MILLIMAN RESEARCH REPORT

Analysis of non-life insurers' Solvency and Financial Condition Reports

European non-life insurers

Year-end 2022

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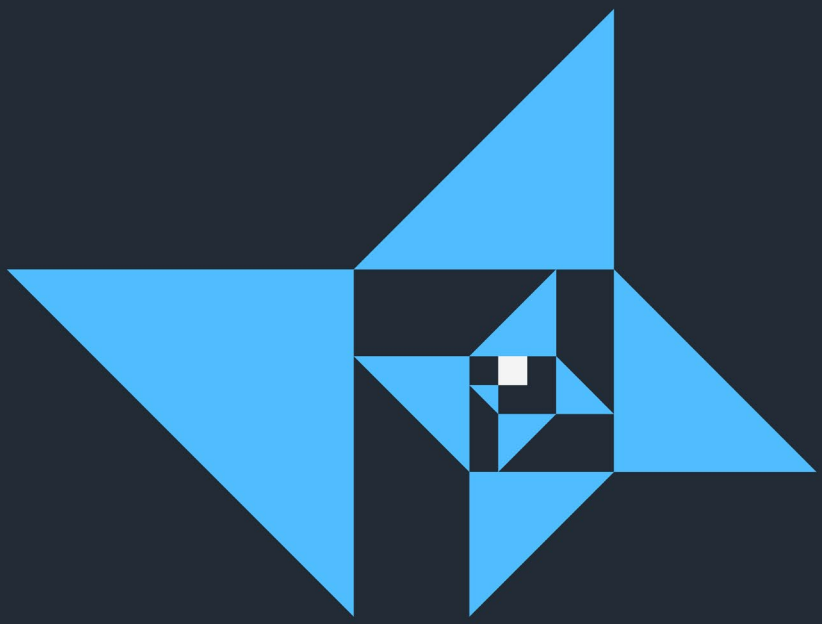

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Executive summary

Based on our analysis of 728 solo companies that are both primarily non-life business and regulated in the EU, the UK or Gibraltar, we have found that financial performance varied across countries and lines of business during the 2022 calendar year.

1. **The ratio of eligible own funds to the Solvency Capital Requirement (SCR) increased** from 245% as at year-end 2021 to 252% as at year-end 2022. Austrian companies saw the largest increase to their aggregate solvency ratio whereas Romanian companies saw the largest decrease.
2. The vast majority (87%) of undertakings in the analysed sample have used the **Standard Formula (SF)** to calculate their SCRs, compared to the figure of 91% calculated as at the 2021 year-end. However, at year-end 2022, only 53% of the total value of the **aggregated SCRs** were generated **using the SF.**
3. For companies directly compared with each other as at 2021 and 2022 in our sample, **gross written premiums (GWP) increased** by 10% from last year, with increased premiums seen in each of our sampled 15[1] countries.
4. **The proportion of Motor Vehicle Liability technical provisions has reduced in 2022.** The decrease from 2021 to 2022 may reflect a change to driving habits after COVID-19, or a reduction in the number of vehicles on the road, and a reduction in the number of new car registrations, as a result of supply chain issues (leading to higher car costs), higher fuel prices and higher levels of inflation, impacting the cost of living.
5. **The proportion of Fire technical provisions has grown in 2022.** The increase in technical provisions in 2022 may be attributed to extreme weather events which took place in Europe. This includes wildfires, which burnt a record amount of ground area in Europe, heat waves during the summer across the European continent and storms Dudley, Eunice and Franklin in February 2022, which caused record-breaking losses.

[1] Note that, for the purposes of our analysis, we have referred to Gibraltar as a country, although it is technically a British Overseas Territory.

Introduction

Following the year-end 2022, (re)insurance undertakings across the EU published their seventh annual set of Solvency and Financial Condition Reports (SFCRs). In this research report, we summarise and discuss key metrics from a large sample of those SFCRs, comparing the figures in the 2022 year-end SFCRs with their counterparts as at the 2021 year-end (and at earlier year-ends, where relevant).

We have also included (re)insurance undertakings that are regulated in the UK and Gibraltar in this analysis. Although the UK formally left the EU on 31 January 2020, it continues to operate an insurance regulatory regime that is essentially identical to Solvency II[2] (as does Gibraltar).

The analyses underlying this report focus on the quantitative information contained in the Quantitative Reporting Templates (QRTs) within the SFCRs, but we have also studied the text within the SFCRs in order to gain additional insights into various companies, in particular those that displayed characteristics that differed materially from the market average. Our focus has been on solo entities rather than groups.

In this report, we consider:

- The solvency position of the European market as a whole
- The components of the SCR
- The main Solvency II balance sheet items, including invested assets and technical provisions
- Key indicators of underwriting performance, such as loss ratios and expense ratios

We have used shortened versions of the names of the Solvency II lines of business in the report, listed in Appendix A.

EUROPEAN MARKET COVERAGE

Our European analysis of the non-life market covers 728[3] companies from the 15 countries listed below, which, in aggregate, account for £449 billion of GWP and £552 billion of gross non-life technical provisions.[4] Our sample as at the 2022 year-end contains 597 companies that were also included in our analysis as at the 2021 year-end. These companies accounted for approximately 82% of the total GWP and 83% of the total SCR as at the 2022 year-end. As at the 2021 year-end, they account for approximately 87% of the total GWP and approximately 90% of the total SCR. Our analysis includes some composite companies but only those writing predominantly non-life[5] business.

We note that the UK numbers quoted in the rest of this research report exclude those relating to the Society of Lloyd's. The Society of Lloyd's produces a single publicly available SFCR, covering in aggregate all its syndicates. We have excluded it from our study because of its size compared with the rest of the EU and UK market, because much of its activities relates to insurance coverage outside of Europe, and because it contains significant outwards reinsurance and retrocessional business. Therefore, it is very unrepresentative of the rest of the EU and UK business. The Society of Lloyd's represents £48 billion of GWP and £71 billion of gross technical provisions (compared with a total £50 billion of GWP and £60 billion of gross technical provisions for the 77 UK solo companies that we have included within our analysis) and exhibits a solvency coverage ratio of 181% at year-end 2022 (£43 billion of eligible own funds and £24 billion of SCR).

[2] The UK is reviewing the current form of Solvency II. The Bank of England released a Consultation Paper in June 2023 outlining proposed changes to the UK solvency reporting requirements. Changes away from the Solvency II regime may have an impact on future SFCRs for UK non-life insurers. A link to the consultation paper can be found at: https://www.bankofengland.co.uk/prudential-regulation/publication/2023/june/review-of-solvency-ii-adapting-to-the-uk-insurance-market

[3] In our review as at the 2021 year-end, we included 769 entities within our analysis.

[4] Excluding the UK and Gibraltar, as they are not shown in the EIOPA statistics as at year-end 2022, the gross non-life technical provisions total £487 billion, approximately 88% of the total non-life technical provisions across the remaining 13 listed countries.

[5] Undertakings identified as primarily health insurers (e.g., those for which medical expenses accounted for more than 85% of their gross written premium) have been removed from the analysis.

In Figure 1, below, we show the split of GWP and (excluding the UK and Gibraltar) gross technical provisions by country. For the gross technical provisions, we have also included aggregated statistics, for pure non-life insurers only (i.e., excluding health insurers and all composite insurers), as published by the European Insurance and Occupational Pensions Authority (EIOPA).[6]

FIGURE 1: GWP AND GROSS TECHNICAL PROVISIONS BY COUNTRY

	Gross Written Premium (£ BN)	Gross Technical Provisions (£ BN)	
Country[7]	Sample	Sample	EIOPA (S.02.01)
Austria (AT)	10.1	7.3	7.4
Belgium (BE)	13.5	16.6	25.4
Germany (DE)	120.0	150.5	195.7
Denmark (DK)	6.8	7.1	5.2
Spain (ES)	26.5	15.9	23.4
France (FR)	97.6	131.4	122.7
Gibraltar (GI)	4.2		
Ireland (IE)	38.8	56.8	63.7
Italy (IT)	33.6	44.4	40.3
Luxembourg (LU)	18.3	30.0	34.1
Netherlands (NL)	9.3	8.2	10.4
Poland (PL)	8.0	6.7	8.2
Romania (RO)	1.7	1.1	1.6
Sweden (SE)	10.2	10.9	9.8
UK (UK)	50.4		
TOTAL	**448.9**	**486.9**	**547.9**

For some countries in Figure 1, the aggregated technical provisions of our sample companies exceed the total technical provisions for the whole of the non-life market as provided by EIOPA. This is because our sample also includes some composite companies and therefore includes a small amount of life business.

Note that, in the tables and graphs below, we refer to each of the countries using the abbreviations shown in parentheses in the above table.

UNDERLYING DATA

In carrying out our analysis and producing this research report, we relied on the data and information provided in the SFCRs and QRTs of our sample companies, as obtained from Solvency II Wire Data. The database tool is available via subscription from: https://solvencyiiwiredata.com/about/.

We have not audited or verified the data or other information within Solvency II Wire Data or in the underlying SFCRs. If the underlying data or information is inaccurate or incomplete, the results of our analysis may likewise be inaccurate or incomplete. We performed a limited review of the data used directly in our analysis for reasonableness and consistency, and have not found material defects in the data. We have not made any changes to the data to reflect additional information or changes following the reporting date.

