

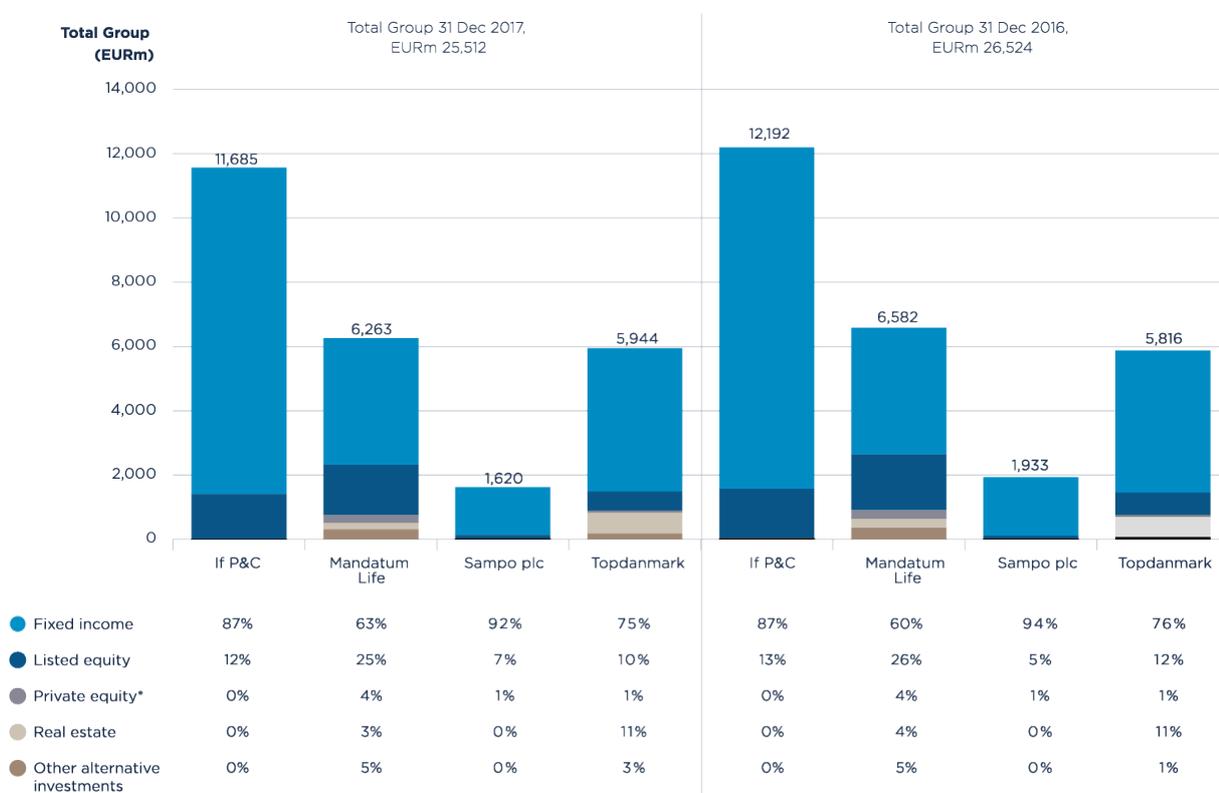
# Market Risks at Sampo Group Level

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 P&C and Topdanmark differs, and as a result the structures and risks of the investment portfolios and balance sheet of the three companies differ respectively. Companies' average investment returns and volatilities of investment

returns also differ as presented earlier in the Annual Investment Return at Fair Value -tables.

The total amount of Sampo Group's investment assets as at 31 December 2017 was EUR 25,512 million (EUR 26,524 million in 2016) as presented in the below figure. Mandatum Life's and Topdanmark's investment assets presented here do not include assets which cover unit-linked contracts.

**Development of Investment Portfolios**  
If P&C, Mandatum Life, Sampo plc and Topdanmark, 31 December 2017 and 31 December 2016



Sampo plc's figures don't 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 asset side 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 parent company Sampo are compared to each other by their SCRs the following things can be seen at Sampo Group level.

