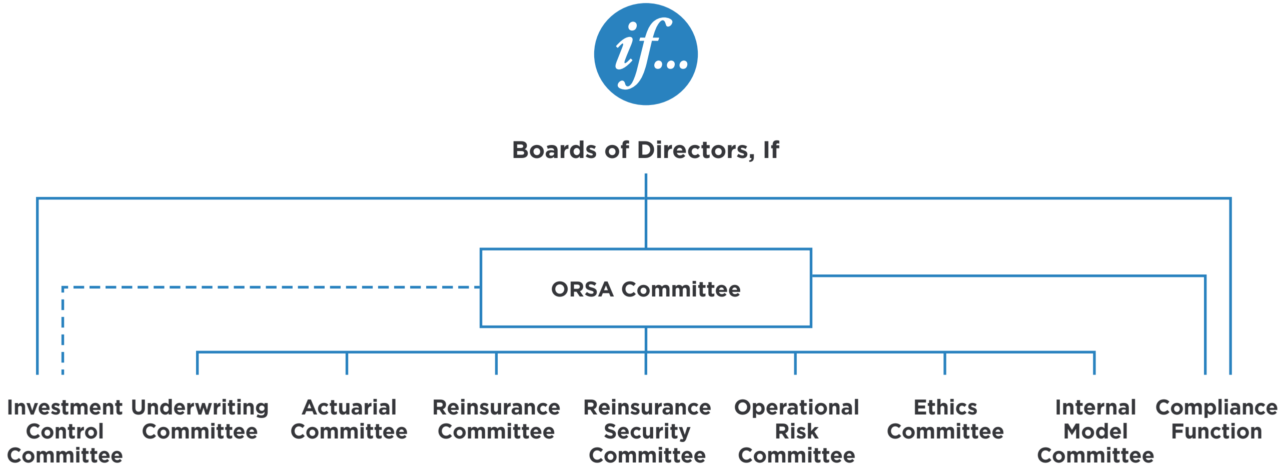
Risk Governance in If

The main risk steering mechanism used by the Boards of Directors is the policy framework. As part of their responsibilities, the Boards of Directors approve the Risk Management Policy and the other risk steering documents, receive risk reports from the Chief Risk Officer, the Chief Compliance Officer and the Chief Executive Officers ("CEOs"), take an active part in the forward-looking risk and solvency assessment process, and ensure that the management and follow-up of risks is satisfactory and effective. The reporting lines of different governing bodies in If are described in the figure Risk Governance in If.

The Own Risk and Solvency Assessment Committee ("ORSAC") assists the CEOs of If in fulfilling their responsibilities to oversee the risk management process. The ORSAC reviews reporting from If's other committees within the Risk Management System as well as reporting from both corporate functions and the line organization. Furthermore, the ORSAC monitors If's short-term and long-term aggregated risk profile to ensure it is aligned with its risk strategy and capital adequacy requirements. The Risk Management function is responsible for coordinating the risk management activities on behalf of the Boards of Directors and the CEOs.

The responsibility to identify, evaluate, control and manage risks lies within the line organization. There are separate committees in place for key risk areas which have the responsibility of monitoring the management and control risks to ensure compliance with the instructions of the Boards of Directors. The risk committees in If do not have a decision mandate.

Risk Governance in If



There are policies in place for each risk area which specify restrictions and limits chosen to reflect and ensure that the risk level is constantly in compliance with the overall risk appetite and capital adequacy constraints of If. The committees also monitor the effectiveness of policies and give input to changes and updates if needed.

In addition to the risk specific committees, there are two other committees included in the Risk Governance structure. Their responsibilities are described as follows:

- The Ethics Committee ("EC") discusses and coordinates ethical issues in If. The committee gives recommendations on ethical issues and proposes changes to the Ethics Policy. The Chairman is responsible for the reporting of ethics risk and other issues dealt with by the committee.
- The Internal Model Committee's tasks are to identify sources for potential model changes and to give its opinion to the Chairman on the assessment and classification of potential changes and on further validation activities or internal model development. In addition to the tasks above, the committee discusses and analyzes information related to the internal model from other committees as well as monitors the status of internal model use and development activities.

The Compliance Function forms part of the risk reporting framework. The Compliance Function reports quarterly to ORSAC on identified compliance risks.

Risk Governance in Mandatum Life

In Mandatum Life, the Board of Directors is responsible for risk management and the adequacy of internal control. The Board of Directors annually approves the Risk Management Policy, Investment Policy, Capital Management Policy and other risk management and internal control instructions.

The Managing Director of Mandatum Life has the overall responsibility for risk management according to the Board of Directors' instructions. The Managing Director is the Chairman of the Risk Management Committee which coordinates and monitors all risks in Mandatum Life. The risks are divided into groups, the main groups being insurance, market, operational, legal and compliance risks as well as business and reputation risks. Each risk area has its own specialized committee or unit and a responsible person in the RMC.

The reporting lines of the main governing bodies in Mandatum Life are described in the figure Risk Governance in Mandatum Life.

In addition to the risk specific committees, the duties related to compliance and risk management of the other operations have been organized as follows:

- Compliance Function takes care of compliance matters with the Head of the Unit being a member of the Risk Management Committee.
- Subsidiaries operating on investment service and mutual fund business have their own risk management procedures. All major incidents are also reported to Mandatum Life's Operational Risk Committee.

Internal Audit, through its audit recommendations, has a role to ensure that adequate internal controls are in place and provides Internal Audit's annual review to the Board of Directors.

Risk Governance in Mandatum Life

Risk Governance in Topdanmark

Topdanmark's policy is to hedge against risks arising from the Company's activities or to limit such risks to a level that allows the Company to maintain normal operations and implement its planned measures even in the case of highly unfavourable events in the outside world.

Because of this policy, for several years, the Company has identified and reduced or eliminated the risks which could potentially cause losses exceeding what Topdanmark considers to be acceptable.

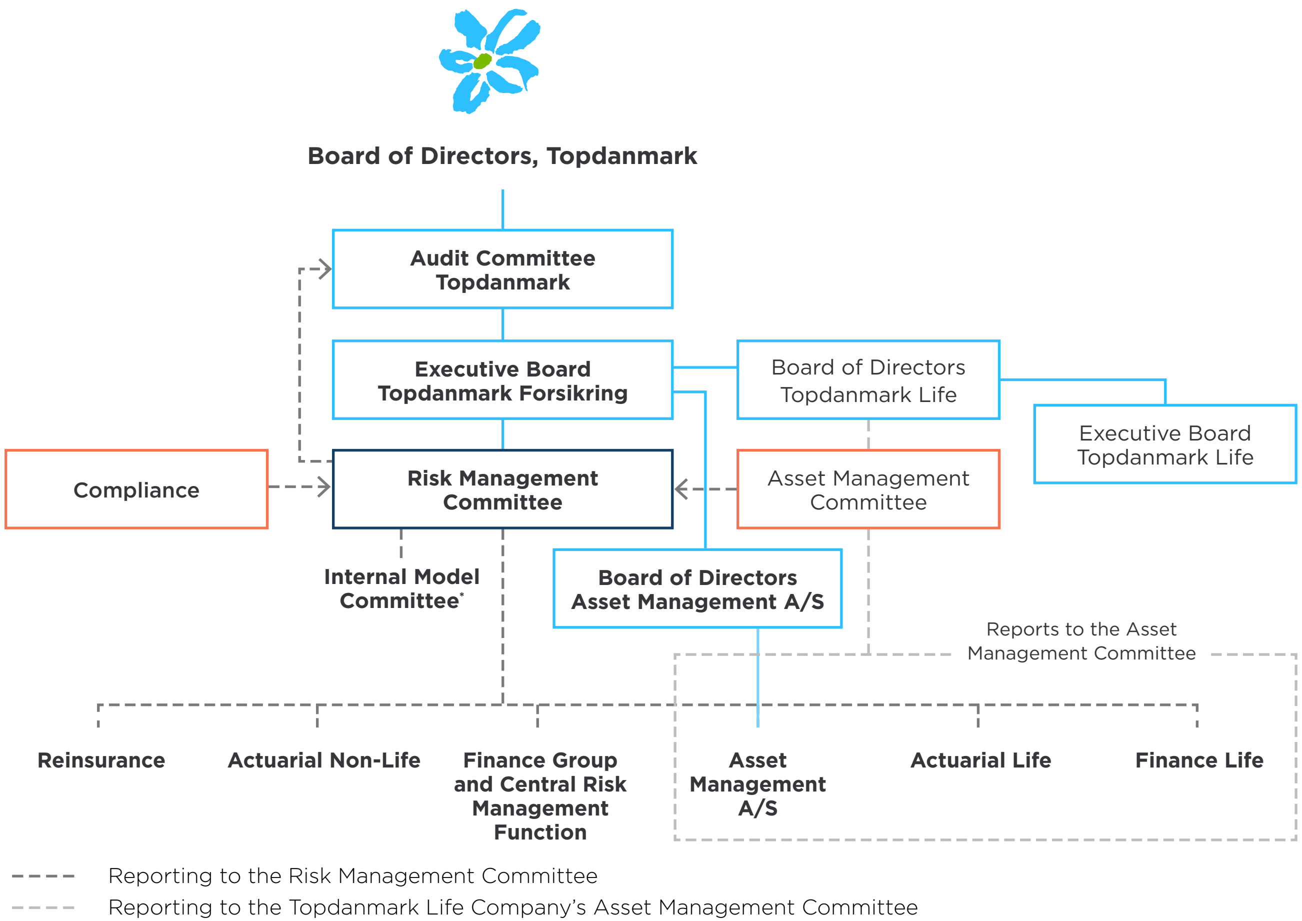
The Board of Directors determines the overall risk policies and limits. The internal auditors report to the Board of Directors and report on, among other things, the observance of these risk policies and limits.

Topdanmark's risk management function identifies, assesses and quantifies risks. It reports to the Risk Committee, which is responsible for risk policies, risk limits, solvency calculation, capital plans, Topdanmark's own risk and solvency assessment (ORSA), and Topdanmark's partial, internal model for non-life insurance risks. The members of the Risk Committee are the CFO of the Group, the head of the Compliance Function and the heads of the primary risk areas, which are: Asset Management, Statistical Services, Reinsurance, Finance, Life Actuarial Services and Life Finance. The Risk Committee reports and recommends to the Board of Directors via the Executive Board.

The Risk committee has set up the Model Committee, which is responsible for developing and operating Topdanmark's internal model for calculation of results probabilities and risks of the non-life insurance portfolio based on random simulation. The model is used for, among other things, optimising the reinsurance programme, calculation of cost of capital, forecast testing and calculating capital requirements.

The reporting lines of the main governing bodies in Topdanmark are described in the figure Risk Governance in Topdanmark.

Risk Governance in Topdanmark



*Internal Model Committee is part of Risk Management Function

The risk management function implements an annual ORSA process identifying risks in the business, quantifying these risks and collecting them in a risk register. Additionally, the principles of solvency calculation are reviewed, and the risk management process is updated. An ORSA report has been prepared, which, together with the risk register and risk management process, was considered at a Board seminar in the autumn of 2018.

Appendix 2: Risk Definitions

Underwriting Risks

In general, the book value of insurance liabilities (technical provisions) and economic value of insurance liabilities are dependent on the size and timing of future claims payments including expenses and the interest rates used to discount these claims payments to the current date.

The first component is a source of underwriting risk and the second component affects the interest rate risk to the balance sheet.

Underwriting risk can be generally defined as a change in the value of insurance liabilities caused by variance between the final costs for full contractual obligations and the assumed costs when these obligations were estimated. Hence, underwriting risk is realized as unexpected liability cash flows or unexpected change in the value of insurance liabilities when the pricing and provisioning assumptions on claims payments differ to the actual payments.