[6] Annual aggregated balance sheet statistics for solo entities, as at year end 2022. See https://www.eiopa.europa.eu/tools-and-data/insurance-statistics_en. The data has been converted from euros to British pounds sterling using the exchange rate €1 = £0.8865.

[7] Gross technical provisions for UK and Gibraltar are not available from EIOPA as at year-end 2022.

This research report is intended solely for educational purposes and presents information of a general nature. The underlying data and analysis have been reviewed on this basis. This research report is not intended to guide or determine any specific individual situation, and readers should consult qualified professionals before taking specific actions.

We note that all the figures published in this research report have been converted into British pound sterling (GBP) by Solvency II Wire Data, using exchange rates as at the report date of each SFCR. We also note that over 99% of the SFCRs are as at 31 December 2022.[8]

RUSSIA UKRAINE CONFLICT

As noted in our analysis last year, Russia's invasion of Ukraine resulted in financial and trade sanctions being imposed on Russia, which led to further upward pressure on inflation and to disruption to supply chains. As the conflict continues, those insurers that have material direct exposure to Russia or Ukraine may continue to experience significant claims, particularly in lines of business such as marine, aviation, transport, fire, political violence, cyber and trade credit. As well as this, the value of some insurers' assets continues to be affected, impacting the level of market risk and the total SCR.

Analysis of European non-life companies

SOLVENCY COVERAGE RATIOS: HOW DID THE EUROPEAN COMPANIES DO?

On an aggregated basis, as at the 2022 year-end, European non-life insurers that were within our sample were very well-capitalised, with an average (weighted by eligible own funds) solvency coverage ratio of 252%. This is slightly higher than the figure of 245% as at the 2021 year-end.

Figure 2, below, shows how the average solvency coverage ratios are distributed throughout the 15 countries included in our sample. It sets out the median, 25th and 75th percentiles, and the weighted average of the distribution of the solvency coverage ratios, for the market as a whole and then separately for each country analysed. This shows that there is a wide range of solvency coverage ratios. Insurers in some countries that were included in our review, such as Austria, France and Germany, were, on average, very well-capitalised, with average solvency coverage ratios of over 270%. We illustrate in Figure 5, below, how the weighted average of the distribution of the solvency coverage ratios have altered, by country, since our review as at the 2021 year-end.

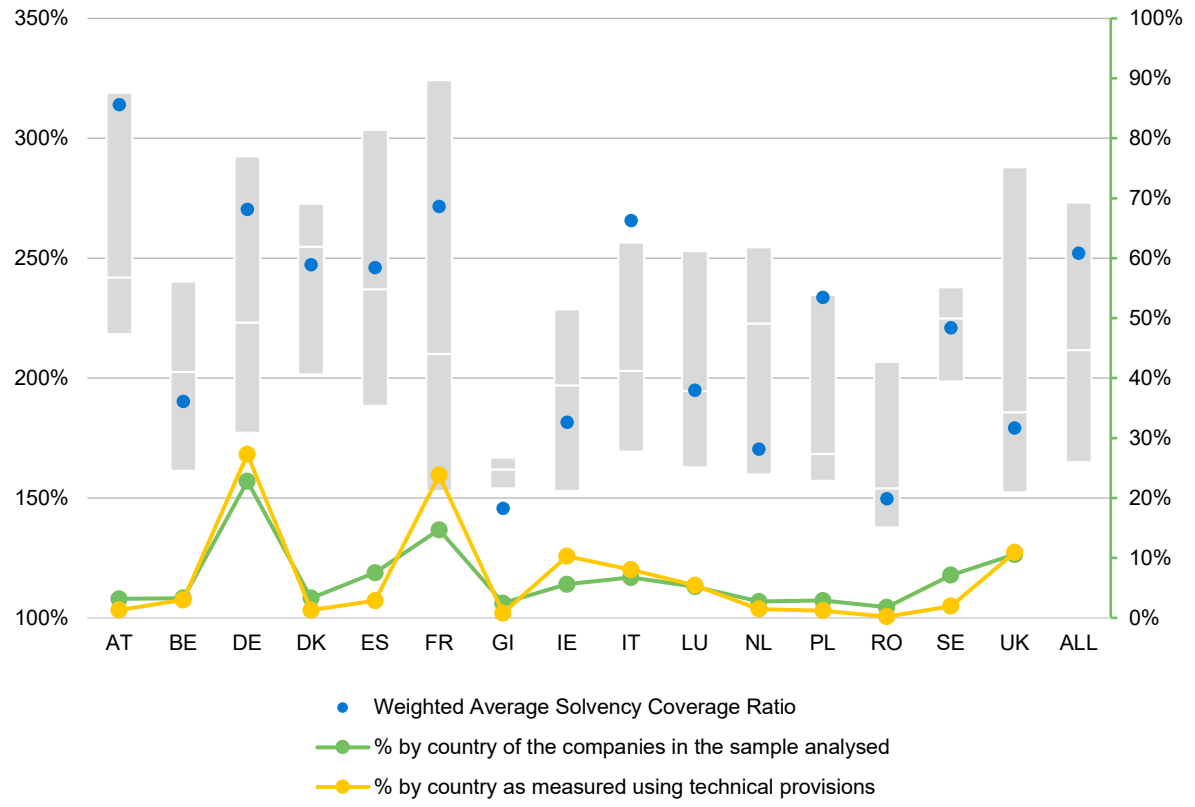
We note that, when considering the inter-quartile range of solvency ratios for each company, France, Germany, Spain and the UK have very wide inter-quartile ranges of solvency coverage ratios, whereas Gibraltar and Sweden have much narrower inter-quartile ranges.

We also note that, for the Netherlands, the weighted average solvency coverage ratio (170%) is well below the median (223%) as at year-end 2022. This implies that smaller insurers have much higher solvency coverage ratios than larger insurers in the Netherlands. The two largest insurers in our sample in terms of gross written premiums in 2022, from the Netherlands, have solvency coverage ratios of 159% and 152%, while the smallest two insurers in our sample have a solvency coverage ratio of 223% and 255%.

The notable variations across the European countries suggest that, in addition to the disparities among European markets (e.g., legislation, product offering, etc.), the underlying methodologies—or interpretations of the regulations—used to assess the capital requirements might differ from one country to another.

[8] The rate of exchange for SFCRs not reported as at 31 December 2022 may differ slightly from the rate stated in footnote 5, above.

FIGURE 2: DISTRIBUTION OF THE SOLVENCY COVERAGE RATIOS BY COUNTRY

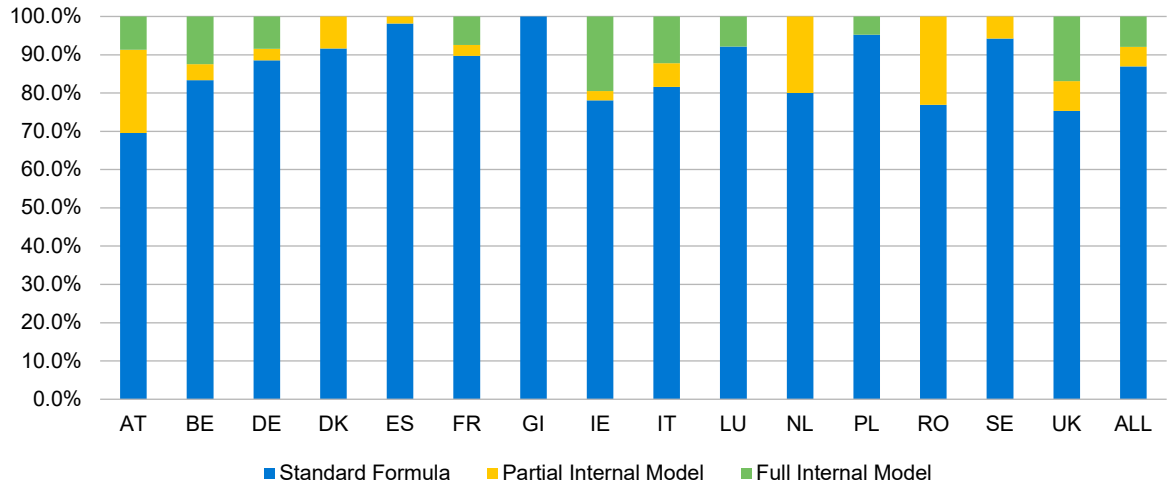


Not surprisingly, and as highlighted in Figure 3, below, the vast majority (87%) of the undertakings in the analysed sample have used the Standard Formula (SF) to calculate their SCRs, compared to 91% of our 2021 year-end sample. However, at year-end 2022, only 53% of the total value of the aggregated SCRs were generated using the SF. At the two ends of the spectrum, all undertakings regulated in Gibraltar use only the SF, whereas approximately 30% of undertakings regulated in Austria and approximately 25% of undertakings regulated in the UK and in Romania use either a Partial Internal Model (PIM) or a Full Internal Model (FIM). Over the year we observe that:

- Five undertakings (two each in Germany and UK and one in Ireland) moved from a PIM to a FIM.
- One undertaking in Germany moved from the SF to a PIM.
- One undertaking in France moved from a FIM to the SF.