## Market Risk SCRs of Sub-groups and Sampo plc 31 December 2017

| Market risk                | If P&C       | Topdanmark | Mandatum<br>Life | Sampo Plc  | Diversified<br>Sampo<br>Group | Sum of the<br>parts | Delta       |
|----------------------------|--------------|------------|------------------|------------|-------------------------------|---------------------|-------------|
| Interest rate / down shock | 174          | 56         | 145              | 0          | 375                           | 375                 | 0           |
| Equity                     | 432          | 323        | 851              | 44         | 1,646                         | 1,650               | -4          |
| Property                   | 5            | 170        | 46               | 1          | 221                           | 221                 | 0           |
| Spread                     | 406          | 328        | 269              | 4          | 1,006                         | 1,006               | 0           |
| Concentration/Group Level  | 54           | 20         | 14               | 47         | 0                             | 135                 | -135        |
| Currency/Group Level       | 511          | 7          | 221              | 427        | 1,153                         | 1,166               | -13         |
| <b>Market risk gross</b>   | <b>1,582</b> | <b>904</b> | <b>1,545</b>     | <b>522</b> | <b>4,401</b>                  | <b>4,553</b>        | <b>-152</b> |
| Diversification            | -433         | -136       | -282             | -78        | -1,018                        | -929                | -90         |
| <b>Market risk net</b>     | <b>1,150</b> | <b>768</b> | <b>1,263</b>     | <b>444</b> | <b>3,383</b>                  | <b>3,624</b>        | <b>-242</b> |

Mandatum Life takes the largest market risks both in absolute and relative terms and currently equity risk is its dominant risk contributor. In If P&C 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 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 same single names.

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

## Holdings by Industry, Geographical Area and Asset Class

In regards to **Fixed Income and Equity Exposures** Financial Institutions and covered bonds have material weight in 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 Nordic countries, are operating at global markets and hence their performance is not that dependent on Nordic markets. This together with steadily growing portion of non-Nordic names in portfolios, is decreasing the concentration risk related to Nordics.

### Exposures by Sector, Asset Class and Rating Sampo Group excluding Topdanmark, 31 December 2017

| EURm                       | AAA | AA+<br>-<br>AA- | A+<br>-<br>A- | BBB+<br>-<br>BBB- | BB+<br>-<br>C | D | Non-rated | Fixed<br>income<br>total | Listed<br>equities | Other | Counterparty<br>risk | Total | Change<br>31 Dec<br>2016 |
|----------------------------|-----|-----------------|---------------|-------------------|---------------|---|-----------|--------------------------|--------------------|-------|----------------------|-------|--------------------------|
| Basic Industry             | 0   | 0               | 44            | 66                | 25            | 0 | 113       | 248                      | 104                | 0     | 0                    | 351   | -78                      |
| Capital Goods              | 0   | 0               | 127           | 63                | 0             | 0 | 131       | 321                      | 682                | 0     | 0                    | 1,002 | 32                       |
| Consumer Products          | 0   | 131             | 326           | 380               | 30            | 0 | 109       | 976                      | 549                | 0     | 0                    | 1,525 | -28                      |
| Energy                     | 0   | 68              | 30            | 0                 | 53            | 0 | 172       | 323                      | 13                 | 0     | 0                    | 336   | -165                     |
| Financial Institutions     | 0   | 2,100           | 3,258         | 930               | 46            | 0 | 26        | 6,360                    | 118                | 1     | 9                    | 6,489 | -428                     |
| Governments                | 92  | 0               | 0             | 0                 | 0             | 0 | 0         | 92                       | 0                  | 0     | 0                    | 92    | -49                      |
| Government Guaranteed      | 43  | 77              | 0             | 0                 | 0             | 0 | 0         | 120                      | 0                  | 0     | 0                    | 120   | -36                      |
| Health Care                | 7   | 39              | 50            | 50                | 42            | 0 | 65        | 253                      | 113                | 0     | 0                    | 383   | -55                      |
| Insurance                  | 0   | 0               | 41            | 115               | 27            | 0 | 5         | 206                      | 3                  | 25    | 60                   | 277   | -19                      |
| Media                      | 0   | 0               | 14            | 0                 | 0             | 0 | 38        | 52                       | 0                  | 0     | 0                    | 52    | -25                      |
| Packaging                  | 0   | 0               | 0             | 0                 | 19            | 0 | 14        | 33                       | 1                  | 0     | 0                    | 33    | -40                      |
| Public Sector, Other       | 674 | 192             | 42            | 0                 | 0             | 0 | 0         | 908                      | 0                  | 0     | 0                    | 908   | -114                     |
| Real Estate                | 0   | 6               | 92            | 112               | 8             | 0 | 526       | 744                      | 0                  | 207   | 0                    | 951   | 35                       |
| Services                   | 0   | 0               | 0             | 85                | 72            | 0 | 155       | 312                      | 122                | 0     | 0                    | 434   | -15                      |
| Technology and Electronics | 23  | 0               | 79            | 0                 | 27            | 0 | 45        | 175                      | 123                | 0     | 0                    | 298   | -37                      |
| Telecommunications         | 0   | 0               | 0             | 165               | 8             | 0 | 65        | 238                      | 92                 | 0     | 0                    | 331   | 12                       |