Technical provisions and the economic value of insurance liabilities always include a degree of uncertainty as they are based on estimates of the size, timing and the frequency of future claim payments. The uncertainty is normally greater for new portfolios for which comprehensive run off statistics are not yet available, and for portfolios which include claims that take a long time to settle. Workers' compensation, Motor other and Motor third party liability, personal Accident and Liability insurance are examples of non-life products with the latter characteristics. In principle, most of the Life products have the latter characteristics embedded within them also. Life insurance policies are also exposed to the behavior of policyholders because policyholders can change their premium payment intensity or cancel the existing policy.

Non-life Insurance Underwriting Risks

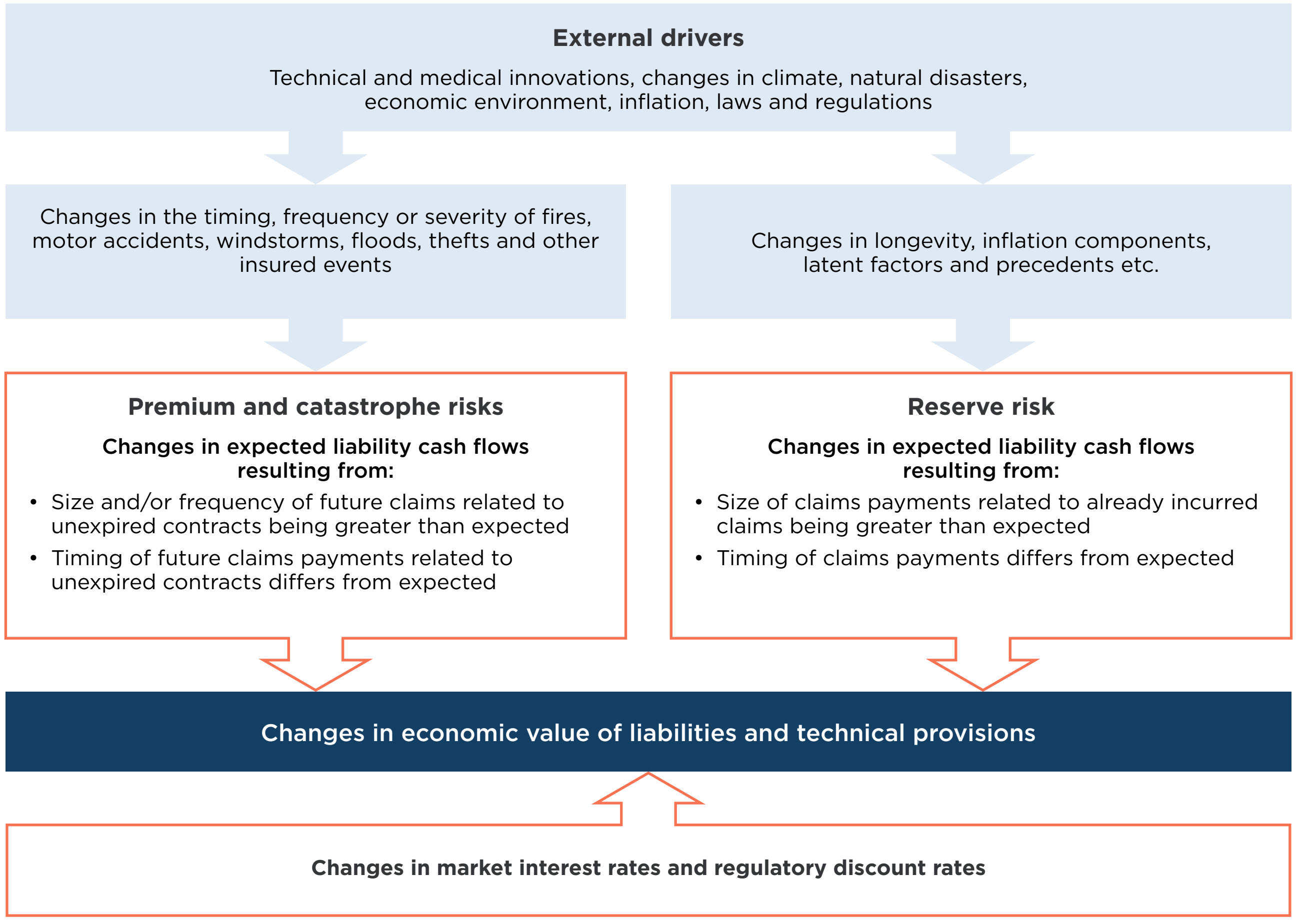
Non-life insurance underwriting risks are often divided into premium and catastrophe risks and reserve risk to separate the risks related to future claims of current insurance contracts from already incurred claims as illustrated in the table Non-Life Insurance Underwriting Risks.

Premium Risk and Catastrophe Risk

Premium risk relates to future claims resulting from expected insured events which have not occurred by the balance sheet date. The frequency, severity and timing of insured events and hence future claims may differ from those expected. As a result, the claims cost for future claims exceeds the expected level and there is a loss or adverse changes in the value of the insurance liabilities.

Catastrophe risk can be seen as an extreme case of premium risk. It is the risk of extreme or exceptional events, such as natural catastrophes where the pricing and setting of provisioning assumptions include significant uncertainty. These events may lead to significant deviations between the actual claims and the total expected claims resulting into a loss or adverse changes in the value of insurance liabilities.

Non-Life Insurance Underwriting Risks



Reserve Risk

Reserve risk relates to incurred claims, resulting from insured events which have occurred at or prior to the balance sheet date. The final amount, frequency and timing of claims payments may differ from those originally expected. As a result, technical provisions are not sufficient to cover the cost for already incurred claims and there is a loss or adverse changes in the value of insurance liabilities.

Reserve risk includes revision risk, which is defined as the risk of loss, or of adverse change in the value of insurance and reinsurance liabilities, resulting from fluctuations in the level, trend, or volatility of revision rates applied to annuities, due to changes in the legal environment or in the state of health of the person insured.

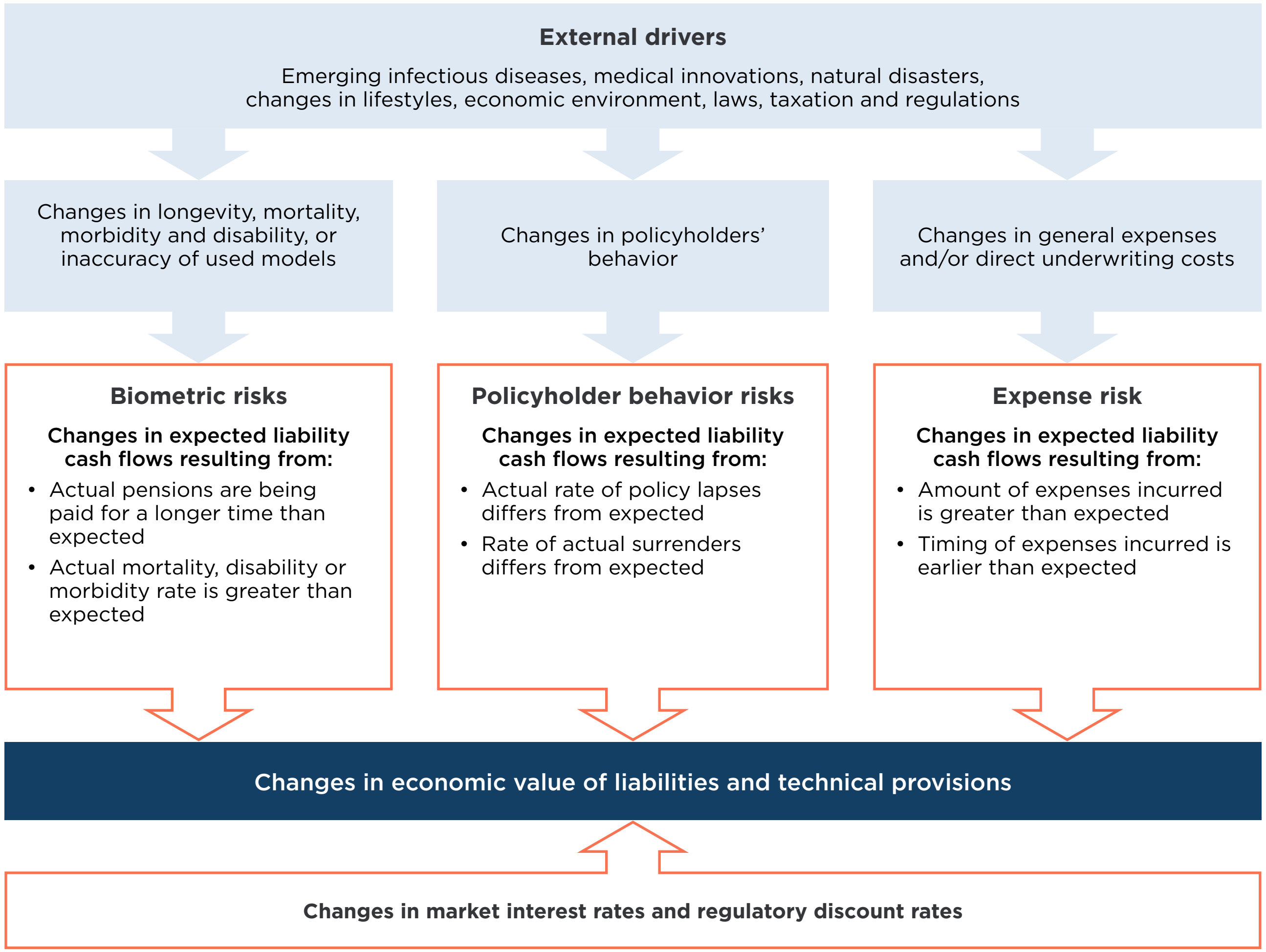
Life Insurance Underwriting Risks

The value of life insurance liabilities is sensitive to underwriting risks and interest rates. Underwriting risk includes biometric, policyholder behavior and expense risks as presented in the figure Life Insurance Underwriting Risks.

Biometric Risks

Biometric risks refer to the risk that the company has to pay more mortality, disability or morbidity benefits than expected, or the company has to keep paying pension payments to the pension policy holders for a longer period (longevity risk) than expected originally when pricing the policy.

Life Insurance Underwriting Risks



In life insurance, catastrophe events include – as in non-life insurance – rare single events or a series of events, usually over a short period of time and, albeit even less frequently, longer lasting events. When a low frequency, high severity event or series of single events lead to a significant deviation in actual benefits and payments from the total expected payments, an extreme case of biometric risk (i.e. a catastrophe risk) has been realized.

Policyholder Behavior and Expense Risks

Policyholder behavior risks arise from the uncertainty related to the behavior of policyholders. The policyholders have the right to cease paying premiums (lapse risk) and may have a possibility to withdraw their policies (surrender risk).

The company is also exposed to expense risk, which arises from the fact that the timing and/or the amount of expenses incurred differs from those expected at the time of pricing. As a result, expense charges originally assumed may not be enough to cover the realized expenses.

Discount Rate Risk in Technical Provisions

Discount rate risk in technical provisions is the main risk affecting the adequacy of technical provisions. The guaranteed interest rate in policies is fixed for the whole policy period. Thus, if market interest rates and expected investment returns fall, technical provisions may have to be supplemented.

Market Risks

In general, market risks refer to fluctuations in the financial results and capital base caused by changes in market values of financial assets and liabilities, as well as by changes in the economic value of insurance liabilities. The changes in market values and economic values are caused by movements in underlying market variables such as interest rates, inflation, foreign exchange rates, credit spreads and share prices.