As at year-end 2022, 14% of the total value of the aggregated SCRs were generated using a PIM and 34% using a FIM. This, along with the company count on model use, highlights the fact that FIM are primarily used by large companies and large groups. Our sample of insurers will generally include most, if not all, FIM and PIM users in each of the countries, as insurers that have published their SFCRs later (and hence have not been included within our sample group) tend to be smaller insurers, which are less likely to consider the additional costs of PIMs and FIMs to be worthwhile.

FIGURE 3: CAPITAL MODEL BY COUNTRY, RANKED BY % OF COMPANIES IN OUR SAMPLE

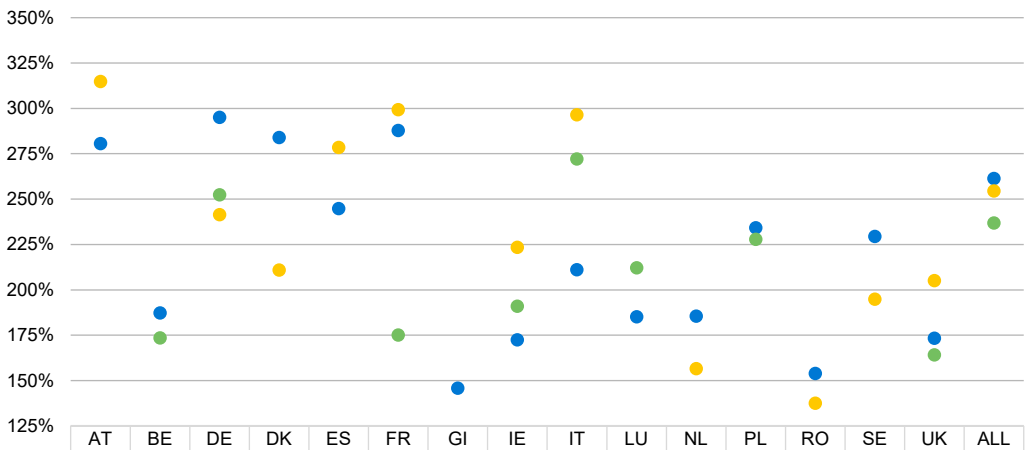


Our analysis has indicated that:

- The weighted average of the solvency coverage ratios for companies using the SF is 261% as at year-end 2022, higher than the figure as at year-end 2021 (251%).
- The weighted average of the solvency coverage ratios for companies using a PIM is 254% as at year-end 2022, higher than the figure as at year-end 2021 (236%).
- The weighted average of the solvency coverage ratios for companies using a FIM is 237% as at year-end 2022, virtually unchanged from the figure as at year-end 2021 (238%).

Using an internal model enables companies to capture specific risks that they face that are not covered in the SF (e.g., inflation risk) and to reflect better their risk and business profiles when assessing the SCR (e.g., mitigation from non-proportional outwards reinsurance, dependencies between risks, recognition of operating profits/losses within underwriting risk, etc.). Figure 4, below, shows the weighted average solvency coverage ratio for each country, split by the method used to calculate the SCR. Of those countries in which at least one company used a FIM, the weighted average solvency coverage ratio for companies using the SF was the highest in Belgium, Germany and Poland only.

FIGURE 4: WEIGHTED AVERAGE SOLVENCY COVERAGE RATIOS[9] BY SCR CALCULATION METHODS ACROSS EUROPE

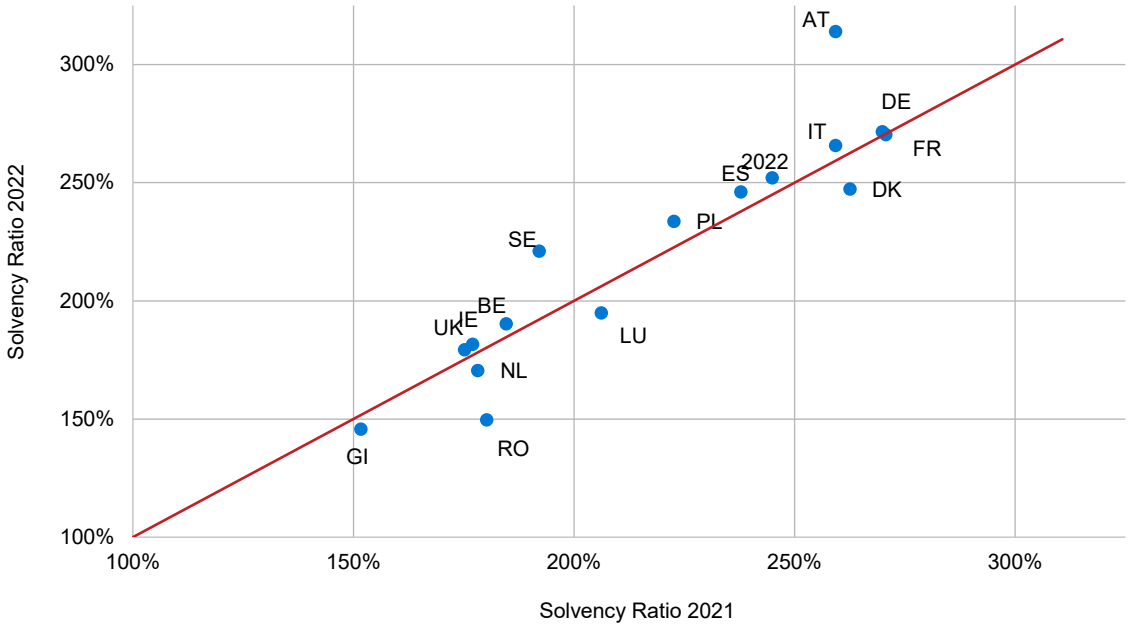


	AT	BE	DE	DK	ES	FR	GI	IE	IT	LU	NL	PL	RO	SE	UK	ALL
Standard Formula	281%	187%	295%	284%	245%	288%	146%	172%	211%	185%	185%	234%	154%	229%	173%	261%
Partial Internal Model	315%		241%	211%	278%	299%		223%	296%		157%		137%	195%	205%	254%
Full Internal Model	414%	173%	252%			175%		191%	272%	212%		228%			164%	237%

[9] A blank cell means that such a capital model was not used by any of the sample companies in that country.

Figure 5, below, compares the weighted average of the solvency coverage ratios for each country as at the 2022 year-end with the figure as at the 2021 year-end (for those countries above the line, the weighted average of the solvency coverage ratios as at the 2022 year-end is greater than that as at the 2021 year-end, and vice versa for those below the line). This shows that the weighted average of the solvency coverage ratios has increased since year-end 2021 for most countries. By far the most material increase in the weighted average of the solvency coverage ratios is for Austria, with a movement of +55%. Sweden had the second largest increase of +29%, whereas Romania experienced by far the largest decrease of -31%. Below, we provide a more detailed explanation of these movements.

FIGURE 5: CHANGE IN SOLVENCY COVERAGE RATIO FROM 2021 TO 2022 [10]



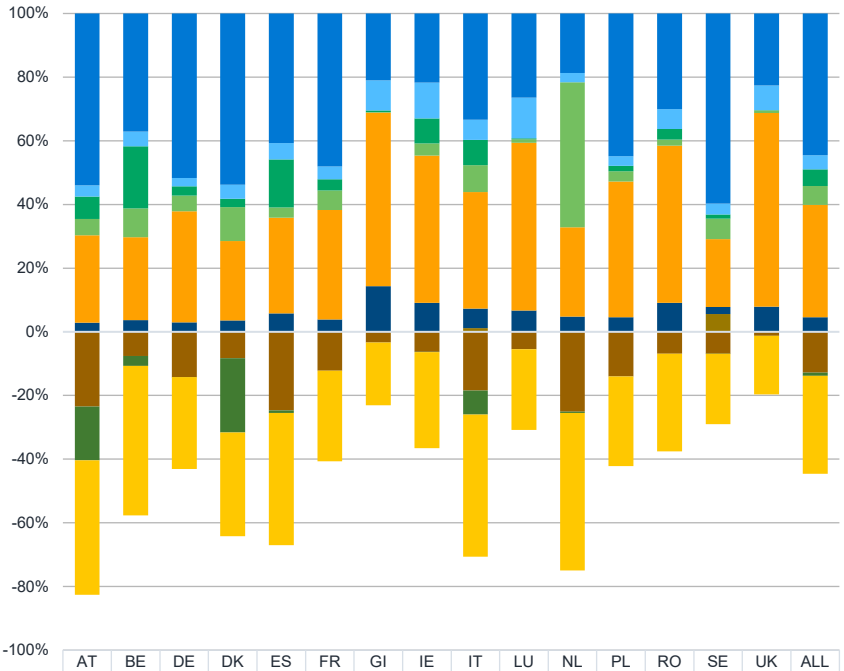
- **Austria**: Two of the largest insurers by GWP experienced a sharp increase in their solvency ratios. The solvency ratio of Wiener Städtische Versicherung AG Vienna Insurance Group increased by 108%, mainly due to a decrease in market risk and an increase in loss cushioning through profit sharing, as high interest rates were set in place in the last quarter of 2022. Generali Versicherung AG, the second largest insurer in our sample for Austria, increased its solvency ratio by 101%. This was similarly due to a fall in its market risk requirement resulting from higher interest rates.
- **Sweden:** Whereas Austria mainly increased its aggregate solvency ratio due to ratio changes within two large insurers, over 80% of Swedish insurers in our sample increased their solvency coverage ratios. Twenty-seven percent of Swedish insurers in our sample increased their solvency ratio by over 40 percentage points. The largest insurer in the sample (accounting for over two-fifths of the total GWP), If Skadeförsäkring AB (publ), increased its solvency ratio by just 6%. This illustrates that many small insurers increased their solvency ratios by significant amounts and were a significant factor in increasing the aggregate solvency ratio for Sweden.
- **Romania:** Whereas Austria and Sweden saw increases to their aggregate solvency ratios, Romania saw a decrease in its aggregate solvency ratio. The solvency ratio for Allianz-Tiriac Asigurari, the largest Romanian insurer in our sample by GWP and SCR, fell by 40%, due primarily to its non-life underwriting risk almost doubling over 2022. The largest reduction in solvency ratio of any Romanian insurer in our sample was experienced by Generali Romania Asigurare Reasigurare S.A.; its solvency ratio fell by 53%, due to increased capital requirements for both non-life and life insurance underwriting risks as well as counterparty risk.