|                                    |              |               |              |              |             |          |              |               |              |             |            |               |               |
|------------------------------------|--------------|---------------|--------------|--------------|-------------|----------|--------------|---------------|--------------|-------------|------------|---------------|---------------|
| Transportation                     | 0            | 72            | 11           | 55           | 11          | 0        | 203          | 353           | 34           | 0           | 0          | 387           | -55           |
| Utilities                          | 0            | 2             | 32           | 359          | 70          | 0        | 44           | 506           | 0            | 0           | 0          | 506           | -101          |
| Others                             | 0            | 26            | 0            | 0            | 4           | 0        | 15           | 45            | 0            | 36          | 0          | 82            | -14           |
| Asset-backed Securities            | 0            | 0             | 0            | 0            | 0           | 0        | 0            | 0             | 0            | 0           | 0          | 0             | 0             |
| Covered Bonds                      | 3,161        | 75            | 0            | 10           | 0           | 0        | 0            | 3,247         | 0            | 0           | 0          | 3,247         | 102           |
| Funds                              | 0            | 0             | 0            | 0            | 0           | 0        | 142          | 142           | 1,187        | 521         | 0          | 1,850         | -96           |
| Clearing House                     | 0            | 0             | 0            | 0            | 0           | 0        | 0            | 0             | 0            | 0           | 17         | 17            | 13            |
| <b>Total, Excluding Topdanmark</b> | <b>4,000</b> | <b>2,788</b>  | <b>4,146</b> | <b>2,391</b> | <b>443</b>  | <b>0</b> | <b>1,885</b> | <b>15,653</b> | <b>3,140</b> | <b>790</b>  | <b>87</b>  | <b>19,670</b> | <b>-1,163</b> |
| <b>Change 31 Dec 2016</b>          | <b>-38</b>   | <b>-1,198</b> | <b>641</b>   | <b>163</b>   | <b>-362</b> | <b>0</b> | <b>71</b>    | <b>-722</b>   | <b>-210</b>  | <b>-182</b> | <b>-48</b> | <b>-1,163</b> |               |

Most of the financial institutions and covered bonds are in the Nordic countries as can be seen in the table Fixed Income

Investments in Financial Sector, Sampo Group excluding Topdanmark, 31 December 2017.

### Fixed Income Investments in Financial Sector Sampo Group excluding Topdanmark, 31 December 2017

| EURm           | Covered bonds | Cash and money market securities | Long-term senior debt | Long-term subordinated debt | Total        | %             |
|----------------|---------------|----------------------------------|-----------------------|-----------------------------|--------------|---------------|
| Sweden         | 2,092         | 42                               | 721                   | 365                         | 3,221        | 33.6%         |
| Finland        | 108           | 1,584                            | 243                   | 6                           | 1,942        | 20.3%         |
| Norway         | 670           |                                  | 324                   | 291                         | 1,285        | 13.4%         |
| United States  |               |                                  | 670                   |                             | 670          | 7.0%          |
| Denmark        | 204           | 3                                | 277                   | 142                         | 626          | 6.5%          |
| United Kingdom | 12            | 517                              | 68                    | 18                          | 615          | 6.4%          |
| France         | 21            | 179                              | 58                    |                             | 258          | 2.7%          |
| Netherlands    |               |                                  | 226                   | 18                          | 244          | 2.5%          |
| Canada         | 111           |                                  | 113                   |                             | 224          | 2.3%          |
| Switzerland    |               |                                  | 147                   |                             | 147          | 1.5%          |
| Australia      | 17            |                                  | 92                    |                             | 109          | 1.1%          |
| Iceland        |               |                                  | 91                    |                             | 91           | 1.0%          |
| Germany        |               |                                  | 50                    | 0                           | 50           | 0.5%          |
| Guernsey       |               |                                  | 25                    |                             | 25           | 0.3%          |
| Estonia        |               | 22                               |                       |                             | 22           | 0.2%          |
| New Zealand    |               |                                  | 19                    |                             | 19           | 0.2%          |
| Luxembourg     | 10            |                                  |                       |                             | 10           | 0.1%          |
| Bermuda        |               |                                  |                       | 10                          | 10           | 0.1%          |
| Cayman Islands |               |                                  | 5                     |                             | 5            | 0.0%          |
| <b>Total</b>   | <b>3,247</b>  | <b>2,348</b>                     | <b>3,129</b>          | <b>852</b>                  | <b>9,576</b> | <b>100.0%</b> |

The public sector exposure includes government bonds, government guaranteed bonds and other public sector investments as shown in the table Fixed Income Investments in Public Sector, Sampo Group excluding Topdanmark, 31 December 2017. 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.