Furthermore, market risks also include the risk of worsening market liquidity in terms of widening bid-ask spreads and the risk of unexpected changes in the repayment schedules of assets. In both cases the market values of financial instruments in investment portfolios may change.

The risks caused by changes in interest rates, foreign exchange rates and inflation together with a general trend of credit spreads and equity prices are defined as general market risks and are managed by allocation limits and other risk limits. Interest rate, inflation and currency risks are balance sheet level market risks whereas trend in spreads and equity prices relate to a larger extent to assets.

The risk related to debt and equity instruments issued by a specific issuer can be defined as issuer specific market risk that is managed by issuer specific limits.

Equity and Spread Risks

Sampo Group is exposed to price risk dependent on changes in equity prices and spreads arising from its fixed income and equity investments, as illustrated by the table Equity and Spread Risks. Equity price and spread movements are affected by general market trends and by risk factors that are related specifically to a certain issuer or a specific issue.

Equity and Spread Risks

External drivers

Economic, social and financial market conditions, laws, taxation and regulations, technical development and innovations

- Changes in issuer's financial position and future prospects
- Changes in market expectation on issuer's financial future
- Volatility of markets in general

- Changes in issuer's financial position and future prospects
- Changes in market expectation on issuer's probability of default or issuer's loss given default
- Volatility of markets in general
- Terms of debt instruments and related collaterals

Equity risk

Fair value changes and credit losses resulting from:

- Increasing risk premiums and respective negative changes in valuations are decreasing the fair value of long positions in equity instruments
- Decreasing risk premiums and respective positive changes in valuations are decreasing the fair value of short positions in equity instruments

Spread risk

Fair value changes and credit losses resulting from:

- Widening credit spreads are decreasing the value of long positions in debt instruments
- Tightening credit spreads are decreasing the value of short positions in debt instruments
- Value of collateral differs from expected
- Ultimately borrower is not able to meet its financial obligations when they fall due

Negative impact on financial results

Balance Sheet Level Market Risks or ALM Risks

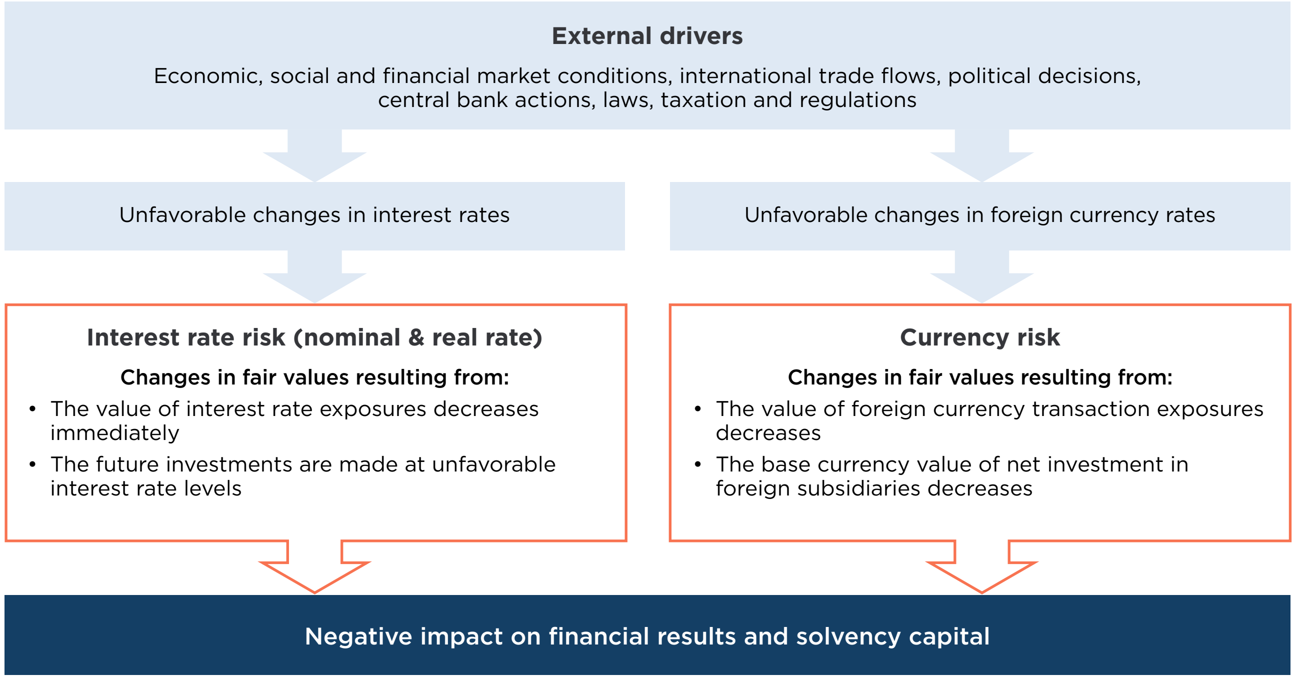
When changes in different market risk variables (interest rates, inflation, foreign exchange rates) cause a change in the fair values of investment assets and derivatives that is of a different size than the respective change in the economic value of the insurance liabilities, the company is exposed to ALM risk. It has to be noted that the cash flows of insurance liabilities are modelled estimates and are therefore uncertain in relation to both their timing and amount. This uncertainty is a central component of ALM risk.

Interest Rate and Currency Risks

Many external drivers are affecting interest rates, inflation, inflation expectations and foreign exchange rates as illustrated by the figure Interest Rate and Currency Risks.

Currency risk can be divided into transaction and translation risk. Transaction risk refers to currency risk arising from contractual cash flows in foreign currencies which are related to insurance activities, investment operations and foreign exchange transactions. Translation risk refers to currency risk that may realize when balance sheet values or measures such as SCRs expressed in base currency are converted into other currencies.

Interest Rate and Currency Risks



Liquidity Risks

Liquidity risk is the risk that the Group companies are, due to a lack of available liquid funds or access to relevant markets, unable to conduct their regular business activities in accordance with the strategy, or in extreme cases, are unable to settle their financial obligations when they fall due.

The sources of liquidity risk in Sampo Group are either internal or external by their nature. If the company's rating declines or if the company's solvency otherwise appears jeopardized, its ability to raise funding, buy reinsurance cover or enter financial derivatives at a reasonable price is endangered. Moreover, policyholders may also not be willing to renew their policies because of the company's financial challenges or in the case of reputational issues. If these risks, caused by internal reasons, are realized together with general market turmoil, which makes the selling of investment assets and the refinancing of debt difficult, maintaining adequate liquidity can be a challenge.

Liquidity Risks

External drivers

Economic, social and financial market conditions, laws, taxation and regulations, market turbulences, natural disasters and other catastrophic events

- Policyholders' behavior in general
- Changes in creditworthiness and reputation of the company
- Periodic concentration of large claims and simultaneous reinsurers' insolvency
- Liability structure of the company

- Investors' behavior in general
- Market liquidity in general
- Changes in creditworthiness and funding needs of the company
- Investment portfolio structure of the company

- Reinsurers' behavior in general
- Derivative counterparties' behavior in general
- Changes in creditworthiness of the company
- Liability structure of the company

Liquidity risk – Insurance liabilities

- Renewal rate of insurance policies is lower than expected
- Claim payments over short-term are clearly higher than expected

Liquidity risk – Investment assets and funding

- Financing is not available at reasonable terms or at all
- Investment assets cannot be sold at reasonable prices or at all

Liquidity risk – Derivatives and reinsurance

- Reinsurance is not available at reasonable terms or at all
- Financial derivatives are not available at reasonable terms or at all

Inability to enter into transactions at reasonable terms or settle financial obligations endangers the ability to manage liquidity positions, risk exposures and capital structure according to strategy

Counterparty Default Risks

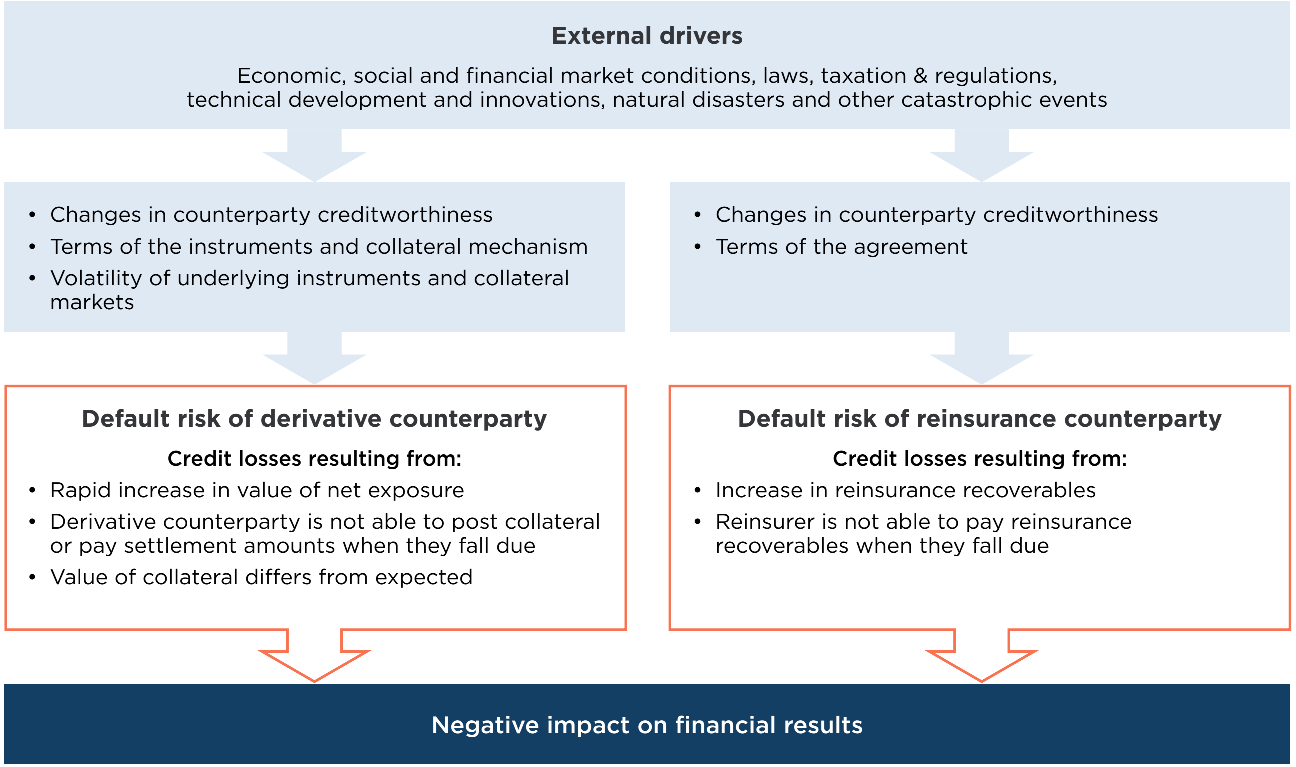
Credit risk by definition comprises default, spread and settlement risks. Default risk refers to losses arising from occurred defaults of contractual counterparties (counterparty risk) or debtors (issuer risk).

Counterparty Default Risk ("Counterparty Risk") is one type of consequential risk, which Sampo Group is exposed to through its activities. In the case of counterparty risk, the final loss depends on the positive mark-to-market value of derivatives or reinsurance recoverables at the time of default and on the recovery rate which is affected by collaterals.

In the case of issuer risk the final loss depends on the investor's holding of the security or deposit at the time of default, mitigated by the recovery rate.

Spread risk refers to losses resulting from changes in the credit spreads of debt instruments and credit derivatives. Credit spreads are affected when the market's estimation of the probability of defaults is changing. In essence, credit spread is the market price of default risk which is priced into the market value of the debt instrument. Hence the debt instrument's value should lower before the event of default occurs. Because of these features, spread risk, including also the default risk of debt instruments, is categorized in Sampo Group under investment portfolio market risks.