[10] In Figure 5, the solvency coverage ratio for Germany is 271% for 2021 and 270% for 2022, while for France the solvency coverage ratio is 270% for 2021 and 272% for 2022. Due to the close proximity of these two countries on the above graph to one another, the relevant dots in Figure 5 overlap each other

ANALYSIS OF SCR AND MCR: WHERE IS THE RISK?

In Figure 6, below, we present, country by country, the breakdown by risk component of the aggregated SCRs for the insurers that calculated their SCRs using the SF.

FIGURE 6: SCR BREAKDOWN BY COUNTRY[11]



	AT	BE	DE	DK	ES	FR	GI	IE	IT	LU	NL	PL	RO	SE	UK	ALL
Market risk	54%	37%	52%	54%	41%	48%	21%	22%	33%	26%	19%	45%	30%	60%	23%	44%
Counterparty default risk	4%	5%	3%	4%	5%	4%	9%	11%	6%	13%	3%	3%	6%	3%	8%	4%
Life underwriting risk	7%	20%	3%	3%	15%	3%	0%	8%	8%	0%	0%	2%	3%	1%	0%	5%
Health underwriting risk	5%	9%	5%	11%	3%	6%	0%	4%	8%	1%	45%	3%	2%	6%	1%	6%
Non-life underwriting risk	27%	26%	35%	25%	30%	34%	55%	46%	37%	53%	28%	43%	49%	21%	61%	35%
Intangible asset risk	3%	4%	3%	3%	6%	4%	14%	9%	6%	7%	5%	5%	9%	2%	8%	4%
Operational risk	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Capital add-on already set	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	0.0%	0.0%	0.0%	0.0%	5.6%	0.0%	0.3%
Diversification	-42%	-47%	-29%	-33%	-42%	-28%	-20%	-30%	-45%	-25%	-50%	-28%	-31%	-22%	-18%	-31%
Loss-absorbing capacity of technical provisions	-17%	-3%	0%	-23%	-1%	0%	0%	0%	-8%	0%	0%	0%	0%	0%	0%	-1%
Loss-absorbing capacity of deferred taxes	-24%	-8%	-14%	-8%	-25%	-12%	-3%	-6%	-18%	-5%	-25%	-14%	-7%	-7%	-1%	-13%

Market risk and non-life underwriting risk are the biggest risk areas for non-life firms across Europe (with 14 of the 15 countries analysed presenting either of these risks as their predominant risk), with the remainder of the undiversified SCR mostly made up of counterparty default risk, life underwriting risk, health underwriting risk and intangible asset risk. Overall, market risk and non-life underwriting risk represent a substantial proportion of the undiversified SCR.

- As at year-end 2022, market risk represents 44% of the undiversified SCR, lower than the proportion observed as at year-end 2021 (48%) and equivalent to the proportion observed as at year-end 2020.
- As at year-end 2022, non-life underwriting risk represents 35% of the undiversified SCR, similar to, although higher than, the proportions observed as at year-end 2021 (31%) and as at year-end 2020 (33%).

In Austria, Germany and France, firms have substantial portions of their investments allocated to collective investments and holdings[12] in related undertakings including participations (46%, 67% and 55%, respectively, slightly higher than the proportions as at year-end 2021), which largely explains the higher proportions of charge attributable to market risk in those countries.

[11] The amounts within Figure 6 are as a percentage of the total of the capital requirement for each risk module, including operational risk (the undiversified SCR). Each element has been calculated as the sum across the companies within the region.

[12] Holding refers to either an insurance holding company or a mixed-activity insurance holding as defined in Article 212(1)(b) of Directive 2009/138/EC. The definition is available at https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:335:0001:0155:en:PDF

In the Netherlands, the health underwriting risk is more important than the non-life underwriting risk, whereas in other countries, such as the UK, Gibraltar and Luxembourg, the health risk component is almost non-existent. This highlights that, in some countries (such as the UK), health underwriting risk is mostly covered by standalone health insurance providers that are not included within our analysis of non-life insurers.

The significant contribution of life underwriting risk in Belgium and Spain is a consequence of some of the large insurers in their markets being composite companies, writing both life and non-life insurance. Because of the size of their non-life business relative to their markets, we have decided to keep these companies in our analysis, despite the potential distortion to our analysis caused by also including the data relating to life covers. Structured settlements, whereby claimants receive a series of payments over a period of time while they remain alive, are also a cause for some life underwriting risk within ostensibly non-life insurers.

The diversification of risk results in a 31% reduction of the undiversified SCR on average across Europe, unchanged from the level of diversification observed at year-end 2021. This is diversification between the risk modules and not within the risk modules (which most of the companies do not disclose in their SFCRs). The amount of benefit varies widely by country, with diversification benefits highest where there is a wider spread of risk exposure. The Netherlands has the highest diversification benefit (50%) reflecting the fact that insurers there have a wide range of risk exposures across market risk, non-life underwriting risk and health underwriting risk. Other markets with high levels of diversification include Belgium (47%), Italy (45%) and Austria (42%).

In addition to the diversification benefits, there are two additional adjustments available to companies after diversification:

- Loss absorbing capacity of technical provisions, which reflects the ability to reduce future discretionary benefits under stress scenarios. This results in a reduction of 1%, similar to the reduction observed as at year-end 2021 (2%).
- Loss absorbing capacity of deferred taxes which reflects the reduction in the future corporation tax payable under stress scenarios. This results in a reduction of 13% similar to the reduction observed as at year-end 2021 (14%).

Capital add-ons

Overall, on average, capital add-ons represent 0.3% of the total undiversified SCR, which is higher than the 0.2% as at year-end 2021, and 0.4% of the total diversified SCR, which was the same value as at year-end 2021. Our analysis has indicated that:

- As at year-end 2022, four companies from Italy had capital add-ons (those add-ons totalling roughly £97 million), which is the same number as at year-end 2021 (at which time the add-ons totalled roughly £50 million). Three of the four companies as at year-end 2021 and 2022 in Italy continued to hold capital add-ons.
- As at year-end 2022, just one company from Sweden, Försäkringsbolaget PRI Pensionsgaranti ömsesidigt had capital add-ons (totalling £496 million)—the same company as at year-end 2021 had £511 million worth of capital add-ons.

In most cases where a company reports a capital add-on, it is because the SF is not perceived to capture, fully and/or appropriately, some of the risks to which the company is exposed. One of the Italian companies in our sample, Poste Assicura SpA, has included a capital add-on as part of its undertaking-specific parameter (USP) application process, aimed at bridging the differences between the SF parameters and the USPs. Two other Italian companies in our sample, Crédit Agricole Assicurazioni and Europ Assistance Italia S.p.A, which apply USPs, use a capital add-on (defined as a conservative margin) to take into account the uncertainty in the estimate of the parameters.

ANALYSIS OF OWN FUNDS

Own funds are divided into three tiers based on quality: Tier 1 capital is the highest ranking with the greatest loss-absorbing capacity, such as retained earnings and share capital; Tier 2 funds are typically composed of hybrid debt; and Tier 3 typically comprises deferred tax assets. As shown in Figure 7, below, insurers' own funds are considered to be, on average, of good quality, with 94% classified in Tier 1, which is the slightly lower than the figure as at the 2021 year-end (95%). In Figure 7, the proportions of Tier 1 own funds vary from country to country, from 86% to 99%.

FIGURE 7: STRUCTURE OF ELIGIBLE OWN FUNDS[13]

	AT	BE	DE	DK	ES	FR	GI	IE	IT	LU	NL	PL	RO	SE	UK	All
Tier 1 unrestricted	89%	86%	92%	85%	99%	95%	88%	91%	86%	91%	96%	92%	89%	98%	92%	92%
Tier 1 restricted	2%	0%	2%	4%	0%	1%	1%	3%	5%	0%	2%	0%	4%	0%	0%	2%
Tier 2	9%	12%	6%	9%	1%	3%	11%	4%	9%	7%	2%	8%	5%	2%	5%	5%
Tier 3	0%	2%	0%	1%	0%	0%	1%	1%	0%	1%	0%	0%	2%	0%	3%	1%

In Figure 8, below, we have split the basic and ancillary own funds by type. We note that, for all countries excluding Romania, basic own funds mainly comprise the reconciliation reserve. For Romania, ordinary share capital is the largest component of basic own funds (49% as at year-end 2022 compared with 53% as at year-end 2021).