### Fixed Income Investments in Public Sector Sampo Group excluding Topdanmark, 31 December 2017

| EURm | Governments | Government guaranteed | Public sector, other | Total market value |
|------|-------------|-----------------------|----------------------|--------------------|
|------|-------------|-----------------------|----------------------|--------------------|

|              |           |            |            |              |
|--------------|-----------|------------|------------|--------------|
| Sweden       | 92        |            | 592        | 684          |
| Norway       |           |            | 211        | 211          |
| Finland      | 77        |            | 88         | 165          |
| Germany      | 33        |            |            | 33           |
| Japan        |           |            | 17         | 17           |
| Denmark      | 10        |            |            | 10           |
| <b>Total</b> | <b>92</b> | <b>120</b> | <b>908</b> | <b>1,120</b> |

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 triple-B (high yield) rating.

**The listed equity investments** of Sampo Group totaled EUR 3,934 million at the end of year 2017 (EUR 4,113 million). At the end of year 2017, the listed equity exposure of If P&C was EUR 1,448 million (EUR 1,527 million). The proportion of listed equities in If P&C's investment portfolio was 12.4 per cent. In Mandatum Life, the listed equity exposure was EUR 1,578 million at the end of year 2017 (EUR 1,737 million) and the proportion of listed equities was 25.2 per cent of the investment portfolio. In Topdanmark Group, the listed equity exposure was EUR 793 million at the end of year 2017 (EUR 761 million). Within Topdanmark Group, the allocation to

listed equity is higher in the life company.

The geographical core of Sampo Group's equity investments is in the Nordic companies. The proportion of Nordic companies' equities corresponds to 46 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 purely domestic companies. Hence, the ultimate risk is not highly dependent on the Nordic economies. In the long run the proportion of investments outside of the Nordic countries has gradually increased, because the amount of companies issuing securities in the Nordic countries is limited and from a strategic point of view other geographical areas have recently provided interesting investment opportunities. 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 31.12.2017.

### Breakdown of Listed Equity Investments by Geographical Regions Sampo Group, 31 December 2017 and 31 December 2016

| Sampo Group    | 2017 |              | 2016 |              |
|----------------|------|--------------|------|--------------|
|                | %    | EURm         | %    | EURm         |
| Denmark        | 4%   | 167          | 5%   | 185          |
| Norway         | 4%   | 157          | 5%   | 202          |
| Sweden         | 24%  | 945          | 23%  | 953          |
| Finland        | 14%  | 549          | 17%  | 700          |
| Western Europe | 25%  | 977          | 21%  | 861          |
| East Europe    | 1%   | 20           | 0%   | 19           |
| North America  | 20%  | 776          | 23%  | 929          |
| Latin America  | 1%   | 28           | 1%   | 25           |
| Far East       | 8%   | 313          | 6%   | 239          |
| Japan          | 0%   | 0            | 0%   | 0            |
| <b>Total</b>   |      | <b>3,934</b> |      | <b>4,113</b> |

## Largest Holdings by Single Name

The largest exposures by individual issuers and counterparties are presented in the table Largest Individual Exposures by Issuer and by Asset Class, Sampo Group

excluding Topdanmark, 31 December 2017. The largest single name investments in Topdanmark's portfolios are in AAA-rated Danish covered bonds.