Counterparty Default Risks



Settlement risk realizes when one party fails to deliver the terms of a contract with another party at the time of settlement. Settlement risk can be the loss associated with default at settlement and any timing differences in settlement between the two parties. Settlement risks are effectively mitigated by using centralized settlement and clearing systems by Sampo Group companies.

Operational Risks

Operational risk refers to the risk of loss resulting from inadequate or failed processes or systems, from personnel or from external events. This definition includes compliance risk but excludes risks resulting from strategic decisions. The risks may realize for instance because of:

- Internal misconduct;
- External misconduct;
- Insufficient human resources management;
- Insufficiencies in operating policies regarding customers, products or business activities;
- Damage to physical property;
- Interruption of activities and system failures; or
- Defects in the operating process.

Materialized operational risks can cause an immediate negative impact on the financial results due to additional costs or loss of earnings. In the longer term, materialized operational risks can lead to a loss of reputation and, eventually, a loss of customers which endangers the company's ability to conduct business activities in accordance with the strategy.

Compliance risk is the risk of legal or regulatory sanctions, material financial losses or loss of reputation resulting from a company's failure to comply with laws, regulations and administrative orders as applicable to its activities. A compliance risk is usually the consequence of internal misconduct and hence it can be seen as a part of operational risk.

Operational Risks

External drivers

Natural disasters, other catastrophic events, epidemics, unauthorized or criminal acts and technological developments

- Competence and integrity of human resources
- Hardware, software and data
- Work processes

- Source data integrity
- Calculation procedures
- Reporting procedures
- Access to data and reports

- Internal events, accidents, failures, misconduct etc.

Operative processes

High cost or low quality of client services or internal processes resulting from:

- Internal processes are not working as expected
- Client services are not working as expected

Data and information

Deficiencies in decision-making and actions and non-compliance in reporting resulting from:

- Inadequate, inaccurate or untimely information and reporting

Resource damages

Discontinuity of operations resulting from:

- Damage to personnel
- Damage to physical property or locations
- Damage to or loss of data

Negative impact on financial results arising from immediate costs or loss of earnings and inability to conduct business activities in accordance with strategy due to loss of reputation and customers

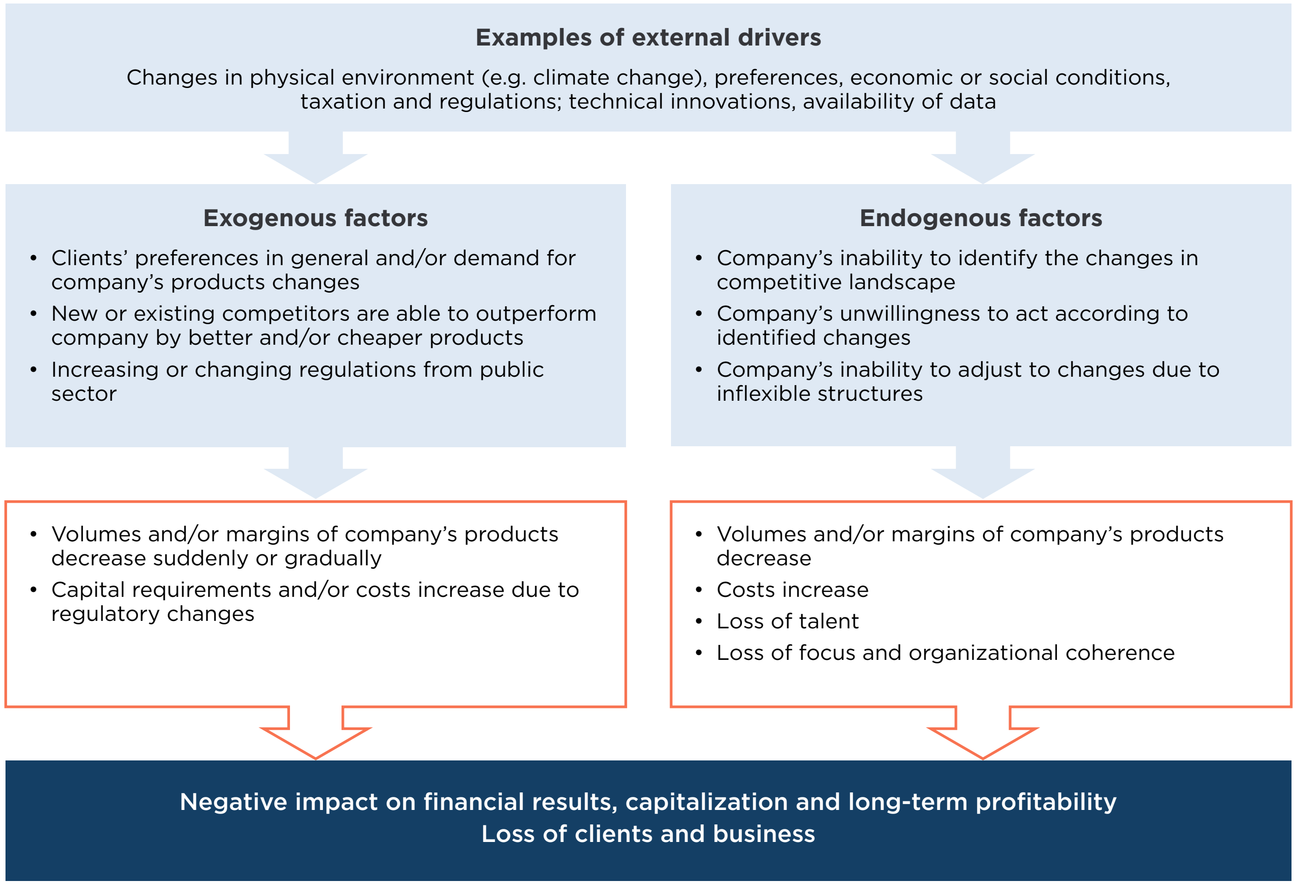
Business Risks

Business risk is the risk of losses due to changes in the competitive environment and/or lack of internal operational flexibility. Unexpected abrupt changes or already identified, but internally neglected trends can cause larger than expected fluctuations in profitability when volumes, margins, costs and capital charges change and in the long run they may also endanger the existence of Sampo Group's business models.

External drivers behind such changes are varied, including for instance general economic development, changes in commonly shared values, developments in the institutional and physical environment and technological innovations. Because external drivers are inter-connected, the customer preferences and demand can change unpredictably and there may be a need to change regulations as well. Currently the themes of sustainable business practices in general and especially the issues related to environment, society and governance, are changing the preferences and values of different stakeholders and, as a result, competitive environment is also changing in different ways. In case company's internal understanding of needed changes or willingness and ability to act accordingly is inadequate and competitors are more able to meet clients' and regulation's altered expectations, the company is highly exposed to business risk.

Due to the predominantly external nature of the drivers of – and development in – the competitive environment, managing business risks is the responsibility of the executive level senior management. Proactive strategic decision

Business Risks



making is the central tool in managing business risks, which relate to the competitive advantage. The maintenance of internal operational flexibility – i.e. the ability to adjust the business model and cost structure when needed – is also an efficient tool in managing business risks.

Business risks do not have the regulatory capital charge, although they may be a material source of earnings volatility. Because of this, business risk may have an effect on the amount and structure of actual capital base, if deemed prudent in existing business environment.

Appendix 3: Selected Management Principles

These principles are followed as such in the subsidiaries although there may be small differences in the principles followed in Topdanmark.

Principles of Balance Sheet Management (ALM)

Risk factors that are affecting both sides of balance sheet contribute considerably to economic values of insurance liabilities, market value of assets, risks and capital need. According to Sampo's definitions ALM risks include in addition to interest rate, inflation and FX risk also liquidity risk and behavioral risks affecting maturities of insurance policies and some asset classes. Risk definitions related to ALM risks may be found in **Appendix 2 Risk Definitions**.

ALM risk profiles are thoroughly analysed and considered for instance when investment policies are designed, insurance products are developed, and internal capitalization targets are set.

In Sampo Group companies, insurance liabilities are the starting point for the investment policy. Insurance liabilities are modelled and analysed to form an understanding of their expected future cash flows and their sensitivities to changes in factors such as inflation, interest rates and foreign exchange rates. Secondly, the solvency position at a time and its target levels (rating-agency and regulatory) and risk appetite define the general capacity and willingness to take market risks and liquidity risk. The stronger the solvency position and the higher the risk appetite, the more the investment portfolio can potentially differentiate from a portfolio replicating cash flows of insurance liabilities. Sampo Group companies manage their investment portfolios within the limits set on Investment Policies daily as described in more detail at section Principles of Investment Portfolio Management.

In Sampo Group, operative liquidity risk is managed by the legal entities, which are responsible for liquidity planning and maintaining adequate liquidity buffers. Liquidity risk is monitored based on the expected cash flows resulting from assets, liabilities and other business. In the subsidiaries, the adequacy of liquidity buffers is dependent on the underwriting cash flows. In the parent company, the adequacy of liquidity buffers is dependent also on potential strategic arrangements and strong liquidity and capacity to generate more liquidity if needed is generally preferred.

Since there is no unambiguous technique to quantify the capital need for liquidity risk, it is not directly considered in the internal capital need estimates. Thus, only the interest rate, inflation and FX risks of the ALM risks are accounted for in the capital need framework.

One form of liquidity risk is the access to markets when needed. Sampo Group companies maintain good business relationships with several creditworthy counterparties which mitigate the risk that the Group is not able to enter into reinsurance or derivative transactions when needed.

At the Group level Sampo plc monitors the ALM profiles of the companies and may adjust its own risk profiles to mitigate the risks at the Group level. Because of this a significant part of Sampo's debt is tied to short-term interest rates. Hence, risk profile of Sampo plc is opposite to daughter companies.

Principles of Investment Portfolio Management and Control of Investment Activities

Investments (excluding Mandatum Life's investments covering unit-linked policies) are managed according to the subsidiaries' Investment Policies which are based on insurance liabilities and solvency as described in previous section. In Sampo Group direct investments and managers of collective investment assets are carefully studied before entering into new investments or making new commitments. This prudent person principle is reflected in many different ways in companies' investment policies and specifically in requirements set for new kind of investments or any non-routine investments by their nature.

Sampo Group's Chief Investment Officer is responsible for managing investments within the limitations of the Investment Policies prepared by the Group companies and approved by the Group Companies' Boards of Directors. The insurance subsidiaries and the parent company have a common Group-wide infrastructure for investment management as well as for performance and risk reporting which facilitates simultaneous company and the Group level reporting. These create cost efficiency in investment activities and also facilitate Group-wide monitoring of portfolios.

Sampo Group has a thorough understanding of the Nordic markets and issuers and consequently the Group's direct investments are mainly made in Nordic securities. Mandatum Life's direct investments are mainly denominated in euro and in companies geographically located in Finland and selectively in other countries. If has the major part of its direct investments denominated in the Scandinavian currencies and their respective countries. Through effective differentiation in asset selection between companies, concentration risk is proactively managed at the Group level.

Sampo Group prefers simple and matured instruments and transparency. Hence, most of Sampo Group's investments are in fixed income securities and listed equities which are tradable and subject to daily mark-to-market valuation. Moreover, Sampo Group has also some illiquid investments in these asset classes – loan instruments and private equity – for which market prices are not that frequently available, but whose fair values can change adversely when the financial strength or future prospects of the issuer deteriorates, or the value of collaterals decreases. Sampo Group has tools in place to measure the risks of these instruments as well.