FIGURE 8: COMPONENTS OF OWN FUNDS[11]

BASIC OWN FUNDS	AT	BE	DE	DK	ES	FR	GI	IE	IT	LU	NL	PL	RO	SE	UK	ALL
Ordinary share capital	2%	22%	3%	7%	14%	7%	17%	31%	10%	18%	2%	6%	49%	1%	23%	8%
Share premium account related to ordinary share capital	11%	9%	16%	1%	9%	4%	15%	5%	13%	36%	19%	9%	20%	1%	19%	11%
Surplus funds	1%	8%	0%	111%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	4%	1%
Reconciliation reserve	85%	61%	81%	-21%	77%	88%	63%	45%	77%	46%	79%	85%	30%	96%	53%	79%
Other basic own funds	0%	0%	0%	1%	0%	0%	0%	19%	0%	0%	0%	0%	0%	1%	2%	1%

ANCILLARY OWN FUNDS	AT	BE	DE	DK	ES	FR	GI	IE	IT	LU	NL	PL	RO	SE	UK	ALL
Letters of credit and guarantees		0%	3%		0%	0%	0%	60%		37%	100%			0%	47%	18%
Supplementary member calls		100%	96%		0%	100%	0%	0%		16%	0%			100%	0%	63%
Other ancillary own funds		0%	2%		100%	0%	100%	40%		47%	0%			0%	53%	19%

Gibraltar experienced the largest movement in ancillary funds, with letters of credit and guarantees comprising 43% of ancillary own funds as at year-end 2021 but 0% as at year-end 2022 (while other ancillary own funds increased from 57% as at year-end 2021 to 100% as at year-end 2022) driven by a reclassification of letters of credit and guarantees for Admiral Insurance (Gibraltar) Limited. Denmark's aggregate reconciliation reserve is negative. This is because Tryg Forsikring A/S, the largest insurer in Denmark, holds a negative reconciliation reserve of over £3 billion (for clarification, this is held in the home currency, Danish krone).

[13] Due to rounding, values in the columns may not add up to 100%.

ANALYSIS OF MAIN BALANCE SHEET ITEMS

Assets

Across all countries, investments (typically cash, bonds and other stock market-traded instruments) form the majority of total assets in the balance sheet. Most countries (exceptions being Belgium, Denmark, Gibraltar, Ireland, Luxembourg and the UK) had more than 70% of total assets in investments, as can be observed in Figure 9, below. Those countries with lower percentages of assets in investments, with the exception of Belgium and Denmark, exhibit a greater proportion of reinsurance recoverables (over total assets), which is not unexpected, given the extensive use made of reinsurance in those countries that domicile numerous captives. The UK percentages shown in Figures 9 and 10, below, are distorted by Aviva International Insurance Limited. With this company removed, the proportion of assets in investments would be 63% as at year-end 2022 (compared with 62% as at year-end 2021), and the proportion of reinsurance recoverables over total assets would be 20% as at year-end 2022 (compared with 23% as at year-end 2021).

FIGURE 9: PROPORTION OF ASSETS IN INVESTMENTS AS AT YEAR-ENDS 2021 AND 2022

	Year-end 2021	Year-end 2022
AT	75%	75%
BE	70%	65%
DE	79%	77%
DK	59%	39%
ES	76%	75%
FR	78%	77%
GI	44%	50%
IE	43%	43%
IT	80%	78%
LU	49%	48%
NL	72%	72%
PL	78%	85%
RO	57%	71%
SE	80%	83%
UK	41%	41%
ALL	71%	70%

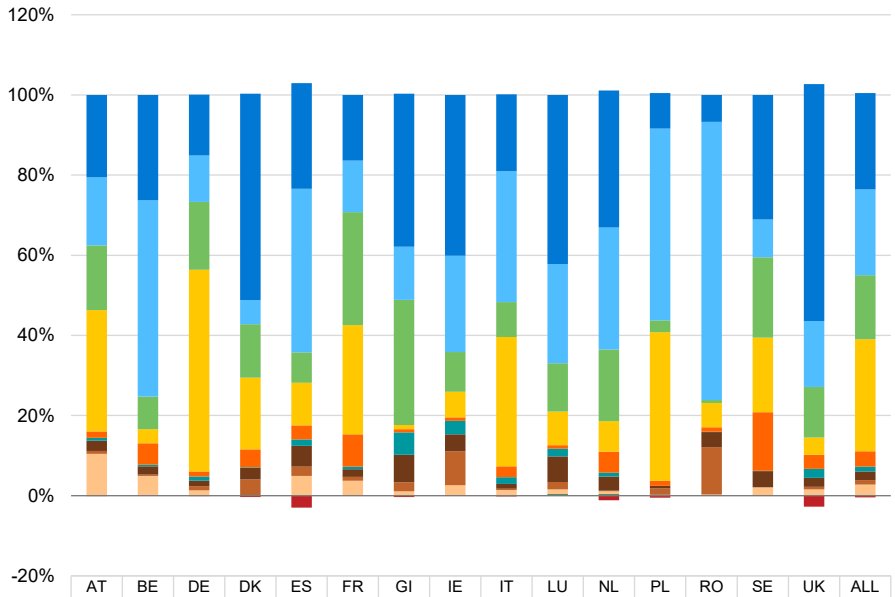
FIGURE 10: PROPORTION OF REINSURANCE RECOVERABLES OVER TOTAL ASSETS AS AT YEAR-ENDS 2021 AND 2022

	Year-end 2021	Year-end 2022
AT	3%	3%
BE	2%	2%
DE	9%	9%
DK	1%	1%
ES	5%	6%
FR	8%	7%
GI	44%	39%
IE	32%	30%
IT	2%	2%
LU	30%	30%
NL	5%	5%
PL	6%	6%
RO	15%	12%
SE	4%	6%
UK	15%	13%
ALL	8%	8%

Figure 11, below, shows the breakdown of companies' aggregate investments (including cash) per country. Investments in bonds (both government and corporate) are prominent in many firms' portfolios across most of the countries covered by the sample. Bonds are attractive to insurers due to their regular payment streams, which complement duration-matching strategies, reduced volatility and the associated capital requirements, relative to investing in equities.

Holdings in related undertakings dominate the balance sheets in Germany and, in aggregate, make up 50% of the total investments, slightly higher than the proportion of 47% as at year-end 2021. Other countries, such as Poland, Italy and Austria, also have significant proportions of holdings in related undertakings of over 30% as at year-end 2022. For Germany and Austria in particular, this ties in with the larger proportions of market risk, mentioned earlier.

FIGURE 11: INVESTMENT BREAKDOWN, AGGREGATED BY COUNTRY

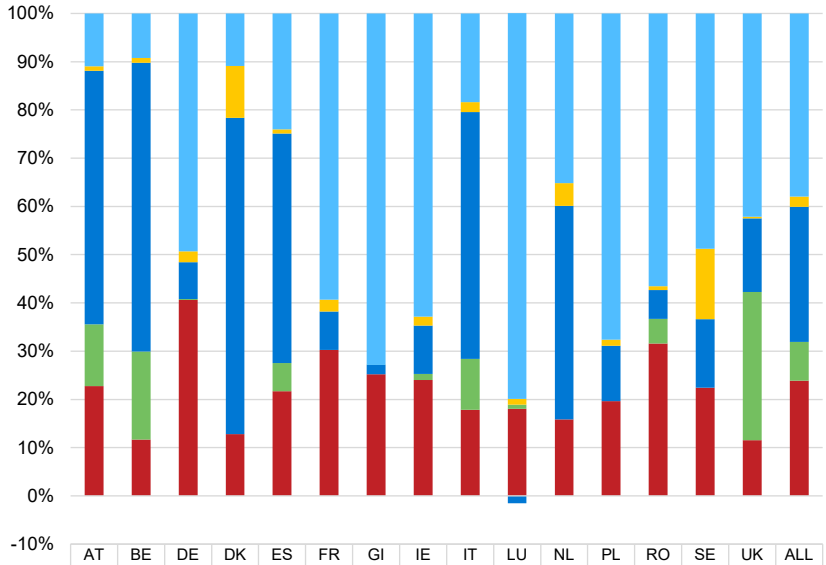


	AT	BE	DE	DK	ES	FR	GI	IE	IT	LU	NL	PL	RO	SE	UK	ALL
Corporate Bonds	21%	26%	15%	52%	26%	16%	38%	40%	19%	42%	34%	9%	7%	31%	59%	24%
Government Bonds	17%	49%	12%	6%	41%	13%	13%	24%	33%	25%	30%	48%	69%	9%	16%	21%
Collective Investments Undertakings	16%	8%	17%	13%	8%	28%	31%	10%	9%	12%	18%	3%	1%	20%	13%	16%
Holdings in related undertakings, including participations	30%	3%	50%	18%	11%	27%	1%	6%	32%	8%	8%	37%	6%	19%	4%	28%
Equities	2%	5%	1%	4%	4%	8%	1%	1%	3%	1%	5%	1%	1%	15%	4%	4%
Other Bonds	1%	0%	1%	0%	2%	1%	6%	3%	2%	2%	1%	0%	0%	0%	2%	1%
Cash and Cash equivalents	3%	2%	1%	3%	5%	2%	7%	4%	1%	6%	4%	1%	4%	4%	2%	2%
Deposits other than cash equivalents	1%	0%	1%	4%	2%	1%	2%	9%	0%	2%	0%	2%	12%	0%	1%	1%
Property	10%	5%	1%	0%	5%	4%	1%	2%	1%	1%	1%	0%	0%	2%	2%	3%
Other investments	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Net Derivatives	0%	0%	0%	0%	-3%	0%	0%	0%	0%	0%	-1%	0%	0%	0%	-3%	0%

Technical provisions

Figure 12, below, shows that, for all countries, technical provisions constitute the largest liability in non-life insurers' balance sheets, making up approximately 76% of the total liabilities in aggregate, which is slightly lower than the figure of 78% as at the 2021 year-end. Of the 15 countries, Germany has the highest proportion of liabilities allocated other than to technical provisions, these other liabilities being dominated by pension benefit obligations, subordinated liabilities, deferred tax liabilities, and financial liabilities other than to credit institutions (41% as at year-end 2022, slightly higher than the figure of 37% at year-end 2021). We note that non-life liabilities comprise more than 50% of the total liabilities for just six countries in our sample. Countries which have a higher proportion of life liabilities generally contain more composite insurers in our sample. Note that almost all of the index-linked and unit-linked assets in the UK are held by Aviva International Insurance Limited.