### Largest Individual Exposures by Issuer and by Asset Class Sampo Group excluding Topdanmark, 31 December 2017

| EURm Counterparty              | Total fair value | % 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 derivatives |
|--------------------------------|------------------|------------------------------|--------------------------------|-------------------------------|---|---------------------------------------|--------------------------------------|---|------------|------------------------------|
| Nordea Bank                    | 1,606            | 8%                           | 562                            | 1,039                         | 0   | 601                                   | 138                                  | 299                                       | 0          | 4                            |
| Danske Bank                    | 1,134            | 6%                           | 785                            | 347                           | 0   | 99                                    | 218                                  | 30  | 0          | 3                            |
| BNP Paribas                    | 735              | 4%                           | 698                            | 37                            | 0   | 0                                     | 37                                   | 0   | 0          | 0                            |
| Skandinaviska Enskilda Banken  | 675              | 3%                           | 276                            | 398                           | 0   | 248                                   | 137                                  | 13  | 0          | 0                            |
| Svenska Handelsbanken          | 669              | 3%                           | -1                             | 669                           | 0   | 616                                   | 39                                   | 14  | 0          | 0                            |
| DnB                            | 536              | 3%                           | 0                              | 536                           | 0   | 226                                   | 205                                  | 105                                       | 0          | 0                            |
| Sweden                         | 519              | 3%                           | 0                              | 519                           | 0   | 0                                     | 519                                  | 0   | 0          | 0                            |
| Swedbank                       | 516              | 3%                           | -1                             | 517                           | 0   | 352                                   | 154                                  | 11  | 0          | 0                            |
| Norway                         | 320              | 2%                           | 0                              | 320                           | 0   | 0                                     | 218                                  | 102                                       | 0          | 0                            |
| Volvo                          | 256              | 1%                           | 0                              | 103                           | 0   | 0                                     | 68                                   | 36  | 153        | 0                            |
| <b>Total Top 10 Exposures</b>  | <b>6,965</b>     | <b>36%</b>                   | <b>2,319</b>                   | <b>4,485</b>                  | <b>0</b>                                      | <b>2,143</b>                          | <b>1,733</b>                         | <b>609</b>                                | <b>153</b> | <b>8</b>                     |
| Other                          | 12,408           | 64%                          |                                |                               |   |                                       |                                      |   |            |                              |
| <b>Total investment assets</b> | <b>19,372</b>    | <b>100%</b>                  |                                |                               |   |                                       |                                      |   |            |                              |

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 2017. Furthermore, the largest direct listed equity exposures are presented in the table Ten Largest Direct Listed Equity Investments, Sampo Group, 31 December 2017.

### Ten Largest Direct High Yield and Non-rated Fixed Income Investments and Direct Listed Equity Investments Sampo Group excluding Topdanmark, 31 December 2017

| Largest direct high yield and non-rated fixed income investments | Rating | Total fair value, EURm | % of total direct fixed income investments |
|--|--------|------------------------|--|
| High Street Shopping   | NR     | 117                    | 0.8%                                       |
| Sponda   | NR     | 89                     | 0.6%                                       |
| Teollisuuden Voima   | BB+    | 80                     | 0.5%                                       |
| SkandiaBanken  | NR     | 76                     | 0.5%                                       |
| IVG Polar  | NR     | 57                     | 0.4%                                       |
| Ellevio  | NR     | 52                     | 0.3%                                       |
| YIT  | NR     | 46                     | 0.3%                                       |
| Grönlandet Södra   | NR     | 44                     | 0.3%                                       |
| Aker BP  | BB     | 44                     | 0.3%                                       |
| Nets   | BB     | 40                     | 0.3%                                       |
| <b>Total top 10 exposures</b>                                    |        | <b>646</b>             | <b>4.2%</b>                                |
| Other direct fixed income investments                            |        | 14,630                 | 95.8%                                      |
| Total direct fixed income investments                            |        | 15,276                 | 100.0%                                     |

| Top 10 listed equity investments | Total fair value, EURm | % of total direct equity investments |
|----------------------------------|------------------------|--------------------------------------|
|----------------------------------|------------------------|--------------------------------------|

|  |              |               |
|--|--------------|---------------|
| Volvo                                  | 153          | 7.8%          |
| Nobia                                  | 125          | 6.4%          |
| Amer Sports                            | 100          | 5.1%          |
| ABB                                    | 90           | 4.6%          |
| Veidekke                               | 87           | 4.4%          |
| Asiakastieto                           | 70           | 3.6%          |
| Sectra                                 | 66           | 3.4%          |
| Husqvarna                              | 64           | 3.3%          |
| Hennes & Mauritz                       | 61           | 3.1%          |
| TeliaSonera                            | 60           | 3.1%          |
| <b>Total top 10 exposures</b>          | <b>875</b>   | <b>44.9%</b>  |
| Other direct equity investments        | 1,076        | 55.1%         |
| <b>Total direct equity investments</b> | <b>1,952</b> | <b>100.0%</b> |

## Balance Sheet Concentrations

In general Sampo Group is structurally dependent on the performance of 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 P&C and Mandatum Life. In Topdanmark interest rate risk of balance sheet is minor and hence Topdanmark is not

increasing interest rate risk at 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. During 2017 interest rates have continued their slow rise that started at the end of Q3/16.