In financial accounting, the investment portfolios are reported on a fair value basis. These fair values are determined either based on direct market quotes or by using various valuation models. More information on the valuation methods of the investment assets is presented in **Note 17 Determination and Hierarchy of Fair Values (www.sampo.com/year2018)** of Sampo Group's **Financial Statements**. Regarding Solvency II valuation methods, there are some minor differences compared to the IFRS standards. See **Appendix 4 Profitability, Risks and Capital** for Solvency II Valuation Methods.

ESG in Investment Activities

Sampo believes that the sustainability issues have an impact on the long-term performance, risks and value of all companies. Hence, integration of ESG-criteria (Environmental, Social, Governance) into the investment process is an important instrument to improve the risk-return profile of investments and it is a critical success factor of investment activities especially in the long run.

Sampo's investment philosophy is to invest into individual companies' shares and debt instruments instead of allocating funds to chosen industries or geographical areas. These companies are carefully studied before any investments are made and hence ESG issues are considered in parallel with other factors affecting the risk-return ratio of individual investments. This way the persons involved in the investment decision-making process are responsible for taking ESG considerations into account as well.

In 2018 Sampo Group supplemented the investment policies of the Group companies by adding instructions on how to take the ESG issues into account in the investment process by using an internal ESG traffic light model. Sampo also developed the reporting of investments from the ESG point of view. The ESG risk category -based traffic light model and the corresponding reporting ensure a continuous monitoring of the ESG issues as part of the internal reporting. In 2019 Sampo will continue to develop the ESG considerations of its investment activities.

At the moment Sampo Group companies do not have ESG guidelines that would exclude some business areas and companies outside the scope of investment opportunities. Sampo Group does not have earmarked funds for sustainable investments, such as green bonds either.

Sampo's investment philosophy is reflected through its actions. As a result of thorough background work and studying, Sampo's view about the company in question may change due to ESG or other issues, in which case Sampo does not make new investments in the company and existing investments may be sold over time.

More detailed information on ESG in investment activities will be given in Sampo Group's Corporate Responsibility Report which will be published in May 2019.

Management of Equity and Spread Risks of Direct Investments

In Sampo Group, the selection of direct fixed income and equity investments is based primarily on stock and bond picking and secondarily on top-down allocation. This investment style ensures that the portfolio includes thoroughly analyzed investments with risk return ratios internally considered to be adequate, although the portfolio might not be necessarily as diversified as finance or portfolio theory suggests.

The main steps in decision making, limit and monitoring process are as follows:

- Potential investments are analyzed thoroughly. The creditworthiness and future prospects of the issuer are assessed together with collaterals and structural details of the instruments. Although external credit ratings by rating agencies and the opinions of analysts are used to support the internal assessment, Sampo Group's own internal assessment is always the most important factor in decision making.
- Investment transactions shall be executable on short notice when an opportunity appears. This puts pressure on authorizations and credit limit structures and procedures which must be simultaneously carried out flexibly enough to facilitate fast decision making regardless of instrument type, well-structured to ensure that investment opportunities are assessed prudently, considering the specific features and risks of all investment types and able to restrict the maximum exposure of a single name risk to a level that is within the company's risk appetite.
- Accumulated credit exposures over single names and products are monitored regularly at the subsidiary level and at the Group level to identify unwanted concentrations. Credit exposures are reported, for instance, by sectors and asset classes and within fixed income by ratings.

Management of Indirect Investments

In addition to direct investments the collective investment assets managed by third parties are used. The external asset managers and collective investment assets managed by them are selected centrally by the same members of Sampo Group's Investment Unit for both wholly owned subsidiaries. In this selection clearly defined procedures are followed to ensure the integrity of asset managers and to make sure that these investments do not overlap with direct investments. By this way Sampo Group prevents unidentified or unwanted concentrations.

These investments are mainly in other asset classes – real estate, private equity and alternative credit funds - and in different geographical areas than the direct investments that are mainly in Nordic countries. These investments are primarily used as a tool in tactical asset allocation when seeking return and secondarily in order to increase diversification. Sampo Group does not have Asset Backed securities in its portfolios except some CDOs in Topdanmark.

Management of Currency Risk

In Sampo Group companies the net foreign currency transaction exposure is considered as a separate asset class and is managed within investment portfolio activities as considered relevant by the company.

Open transaction risk positions are identified, measured and managed separately by each Sampo Group company. The net position in each currency consists of the assets, liabilities and foreign exchange transactions denominated in the particular currency. Mandatum Life and Topdanmark have their liabilities only in their local currency and hence their transaction exposures are net of foreign currency assets and currency derivatives. In If there are also foreign currency denominated liabilities.

At the Group level Sampo is also exposed to translation risk, because the base currency of If is the Swedish Krona and for Topdanmark the base currency is the Danish Krona.

Use of Derivatives

In Sampo Group the main motive for use of derivatives is their efficiency – better liquidity and tighter bid-ask spreads – compared to cash instruments.

In Sampo Group derivatives are used mainly to adjust risks at investment-portfolio level (spread and equity risks) or at balance sheet level (interest rate, inflation and currency risks). This adjusting can mean mitigating or increasing of risks. From time to time risk profile of single transactions may be adjusted by derivatives as well.

The approved derivatives are listed in the companies' investment policies. In case there is a need for a new kind of derivative instrument the proposal is made for the Board approval. This proposal includes analysis how the effect of new instrument type is properly considered in risk limits and other reporting.

In most of the cases, derivatives are booked as trading derivatives at fair value through the profit and loss statement in financial accounting and hedge accounting is applied only seldom.

The counterparty risk related to derivatives is managed as described in counterparty risk section.

Control of Investment Activities

Daily Controlling of Activities in Wholly Owned Subsidiaries

Market risk control is separated from portfolio management activities in two ways. Firstly, persons independent from the Investment Unit prepare Investment Policies for Board approval. Secondly, Middle Office units which are independent of the Investment Unit measure risks, performance and control limits set in Investment Policies daily.

Market risks and limits are also controlled by the Investment Control Committee (ICC) in If and the Asset and Liability Committees (ALCOs) in Mandatum Life monthly at a minimum. These committees are responsible for the control of investment activities within the respective legal entity.

The ICC is responsible for monitoring the implementation of and compliance with the Investment and Asset Coverage Policies. The committee considers and proposes changes to the policies. The Chairman is responsible for the reporting of policy deviations and other issues dealt with by the committee.

Mandatum Life has two ALCOs, of which one controls the segregated assets and liabilities and the other controls the rest of Mandatum Life's with profit assets and liabilities. The ALCOs ensure that the investment activities are conducted within the limits defined in the Investment Policy as approved by the Board and monitors the adequacy of liquidity, profitability and solvency capital in relation to the risks in the balance sheet. The ALCOs prepare proposals of Investment Policy to the Board of Directors and report to the Board.

Group-wide Monitoring Activities

The aggregated market risks and concentrations at the Group level are controlled by the Group's Audit Committee quarterly at a minimum. Unlike underwriting activities, the subsidiaries' investment activities are closely coordinated in many ways at the Group level as follows:

- Their investment portfolios' risk profiles are designed and decided separately from each other, but their risk profiles are coordinated to proactively prevent potential concentrations. This principle is relevant for Topdanmark as well.
- The persons responsible for managing the subsidiaries' investments report directly to Sampo Group's Chief Investment Officer which ensures day-to-day coordination. Topdanmark is taking care of its day-to-day investments independently.
- IT systems in investment activities are common throughout the Group, facilitating consistent analysis and reporting of risks both at the company and at the Group level. In regard to Topdanmark their investment assets are taken into account at concentration reporting, but otherwise they have separate reporting processes.
- The same basic principles are primarily followed in the investment activities of both wholly-owned subsidiaries, although the risk level of If's investment portfolio is significantly lower than the risk level of Mandatum Life's investment portfolio due to different features of their insurance liabilities. In Topdanmark as well the insurance liabilities are the starting point to investment risk profiles.

Principles of Operational Risks Management

The effects of operational risks have their underlying causes in external and internal drivers. For example, the operational risks may realize because of inadequate or failed processes or systems, from personnel or from external events (for further details, see **Appendix 2 Risk Definitions - Operational Risks**). The Group companies have their own specific risk sources which are causes of events that may have negative impacts on different processes, personnel or fixed assets.

In Sampo Group, the parent company sets the following goals of operational risk management for its subsidiaries:

- To simultaneously ensure the efficiency and the quality of operations
- To ensure that operations are compliant with laws and regulations
- To ensure the continuity of business operations in exceptional circumstances.

Each company is responsible for arranging its operational risk management in line with the above-mentioned goals, while also considering the specific features of its business activities.

Appendix 4: Profitability, Risks and Capital

Sampo Group operates under a holding company structure and the parent company does not have any business activities of its own. Sampo Group's business activities are conducted in four separately managed independent business areas, with each business area managing their own risks and reserving sufficient capital to cover their risks.

This structure implies that the parent company is structurally subordinated. Hence, it is dependent on business areas' dividends that can be paid only after business areas have met their own obligations. Thus, the parent company prefers to maintain in its business areas a balance between profits, risks and capital which supports business areas' ability to pay stable dividends after servicing their own obligations.

The structure also implies that Sampo plc's primary focus is on the capitalization at the sub-group level and when the sub-groups in terms of own funds are well-capitalized, the Group should be well-capitalized. The latter may not be true if the sub-groups are cross-capitalizing each other, or the parent company is financially weak (highly leveraged and has inadequate liquidity buffers) or profits of the sub-groups are strongly and positively correlated.

In Sampo Group none of these three claims are true. However, different interpretations of the capital requirements under sectoral and financial conglomerate rules may have an impact on the Group level solvency ratios as is the case with banking side capital requirements for Sampo Group.

Hence, from Sampo Group's perspective, the main objectives are:

- Independent business areas generate a stable and growing stream of profits and have adequate solvency to ensure the continuity of normal business activities.
- The portfolio of separate business areas is stable. From the Group's perspective, a weak correlation of business areas' profits increasing the benefits of diversification on a portfolio level is preferred.
- The Group's parent company can provide liquidity for the strategic arrangements and capital injections, if needed. Hence, the parent company prefers a relatively low leverage and adequate liquidity buffers to ensure its ability to generate liquidity.

Over the years Sampo Group has disclosed its financial information by segments and relevant risk and solvency reporting by insurance sub-groups. Associated company has disclosed their respective reports independently. Sampo Group has disclosed its Group solvency (FICO solvency) according to the Act on the Supervision of Financial and Insurance Conglomerates (699/2004), i.e. conglomerate rules.

Since Solvency II ("SII") entered into force on 1 January 2016, Group solvency calculated by Solvency II rules must be disclosed as well. Differences between these methods will be described later in the chapter **Capitalization at the Group Level**. In Solvency II Sampo plc is defined as the ultimate parent of the Solvency II Group and thus the operative insurance companies each report separate figures to their local supervisors while If Group Solvency II figures are not required to be disclosed separately, but as part of Sampo Group Solvency II figures.

In addition to the disclosures described above, which are in line with management structure of the Group, Sampo Group's solvency based on Solvency II rules is disclosed as well.