FIGURE 12: SPLIT OF LIABILITIES BY COUNTRY



	AT	BE	DE	DK	ES	FR	GI	IE	IT	LU	NL	PL	RO	SE	UK	ALL
Technical provisions - non-life (excl. health)	11%	9%	49%	11%	24%	59%	73%	63%	18%	81%	35%	68%	57%	49%	42%	38%
Technical provisions - health	1%	1%	2%	11%	1%	2%	0%	2%	2%	1%	5%	1%	1%	15%	0%	2%
Technical provisions - life	53%	60%	8%	66%	48%	8%	2%	10%	51%	-2%	44%	11%	6%	14%	15%	28%
Technical provisions - index-linked and unit-linked	13%	18%	0%	0%	6%	0%	0%	1%	11%	1%	0%	0%	5%	0%	31%	8%
Other liabilities	23%	12%	41%	13%	22%	30%	25%	24%	18%	18%	16%	20%	32%	22%	12%	24%

Figure 13, below, illustrates the relative size of gross non-life technical provisions across the 15 European countries analysed as at the 2022 year-end. In Figure 13, we include all companies that were available on Solvency II Wire (1,209 companies versus the 728 companies in our sample) to ensure that we capture the whole non-life market, as otherwise the proportion would be understated for countries where composites dominate. Germany, France, Ireland, Italy and the UK, in aggregate, make up 81% of the non-life technical provisions, slightly higher than the 79% as at the 2021 year-end.

FIGURE 13: SPLIT OF NON-LIFE (INC. HEALTH SIMILAR TO NON-LIFE) GROSS TECHNICAL PROVISIONS BY COUNTRY

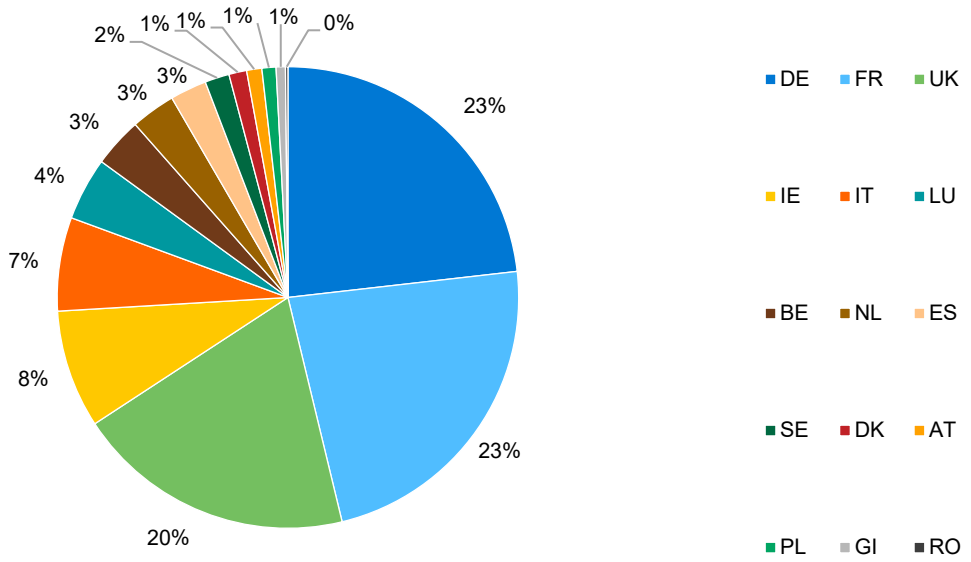
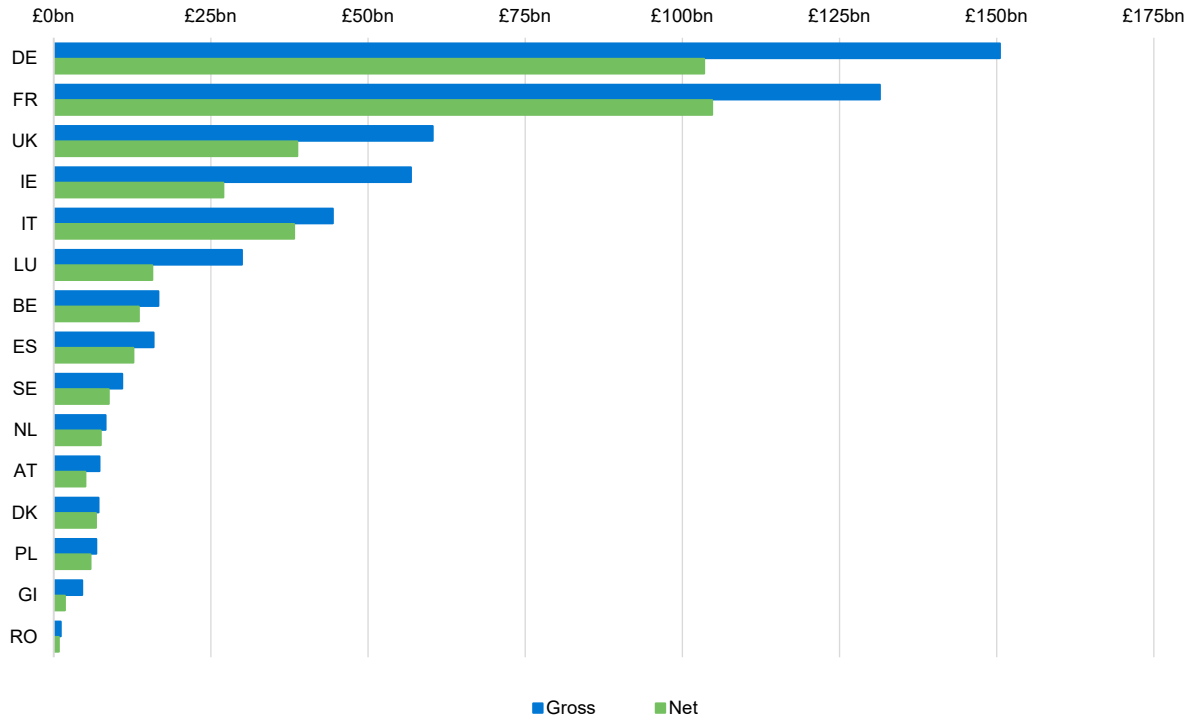


Figure 14, below, shows the non-life technical provisions, both gross and net of reinsurance, for each country as at the 2022 year-end.

FIGURE 14: GROSS AND NET NON-LIFE (INC. HEALTH SIMILAR TO NON-LIFE) TECHNICAL PROVISIONS BY COUNTRY



As at the 2022 year-end, the 728 insurers included in our sample have £552 billion of non-life technical provisions, gross of reinsurance, and £390 billion, net of reinsurance.

Figure 15, below, shows how the proportions have moved over the past five years by line of business. By and large, these proportions have been relatively stable, save in respect of the Motor Vehicle Liability and Fire lines.

- The proportion of Motor Vehicle Liability technical provisions has reduced from 27.8% as at year-end 2018 to 24.4% as at year-end 2021, decreasing further to 23.8% as at year-end 2022. The decrease was primarily driven by COVID-19 and the related national restrictions, as the volume of claims reported to insurers decreased (and hence the technical provisions decreased) following reduced road usage. The decrease from 2021 to 2022 is likely due to myriad factors. A key factor is that road usage and driving habits have not yet returned to pre-COVID levels, partially a hangover from the pandemic restrictions and partially a result of inflation in motoring costs reducing the amount of discretionary motoring.
- The proportion of Fire technical provisions (which comprises 'fire and other damage to property') has grown from 16.2% as at year-end 2018 to 19.5% as at year-end 2021, with a large increase in 2022 to 22.0%. The increase in technical provisions in 2022 can be attributed to the extreme weather events across Europe. This includes wildfires, which burnt a record areas of ground in Europe, heat waves during the summer and storms Dudley, Eunice and Franklin in February 2022, which caused record breaking losses.

From Figure 15 we also note that the two liability lines of business account for 50% of insurers' total non-life technical provisions, slightly lower than the figure as at year-end 2021 (51%).