Capitalization at the Sub-Group Level

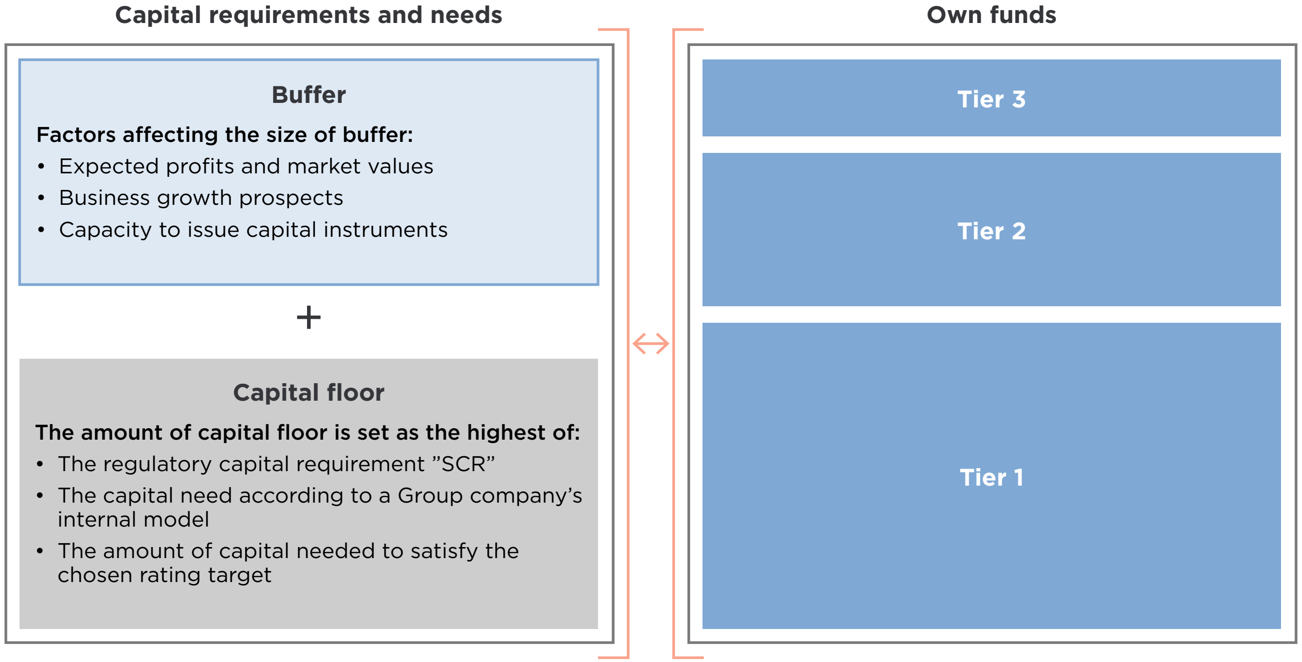
As noted earlier, in Sampo Group the first priority is to maintain a balance between profits, risks and capital in each of the separate business areas.

In a nutshell a balance between profits, risks and capital means that the actual amount of capital – or Own Funds ("OF") in Solvency II terminology - is maintained over risk-based capital need with a certain buffer; the size of this buffer is dependent on many things but mainly on expected profitability.

The figure Sampo Group Companies' Capitalization Framework illustrates Sampo's approach to sub-group and company-level capitalization.

The Solvency Capital Requirement ("SCR") sets the minimum level of capital at which a company is able to conduct its business without regulatory intervention. Regardless of whether the regulatory capital requirement is calculated using the internal model or the standard formula ("SF"), it reflects a 99.5 per cent confidence level, i.e. the same probability of default as a BBB rating from major rating agencies. If the company's clients and counterparties prefer a higher than BBB creditworthiness from their insurance company, the level of capital must always be higher than the SCR, to ensure the company's ability to serve its client base.

Sampo Group Companies' Capitalization Framework



To serve its current clients, If is maintaining a Single A rating which effectively implies that If's capital floor – the level to which it compares its actual capital – is higher than the SCR. Mandatum Life and Topdanmark consider the SCR to be an adequate capital floor. Topdanmark's Group solvency is calculated according to Solvency II rules. Topdanmark uses a partial internal model to calculate the non-life insurance risk and the volatility-adjustment when calculating technical provisions, which are both approved by the Danish FSA. Mandatum Life is also applying volatility adjustment when calculating technical provisions for solvency purposes.

There is a need to have a certain buffer between the actual amount of capital and the capital floor defined by the company, because risk exposures and profits evolve continuously over time and capital can sometimes erode rapidly due to stressed situations. An adequate buffer gives time for the company to adjust its risks and capital in times of stress and to maintain the balance between risks and capital. An adequate buffer also gives confidence to supervisors and counterparties (this being the other motivation for the buffer).

In Sampo Group the management steers the balance between SCR/rating agency capital target and OF through their decisions on risk profiles, dividend payments, capital instrument issuances and technical provisions. In the long run, a sound profitability and satisfied clients are the most important factors in maintaining an adequate capitalization.

The following factors are the most material when the size of buffer is considered in Sampo Group companies:

- The higher the level of expected profits and the lower the volatility of profits and market value of balance sheet, the less is the volatility of own funds and thus the smaller is the buffer.
- If business is growing, the buffer is larger than in the case of a run-off -business. For instance, in Mandatum Life, capital consuming with profit business has already been in a virtual run-off mode for years.
- More ability and capacity to issue Solvency II compliant capital instruments means that a lower buffer is needed.

When the balance between profits, risks and capital is found, the following three goals of Sampo Group are simultaneously obtainable:

- The business activities can be conducted without supervisory intervention.
- The business activities can be conducted with all targeted client bases and the company has access to financial and debt issuance markets at terms and conditions implied by the company's creditworthiness.
- The targeted dividends can be paid to shareholders in the long run without endangering the balance between risk and capital.

On a sub-group and company level, a target can also be set for the capital structure. In general, Sampo Group is in favour of strong capital structures and as a result Sampo Group companies currently have, according to Solvency II rules, room for new hybrid capital and subordinated debt instruments in their balance sheets.

Due to the re-domiciliation from Sweden to Finland, Nordea is undergoing a transition period during which new capital requirements will be set. Capital requirements under the European Central Bank's supervision differ from the ones under the Swedish regulation. This affects both the REA and the minimum capital requirement, which are the basis for Nordea's capital requirement for Sampo Group. After the re-domiciliation, Nordea's REA grew from EUR 121 billion to EUR 156 billion and the minimum capital requirement (per cent) changed in Q4 2018. In addition, Nordea's capital policy aims at maintaining a management buffer of 40 to 120 basis points above the capital requirement.

The CET1 ratio of Nordea was 15.5 per cent in 2018 (19.5). The CET1 capital amounted to EUR 24.1 billion (EUR 24.5 billion) and its own funds was EUR 31.0 billion (31.7 billion). Sampo consolidates its share of Nordea's all own funds items and the minimum capital requirement to the Group solvency under both Solvency II and conglomerate rules. Nordea's capital requirement in Sampo Group solvency is expected to increase as explained in section **Sampo Group Capitalization**. From Sampo Group's perspective, Nordea is adequately capitalized and its contribution to the Group's own funds and capital requirement is significant.

Capitalization at the Group Level

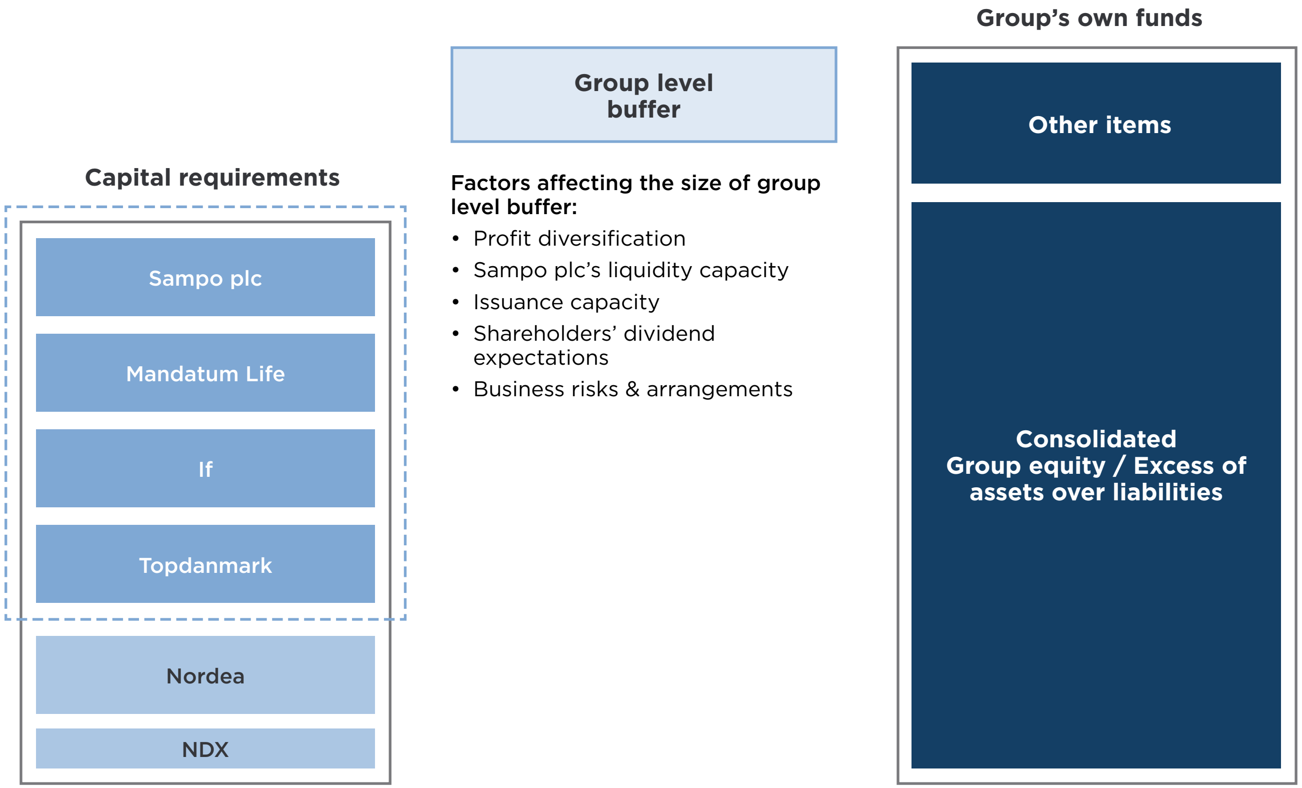
The sub-group level balance of profits, risks and capital is the primary focus of Sampo Group. When all sub-groups are well capitalized, as a result the Group should be adequately capitalized as well although for example the subordinated loans, which are eliminated from own funds, decrease the solvency. In addition, changes in the solvency capital requirements of the sub-groups have an effect on the level of capitalization in Sampo Group.

However, at Sampo Group level there are more factors affecting capitalization than at the sub-group level. These factors are illustrated in the figure Sampo Group's Capitalization Framework.

The Group's capital requirement is dependent mainly on the capital requirements of the business areas. The parent company's contribution to the Group capital need is minor most of the time, because Sampo plc does not have any business activities of its own other than the management of its capital structure and liquidity portfolio. However, investments in the Nordic financial service companies increase Sampo plc's capital requirement.

Diversification benefit exists at two levels, within the companies and between the companies. The former is included in the companies' SCRs.

Sampo Group's Capitalization Framework



Conceptually, the Group's own funds is the difference between the market value of assets and liabilities plus the subordinated liabilities. This difference has accrued during the lifetime of the Group and it includes the following main components:

- Accrued profits that have not been paid as dividends over the years.
- Market value adjustment to the book values of assets and liabilities.
- Issued capital and subordinated liabilities meeting Solvency II requirements.

Due to the use of the same sectoral rules in both Solvency II and financial conglomerate calculations, there is no material difference between Sampo's Solvency II or FICO own funds.

At the Group level, the capital requirement and own funds are both exposed to foreign currency translation risk. Translation risk may realize when the actual capital and the capital needs of If and Topdanmark are converted from their reporting currencies to euros. When the reporting currencies of If and Topdanmark depreciate, the actual amount of the Group's capital in euros decreases and the capital requirements of If and Topdanmark will be lower in euro terms. Translation currency risk is monitored internally and its effect on Sampo Group's solvency on a going concern basis is analyzed regularly. However, internally no capital need is set for translation risk, because it is realized only when a sub-group is divested.

The Group level buffer is the difference between the amount of the Group's own funds and the Group capital requirement. In addition to the sub-group level factors – expected profits and their volatility, business growth prospects and ability to issue Solvency II compliant capital instruments – there are Group level factors that are also relevant when considering the size of the Group level buffer. The most material Group level factors affecting the size of buffer are correlation of sub-groups' reported profits, parent company's capacity to generate liquidity, probability of strategic risks and arrangements and shareholders' dividend expectations.

Regulatory Solvency Calculation Methods and the Group Solvency Position

Sampo Group's capital requirement and amount of the Group's own funds are calculated either by the conglomerate rules or the Solvency II directive as follows:

Sampo Group's capital requirement according to the conglomerate rules, is called the Group's total minimum requirement for own funds and it is the sum of the separate sub-group's requirements (sectoral rules) and the parent company's requirement based on the Capital Requirements Directive/Capital Requirements Regulation ("CRD IV/CRR"). The conglomerate's capital requirement does not consider any diversification between the business areas. Hence it is a quite conservative measure of capital requirement and easy to interpret. In FICO solvency Partial Internal Model SCRs for If P&C Insurance Ltd (publ) and Topdanmark are used.

The starting point for the calculation of the Group's own funds is the Group's consolidated equity. Sectoral items, which include among others the subordinated liabilities held by the external investors, are added to the Group's consolidated equity. In addition, intangible assets and proposed dividends as well as other deductible items are subtracted from the Group's own funds.

Sampo Group's capital requirement by Solvency II rules is called **Group SCR** and it is calculated in two phases:

- The capital requirements of other risks than FX risk and concentration risk are calculated for the consolidated Group including respective standard formula SCRs of the parent company Sampo plc, If, Mandatum Life and Topdanmark. The company SCRs may include the simplifications and other options as applied by them. The capital requirement of FX risk and concentration risks are calculated based on Group-wide exposures calculated separately for this purpose. Regarding FX risk requirement also the translation risk exposures related to SEK denominated equity of If and DKK denominated equity of Topdanmark are considered. Diversified capital requirement for the consolidated Group SCR is then calculated from these risk specific SCRs.
- Sampo plc's share of Nordea's, NDX's and Mandatum Life's other sectors' capital requirements are added to the consolidated Group's capital requirement.

The Group SCR calculated by Solvency II rules considers diversification only within the consolidated Group thus excluding the diversification benefit related to the holdings of Nordea and NDX.

The Group's own funds under Solvency II rules is the excess of assets over liabilities (including any subordinated liabilities which may be called up to absorb losses and minus own shares held directly). Assets and liabilities are valued at market value and all intra-group transactions are eliminated. The excess of assets over liabilities is classified into tiers 1-3. The tiers reflect the degree of loss absorbency of own funds in the event of a winding up. Adjustments are made if all own funds are not available or eligible at the Group level. In addition, associated company's additional Tier 1 and Tier 2 capital instruments are included in own funds.

The Group's own funds and SCR are calculated by combination of consolidation and deduction and aggregation methods. Under normal circumstances the Group's OF by Solvency II and conglomerate rules are close to each other due to the similar treatment of sectoral items. The Minimum Consolidated Group SCR (MCR) is determined by adding up the Solo MCRs of the insurance entities consolidated for the Group SCR calculation.

Appendix 5: Valuation for Solvency Purposes

Sampo Group Solvency II balance sheet is derived from Sampo's consolidated IFRS financial statements, which are adjusted in accordance with Solvency II regulation. The IFRS accounting principles "Summary of significant accounting principles" are presented in Sampo Group's **Financial Statements** in Notes to the accounts (www.sampo.com/year2018).

There are no major adjustments to the IFRS numbers necessary for Solvency II purposes. A large majority of Sampo Group's assets are valued at fair value on the IFRS balance sheet based on market values. No significant alternative valuation methods are used. The fair values of financial liabilities and properties are given in the notes to the IFRS accounts.

The determination of the fair values is presented in Sampo Group's Financial Statements in Notes to the accounts/Summary of significant accounting policies/Fair value and Investment property and also in the notes Fair values and Determination and hierarchy of fair values.

For comparison purposes the values derived from Sampo's consolidated IFRS financial statements are mapped in accordance with the Solvency II balance sheet presentation in the table Solvency II Adjustments, Sampo Group, 31 December 2018. Only main rows are presented. The currency used is the Group's reporting currency, the euro.

The scope of Sampo Group in the Solvency II framework is the same as the scope used in Sampo Group's financial statement. According to the Solvency II balance sheet the excess of assets over liabilities for the Group per 31.12.2018 was EUR 601 million less than the respective IFRS figure. On the asset side the main differences are due to the different treatment of intangible assets and inclusion of future undue premium receivables in technical provisions instead of assets. On the liability side, there are material differences related to technical provisions due to different classification of some items and valuation principles. These differences are discussed in the next sections.

Solvency II Adjustments

Sampo Group, 31 December 2018

Assets, EURm	IFRS value*	Solvency II value	Adjustment
Goodwill, intangible assets and deferred acquisition cost	2,290	0	-2,290
Deferred tax assets	24	13	-11
Property, plant & equipment held for own use	162	164	1
Investments (other than unit-linked)	30,842	30,905	63
Property other than for own use	*588*	*631*	*43*
Holdings in related undertakings	*8,076*	*8,076*	*0*
Equities	*2,547*	*2,567*	*20*
Bonds	*16,890*	*16,890*	*0*
Collective investments undertakings	*2,082*	*2,082*	*0*
Derivatives	*73*	*73*	*0*
Deposits other than cash equivalents	*587*	*587*	*0*
Asset held for unit-linked contracts	10,706	10,706	0
Loans and mortgages	679	679	0
Reinsurance recoverables	294	252	-42
Non-life and health similar to non-life	*279*	*238*	*-42*
Life and health similar to life	*14*	*14*	*0*
Insurance and intermediaries receivables	1,379	412	-967
Reinsurance receivables	31	31	0
Receivables (trade, not insurance)	288	156	-132
Own shares (held directly)	0	145	145
Cash and cash equivalents	2,361	2,361	0
Any other assets, not elsewhere shown	284	251	-33
Total assets	**49,340**	**46,075**	**-3,265**

Liabilities, EURm	IFRS value	Solvency II value	Adjustment
Technical provisions – non-life	8,133	6,503	-1,630
Technical provisions – life	10,258	9,870	-388
Technical provisions – unit-linked	11,415	10,999	-416
Provisions other than technical provisions, Pension benefit obligations	83	83	0
Deferred tax liabilities	487	372	-116
Derivatives	174	174	0
Financial liabilities other than owed to credit institutions	4,100	4,146	47
Insurance and intermediaries payables	251	251	0
Reinsurance payables	33	28	-4
Payables (trade, not insurance)	505	377	-127
Subordinated liabilities	464	466	1
Any other liabilities, not elsewhere shown	424	393	-31
Total liabilities	**36,326**	**33,662**	**-2,664**
Excess of assets over liabilities	**13,014**	**12,413**	**-601**

** In IFRS Sampo's financial assets consist of equity and debt instruments available for sale and fair value through profit/loss, derivatives and loans and receivables. Financial liabilities in IFRS consist of derivatives and other liabilities eg. subordinated liabilities and other debt securities in issue.*

Assets

In the Group Solvency II balance sheet goodwill, intangible assets and deferred acquisition costs are valued at zero.

While recognition of deferred taxes is consistent with the IFRS accounts, Solvency II adjustments affect the carrying values in the Solvency II balance sheet and thus give rise to additional deferred tax effects. Solvency II valuation decreased deferred tax assets by EUR 11 million and deferred tax liabilities by EUR 116 million. The difference is mainly due to elimination of certain assets (intangible assets, etc.) and differences in the calculation of technical provisions.

There are no anticipated effects on the carrying amounts of Sampo's investment assets except for properties. In Solvency II balance sheet properties are valued at fair value according to Solvency II valuation rules. This increases the value of properties by EUR 44 million.

Loans and mortgages are valued at amortized cost, which is not in line with the treatment for financial assets in Solvency II. Sampo, however, considers the IFRS value to be substantially commensurate with the fair value of the loans.

Participations are reported in Sampo's Solvency II consolidated balance sheet using the adjusted equity method, or where applicable, the IFRS equity method. Participations refers to undertakings in which Sampo Group directly or indirectly has significant influence, which is normally the case when the shareholding amounts to a minimum of 20 per cent of the capital or voting rights for all shares in the company.

Reinsurance recoverables represent the reinsurers' share of the best estimate, less expected counterparty default. Consistently with technical provisions, these amounts are calculated in line with the Solvency II requirements.

Under Solvency II the technical provisions should fully consider all cash inflows and outflows. Therefore, regarding the policies in force, the future premiums expected but not yet due are not recognized as receivables. Instead they are included in the premium provision based on a best estimate, which differs from the treatment under the IFRS, where premium receivables are recognized in the balance sheet. Thus, receivables of EUR 967 million were reclassified from premium receivables to insurance liabilities. Receivables in Solvency II relate only to the amounts due for payments by policyholders, insurers, and others linked to insurance business.

The adjustment of receivables (trade receivables, not insurance receivables) relates to netting of receivable amounts in relation to the Finnish medical malpractice pool ("MMP"), public sector, which are treated as part of the Solvency II best estimate technical provisions, whereas in Sampo Group's consolidated accounts the MMP provision public sector is recognized as other assets / liabilities. Receivables of EUR 117 million are reclassified from trade receivables to the insurance obligation.

In Solvency II Own Shares EUR 145 million are recognized on balance sheet whereas in IFRS Own Shares are deducted from Equity.

Technical Provisions According to Solvency II in Sampo Group

In Solvency II, the value of technical provisions is equal to the sum of a best estimate and a risk margin.

The Best Estimate is determined as follows:

- First, all expected future insurance liability cash flows and cash flows related to the management and claims handling costs of insurance liabilities are estimated by the company at best effort basis based on recognized actuarial and statistical techniques.
- Second, all of these cash flows are discounted by the risk-free interest rate term structure as defined and published by EIOPA.

The best estimate is calculated separately on a gross basis, without deduction of the amounts recoverable from reinsurance contracts, and on a net basis by considering the ceded amount representing amounts recoverable from reinsurance contracts.

The above calculations of the best estimate are done separately for each currency the company has insurance liabilities in and the currency specific discount curve as defined by EIOPA is used. This risk-free term structure is based on market rates that are adjusted by credit risk adjustment and by volatility adjustment. The use of volatility adjustment is optional. This routine is followed up to the last liquid point of market rates as defined by EIOPA and it is defined separately for different currencies. The last liquid point is for example 20 years for the euro and 10 years for the Swedish krona. From the last liquid point and ahead, being the last point on the curve based on market rates, the risk-free term structure is affected by the Ultimate Forward Rate (UFR) as defined by EIOPA.

The future expected cash flows of insurance activities are always estimates and hence their magnitude and timing are uncertain by their nature. For this uncertainty, and to arrive at a market consistent valuation of the liabilities, a company must consider the capital allocated for the run-off of the liabilities. Risk Margin is the cost of this capital and it is determined as follows.