FIGURE 15: NON-LIFE (INC. HEALTH SIMILAR TO NON-LIFE) GROSS TECHNICAL PROVISIONS BY LINE OF BUSINESS AS AT EACH YEAR-END 2018-2022

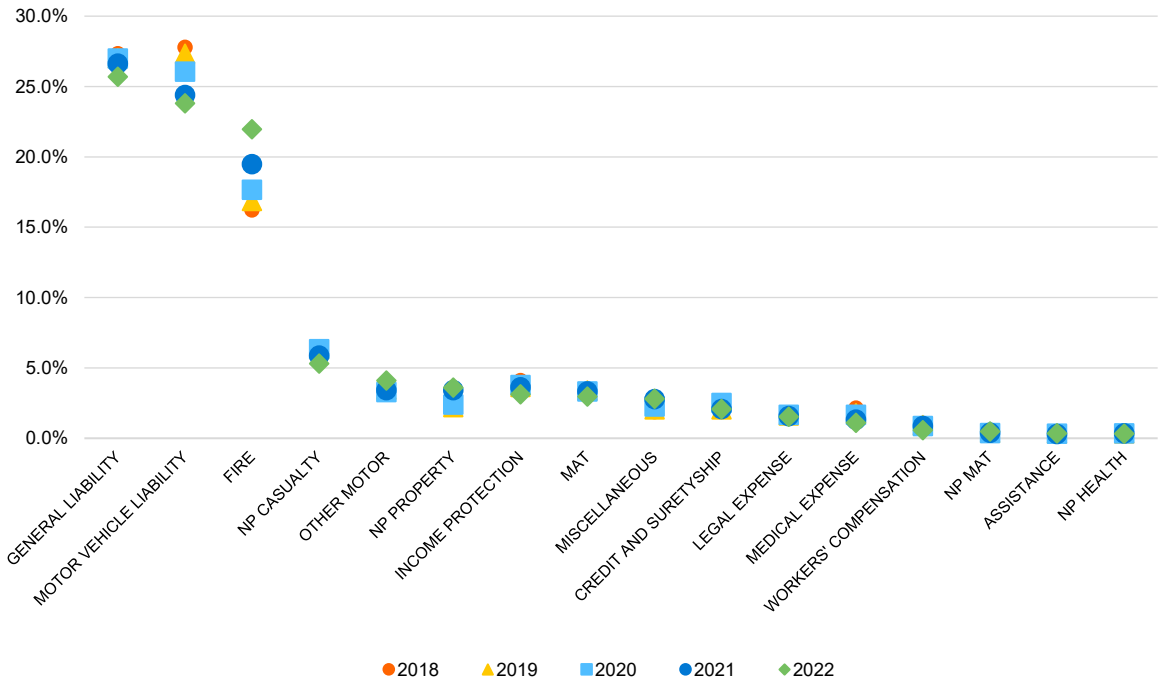
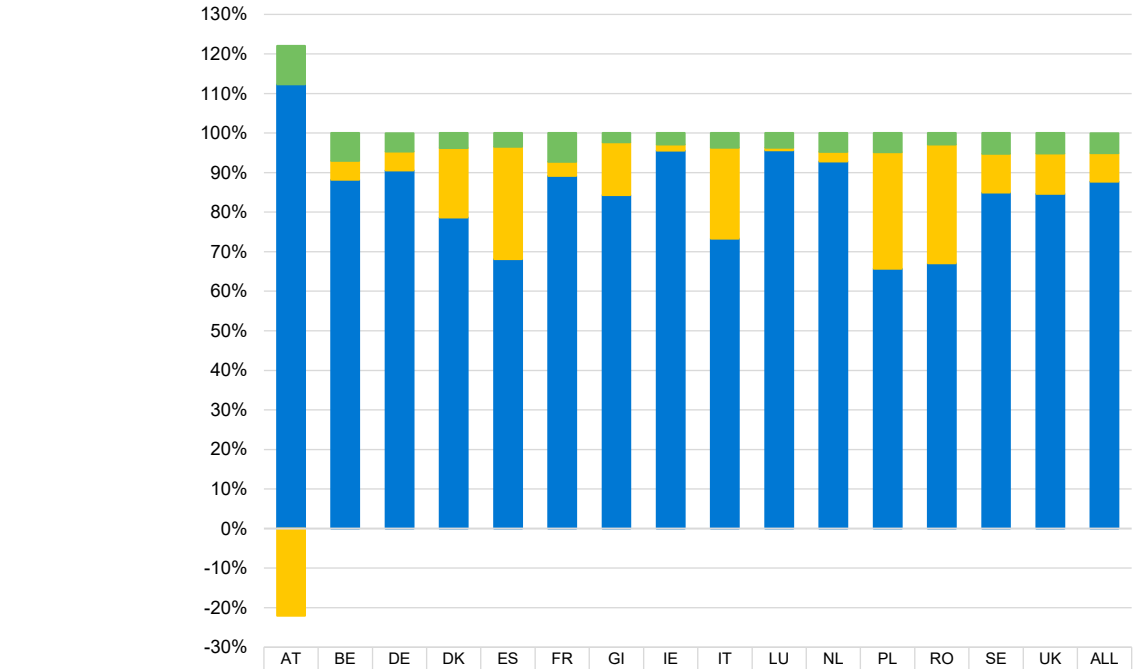


Figure 16, below, shows the composition of the non-life technical provisions across the 15 countries as at the 2022 year-end. We observe that, in aggregate, claims provisions make up 88% of the gross technical provisions (slightly higher than the figure reported as at the 2021 year-end, 86%).

FIGURE 16: COMPONENTS OF NON-LIFE (INC. HEALTH SIMILAR TO NON-LIFE) NET TECHNICAL PROVISIONS

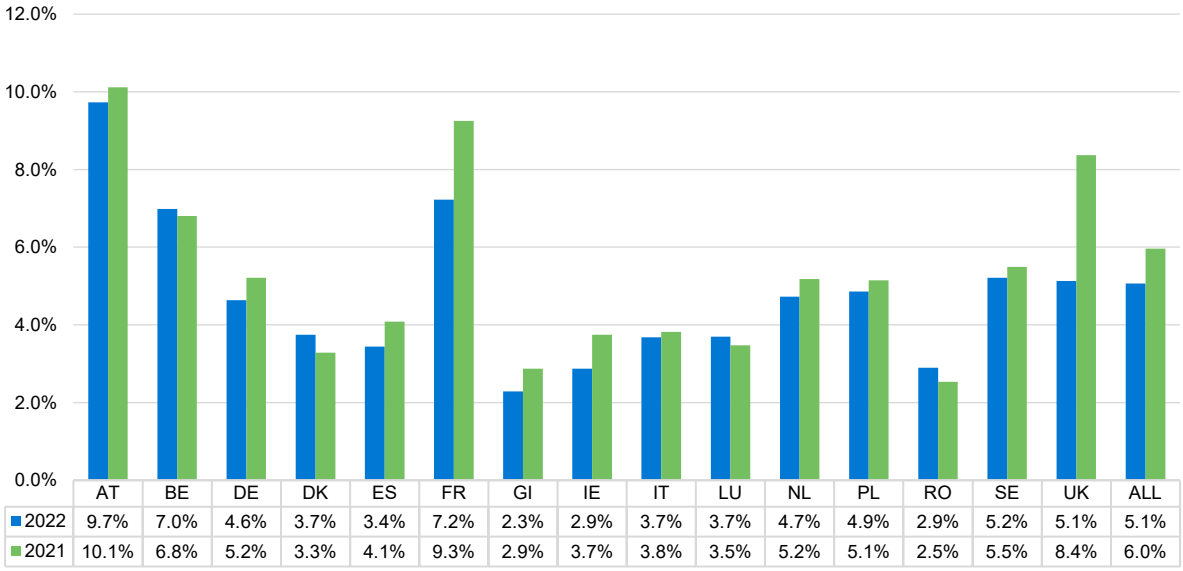


	AT	BE	DE	DK	ES	FR	GI	IE	IT	LU	NL	PL	RO	SE	UK	ALL
Risk Margin	10%	7%	5%	4%	3%	7%	2%	3%	4%	4%	5%	5%	3%	5%	5%	5%
Best Estimate Premium Provision	-22%	5%	5%	18%	28%	4%	13%	2%	23%	1%	2%	29%	30%	10%	10%	7%
Best Estimate Claims Provision	112%	88%	91%	79%	68%	89%	84%	96%	73%	96%	93%	66%	67%	85%	85%	88%

We observe that premium provisions are negative for Austria, implying that, in aggregate, firms regulated there expect their unearned and bound but not incepted business to be profitable. Premium provisions comprise lower-than-average proportions in Belgium, Germany, France, Ireland, Luxembourg and the Netherlands.

In Figure 17, below, we show the share of the technical provisions that is attributable to the risk margin, by country, as at both the 2021 and 2022 year-ends.