- It is assumed that a company is hedging the market risk related to insurance liabilities entirely and is not writing any new business. Then all expected future cash flows of insurance activities match exactly with risk free asset cash flows in same currencies as insurance related cash flows.
- With the market risk SCR at zero and no new business being written, the company's SCR is related to the insurance risk, reinsurance credit risk and operational risk.
- Since no new business is written, the cash flows behind the best estimate will run off to zero over time. Based on these cash flows, the company calculates the future values of the best estimate and the resulting SCRs over the full depletion of the insurance liabilities.
- All the resulting future SCR values are discounted to one present value with the risk free-rate as defined by EIOPA.
- Finally, to get the risk margin, the cost for holding the SCR until full run-off of the best estimate is calculated by multiplying the sum of the future SCRs by 6 per cent – the cost of capital given by EIOPA.

Conceptual Differences between Solvency II and IFRS Technical Provisions

The main conceptual differences between Solvency II and IFRS Technical Provisions affecting Sampo Group are:

- In Solvency II a "true best estimate" is defined as the mean of the full range of possible future outcomes of insurance cash flows without any cash flow add-ons based on prudency. The IFRS provisions may include prudential assumptions when the cash flows are estimated.
- In Solvency II, all cash flows are discounted by EIOPA's risk free interest rates whereas within the financial accounting regime not all cash flows are discounted, and when discounting, discount rates based on local regulations are typically used.

- The inclusion of future insurance events into Technical Provisions is fundamentally different in Solvency II and in financial accounting. The following points listed are illustrating these differences, but local financial accounting rules may be different than the ones used as examples here.
  - Following the financial accounting rules, when an insurance company writes a premium, the full written premium is booked into the reserves at the moment of the writing. This reserve is called the Unearned Premium Reserve (UPR) and its conceptual purpose is to cover future insurance events on the written contracts. After the initial booking, the reserve is released linearly into earnings during the lifetime of the insurance contract – at the end of the contract period there is no UPR left and if the claims and costs related to the contract turned out to be lower than the written premium, a profit has been recognized.
  - The corresponding component in the Solvency II Technical Provisions is called the Premium Provision (PP). This account estimates all the future insurance events and the corresponding best estimate cash flows related to contracts in force.
  - The PP has a lower value than the UPR account if the written contract is estimated to be profitable. The higher the estimated profitability, the bigger the difference between the accounts.
  - Effectively, the PP implicitly recognizes the estimated profit of the contract via the difference between the UPR and the PP already at the inception of the contract. This means that the younger the contract, the bigger the difference between the UPR and the PP. As time goes by, both accounts decrease in value and the absolute difference between them becomes narrower and eventually diminishes as the contract expires and both accounts reach zero. In reality, neither item never reaches zero in an active insurance company since new business is written continuously. Assuming that a company would write an equal amount of exactly equal business each day, the difference between the items would remain constant over time.
  - When a policy is written but no premiums are due yet, the whole premium is already booked as UPR in financial accounting and a corresponding receivable is booked on the asset side. In Solvency II, any insurance receivables that are not yet due are netted against the PP account. This effectively means that the balance sheet shrinks in size when going from financial accounting to Solvency II and that the difference between the UPR and the PP is the biggest when premiums are not yet due.
  - In non-life business, the valuation difference between the UPR and the PP is the most material difference between the financial accounting and Solvency II Technical Provisions.
- A risk margin over the Best Estimate is included in the Solvency II Technical provisions.

The nature of technical provisions means that there is always uncertainty associated with the calculations since they inevitably involve assumptions about future events. Main risk factors affecting the reserve risk are described further in section Non-Life Insurance Underwriting Risks in **Appendix 2 Risk Definitions**.

Sampo Group's insurance companies present the differences between IFRS and Solvency II Technical provisions in the next sections. Calculation methods, made assumptions and other decisions affecting the cash flows are described in more detail.

Technical Provisions According to Solvency II in If

The differences between IFRS and Solvency II technical provisions are summarised in the table Technical Provisions in IFRS and Solvency II, If, 31 December 2018

Different principles are used for calculating the technical provisions in Solvency II and in the IFRS financial statements:

- The largest revaluation effect is due to netting of expected premiums not yet due and amounts to EUR 962 million, affecting both the asset and liability side of the balance sheet to the same degree.
- The introduction of the risk margin increases the technical provisions by EUR 235 million.
- Other revaluation effects amounting to EUR 836 million include cash flow revaluation effects mainly on premium provisions as well as discounting effects. If, under IFRS, only discounts claims provision reserves for annuities and the annuity IBNR provision in Finland.

Technical Provisions in IFRS and Solvency II

If, 31 December 2018

	IFRS VALUE			SOLVENCY II VALUE					
Type of technical provisions	**Provision gross**	**Share of reinsurance**	**Technical provision**	**Best estimate**	**Risk margin**	**Provision gross**	**Share of reinsurance**	**Technical provision**	**SII value of IFRS value**
Total, EURm	**8,934**	**208**	**8,726**	**7,104**	**235**	**7,339**	**176**	**7,163**	**82%**
Health similar to life	**1,087**	**0**	**1,087**	**1,052**	**25**	**1,076**	**0**	**1,076**	**99%**
Income protection insurance (annuities)	23	0	23	22	1	23	0	23	99%
Medical expense insurance (annuities)	3	0	3	3	0	3	0	3	104%
Workers' compensation insurance (annuities)	1,061	0	1,061	1,027	24	1,050	0	1,050	99%
Health similar to non-life	**1,535**	**27**	**1,508**	**1,259**	**60**	**1,319**	**23**	**1,296**	**86%**
Income protection insurance	775	1	774	582	24	607	1	606	78%
Medical expense insurance	163	0	163	120	5	125	0	125	77%
Workers' compensation insurance	597	26	571	557	31	588	23	565	99%
Life excluding health	**1,137**	**0**	**1,137**	**1,052**	**20**	**1,072**	**0**	**1,072**	**94%**
Fire and other damage to property insurance (annuities)	5	0	5	5	0	5	0	5	96%
Other life insurance	22	0	22	12	1	13	0	13	58%
Motor vehicle liability insurance (annuities)	1,091	0	1,090	1,018	18	1,036	0	1,036	95%
General liability insurance (annuities)	19	0	19	17	1	18	0	18	93%
Non-life excluding health	**5,176**	**182**	**4,994**	**3,741**	**131**	**3,871**	**153**	**3,719**	**74%**
Fire and other damage to property insurance	1,331	72	1,259	927	35	962	59	904	72%
Marine, aviation and transport insurance	123	18	105	106	6	112	15	98	93%
Other motor insurance	946	2	943	404	10	414	2	413	44%
Motor vehicle liability insurance	2,116	1	2,115	1,717	51	1,768	1	1,767	84%
General liability insurance	656	89	567	583	28	610	77	534	94%
Assistance	5	0	5	4	0	4	0	4	79%

The basic risk-free rates used in the Solvency II balance sheet are derived for currencies DKK, EUR, GBP, NOK, SEK and USD, which cover more than 99 per cent of the technical provisions. For other currencies, either EUR or USD rates are used.

- If uses the risk-free rates without volatility adjustment.

The Medical Malpractice Pool (MMP) public sector is not recognized as an insurance contract in the IFRS consolidated accounts (IFRS 4), based on If's assessment that it is not subject to any significant insurance risk. In Solvency II the MMP public sector is treated as an insurance contract. Accordingly, all receivables and liabilities related to the MMP are reclassified from other assets and other liabilities to the Solvency II best estimate technical provisions. Under this treatment the receivables balances are netted against the liabilities in the technical provisions, as they are premium cash in-flows and thus included in the technical provisions.

Further discussion regarding the reinsurance recoverables can be found in section Counterparty Default Risks in **Appendix 2 Risk Definitions**.

If does not apply transitional measures on the risk-free interest term structure or to the technical provisions.

Technical Provisions According to Solvency II in Topdanmark

For Topdanmark the principles for calculating the insurance provisions are almost the same for IFRS and Solvency II.

For non-life insurance the calculation of best estimate, risk margin and profit margin (expected profit in future premiums) are the same for IFRS and Solvency II. The only difference is the presentation of the profit margin. In IFRS the profit margin is presented as an insurance provision, while in Solvency II it forms part of the Solvency II own funds deducted for tax liabilities.

For life insurance, the calculation of best estimate and profit margin are the same for IFRS and Solvency II. In IFRS the profit margin is presented as an insurance provision, while in Solvency II it forms part of the Solvency II own funds deducted for tax liabilities. The calculation of risk margin applies two different principles. For IFRS the principle is a stress on the biometrical risks. The Solvency II calculation is a 6 per cent cost of capital on insurance risk, counterparty default risk and operational risk in accordance with Solvency II.

All the best estimate insurance liabilities are discounted using the volatility adjusted Solvency II interest rate curve for DKK.

Technical Provisions in IFRS and Solvency II

Topdanmark, 31 December 2018

EURm		IFRS value	SII value	Adjustment
Non-life gross	Best estimate	2,005	2,005	0
	Risk margin	37	42	6
	Profit margin	108	0	-108
	Total non-life	**2,150**	**2,048**	**-102**
Life insurance gross	Best estimate	7,519	7,519	0
	Risk margin	14	16	3
	Profit margin	36	0	-36
	Total life	**7,569**	**7,536**	**-33**
	Total	**9,719**	**9,583**	

Technical Provisions According to Solvency II in Mandatum Life

To calculate Solvency II technical provision Mandatum Life produces the cash flows of insurance policies by using best estimate parameters and assumptions and stochastic investment market scenarios consistent with Solvency II discount rate. Stochastic market scenarios are particularly needed for the valuation of economic guarantees and policyholder options embedded in insurance contracts. Probability weighted present value of these cash flows is so called best estimate liability. Solvency II technical provision is best estimate liability plus risk margin.

The differences between IFRS and Solvency II technical provisions with transitional measures are summarised in the table Technical provisions in IFRS and Solvency II, Mandatum Life, 31 December 2018.

Mandatum Life applies the transitional measures on technical provisions for its Solvency II technical provision regarding its original pension policies with 3.5 per cent and 4.5 per cent guarantees. Also, a volatility adjustment is applied when technical provisions are calculated. The size of Solvency II liabilities with transitional measures is EUR 10,474 million and EUR 10,963 million without transitional measures. Hence the transitional measures on technical provisions increase the amount of OF after tax by EUR 391 million. Mandatum Life applies standard formula without undertaking-specific parameters or simplified calculations.

Technical Provisions in IFRS and Solvency II

Mandatum Life, 31 December 2018

EURm	IFRS value	Solvency II value	Adjustment
Technical provisions – life (excluding unit-linked)	**4,221**	**3,910**	**311**
Best estimate		3,750	
Risk margin		160	
Technical provisions – unit-linked	**6,955**	**6,564**	**391**
Best estimate		6,483	
Risk margin		81	

Accounting principles of life insurance contracts are presented in Sampo's Annual Report/Financial Statements/Notes to the accounts/Summary of significant accounting policies/Life insurance business.

Other Liabilities

The effects of Solvency II valuation on Sampo's other liabilities than technical provisions are fairly limited, consisting mainly of the valuation impact on financial liabilities and payables balances related to the technical provisions.

Other liabilities than technical provisions are valued by discounting future cash flows with the government yield plus calculated spread at inception. This increased the amount of financial liabilities in Solvency II balance sheet by EUR 47 million.

Deferred tax liabilities are discussed above in connection with deferred tax assets.

The reclassification of medical malpractice pool public sector from a service contract to an insurance contract effect also payables balances. Payables of EUR 117 million are reclassified from trade payables to the insurance obligations.

Other provisions than technical provisions and contingent liabilities do not give any additional rise to either new liabilities being recognized for solvency purposes or existing liabilities being recognized differently to their financial statement recognition. **Provisions**, **pension benefits** as well as **contingent liabilities and commitments** including operating leases are presented in Sampo's **Financial Statements** **(www.sampo.com/year2018)**. There are no major financial leasing arrangements in Sampo Group.

2018

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