FIGURE 17: RATIO OF RISK MARGIN TO GROSS TECHNICAL PROVISIONS BY LINE OF BUSINESS AS AT YEAR-ENDS 2021 AND 2022



	AT	BE	DE	DK	ES	FR	GI	IE	IT	LU	NL	PL	RO	SE	UK	ALL
2022	9.7%	7.0%	4.6%	3.7%	3.4%	7.2%	2.3%	2.9%	3.7%	3.7%	4.7%	4.9%	2.9%	5.2%	5.1%	5.1%
2021	10.1%	6.8%	5.2%	3.3%	4.1%	9.3%	2.9%	3.7%	3.8%	3.5%	5.2%	5.1%	2.5%	5.5%	8.4%	6.0%

We note that, for more than two-thirds of the countries in our sample, the risk margin has decreased from year-end 2021 to year-end 2022, with the largest decreases seen in France and the UK.

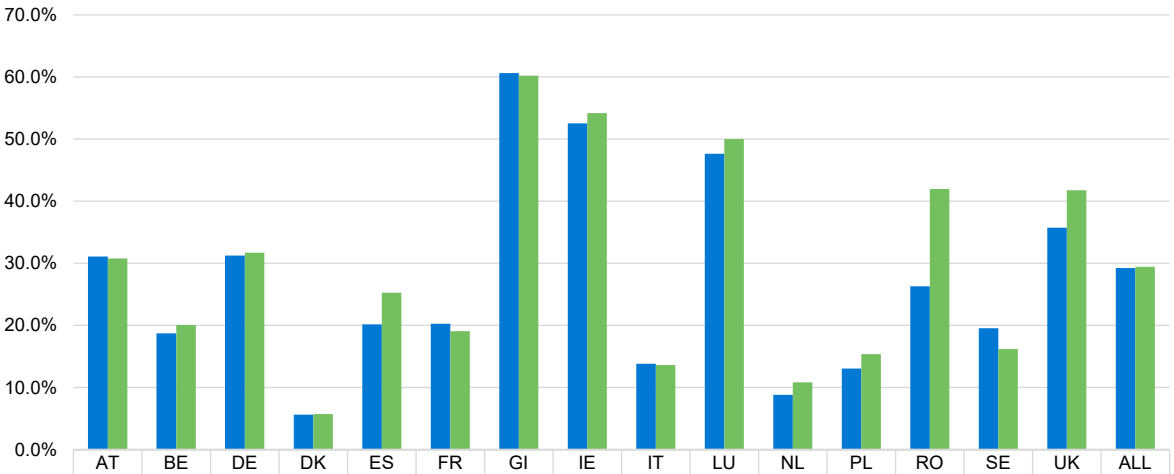
Insurers in Austria appear to hold large risk margins relative to those held over the average in the other 14 countries. The non-life underwriting SCR is relatively high in Austria, compared to other countries in Europe, which contributes to a higher risk margin. In contrast, the aggregated risk margins in Romania are, apart from Gibraltar, (nearly) the lowest across the countries in our sample. This is largely driven by the higher risk-free rates in Romania compared with those in other EU countries, combined with business mix, with the Romanian insurance market being dominated by a higher percentage of long-tail motor third-party liability insurance. Gibraltar has the lowest risk margin, which may also be due to the share of long-tail motor third-party liability insurance in the market.

In next year's analysis, we expect to see a reduction of risk margin as a total percentage of the gross technical provisions for UK non-life insurers. This follows the announcement by HM Treasury[14] that it will implement a reduction in the cost of capital rate used to calculate the risk margin, from the current 6% to 4%.

Figure 18, below, shows how the reinsurance recoverables have changed between the 2021 and 2022 year-ends as proportions of the gross technical provisions across all countries in our sample. We observe that, for the majority of the companies in our sample, the proportions have decreased, with Romania, the UK and Spain experiencing the largest decreases (15.7%, 6.1% and 5.1%, respectively).

[14] Gov.uk (June 2023). Draft Insurance and Reinsurance Undertakings (Prudential Requirements) Regulations. https://www.gov.uk/government/publications/draft-insurance-and-reinsurance-undertakings-prudential-requirements-regulations

FIGURE 18: REINSURANCE RECOVERABLES AS A PERCENTAGE OF GROSS TECHNICAL PROVISIONS BY COUNTRY AS AT YEAR-ENDS 2021 AND 2022

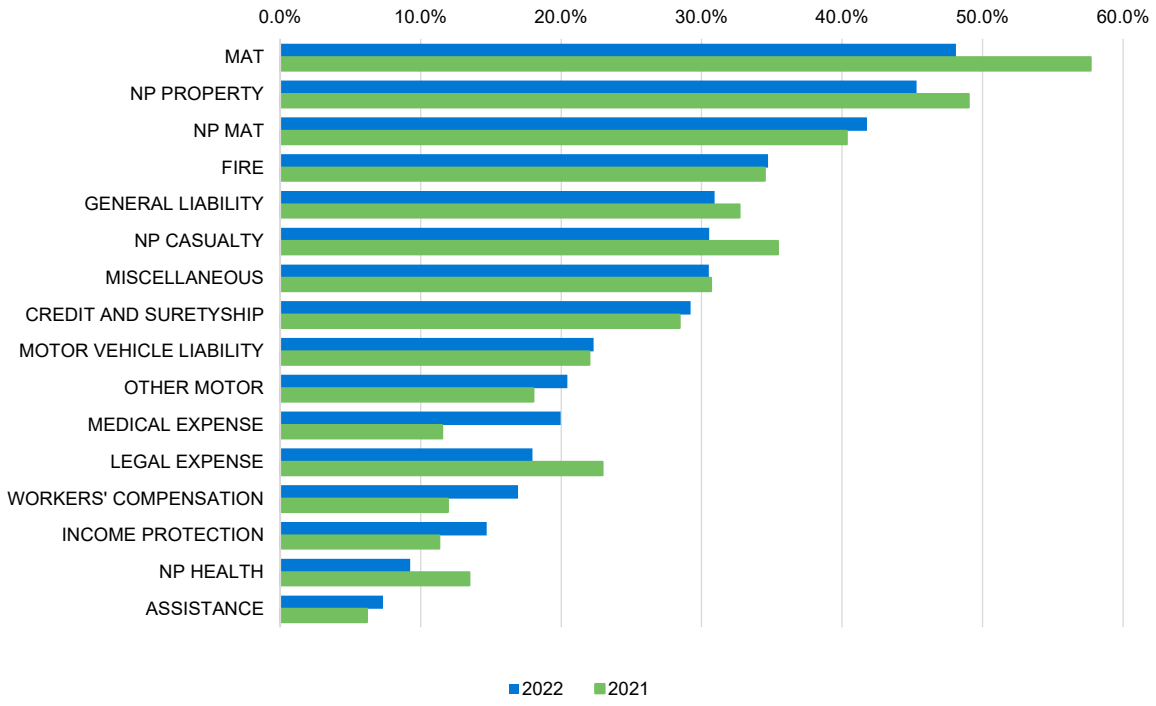


	AT	BE	DE	DK	ES	FR	GI	IE	IT	LU	NL	PL	RO	SE	UK	ALL
2022	31.1%	18.7%	31.3%	5.7%	20.2%	20.3%	60.6%	52.6%	13.9%	47.6%	8.9%	13.0%	26.3%	19.5%	35.7%	29.2%
2021	30.8%	20.1%	31.7%	5.8%	25.3%	19.1%	60.2%	54.2%	13.6%	50.0%	10.9%	15.4%	42.0%	16.2%	41.8%	29.4%

The countries with the highest proportional usage of reinsurance are Gibraltar and Ireland (61% and 53%, respectively). This is similar to the position as at year-end 2021, with the ceded proportions each being within two percentage points of their respective year-end 2022 figures. The significant proportion of reinsurance in Ireland is driven by the high number of major insurers in our sample, who cede significant volumes of business within their groups. Denmark has the lowest proportional usage of reinsurance at approximately 6%, similar to that as at year-end 2021. As previously mentioned, Gibraltar, Ireland and Luxembourg have high proportions of reinsurance as the markets have high proportions of captives.

Figure 19, below, shows the reinsurance recoverables as a proportion of the gross technical provisions for each Solvency II line of business, across all countries included in our sample, as at both the 2021 and 2022 year-ends.

FIGURE 19: REINSURANCE RECOVERABLES AS A PERCENTAGE OF GROSS TECHNICAL PROVISIONS, BY LINE OF BUSINESS AS AT YEAR-ENDS 2021 AND 2022



We note that, for seven of the lines of business in our sample, the ceded level of reinsurance has decreased from year-end 2021, whereas for the other nine, the level increased (in total across all lines the proportion is virtually unchanged, as was shown in Figure 18). We note in particular:

- The largest decrease was seen in MAT. This line of business decreased from 57.7% as at year-end 2021 to 48.1% as at year-end 2022. This was mainly driven by a decrease in the UK MAT reinsurance recoverables of approximately £2.5 billion over the year.
- The largest increase was seen in Medical Expense. This line of business increased from 11.5% as at year-end 2021 to 20.0% as at year-end 2022. The majority of this movement comes from increases to reinsurance recoverables in Gibraltar and Spain over the last year.

ANALYSIS OF UNDERWRITING

As noted in our Introduction, in 2022 our sample of European non-life insurers wrote almost £449 billion of non-life premiums, gross of reinsurance (more than £326 billion, net of reinsurance). Figure 20, below, shows the non-life GWP and NWP for each country for 2022.

FIGURE 20: 2022 GROSS AND NET NON-LIFE WRITTEN PREMIUMS BY COUNTRY

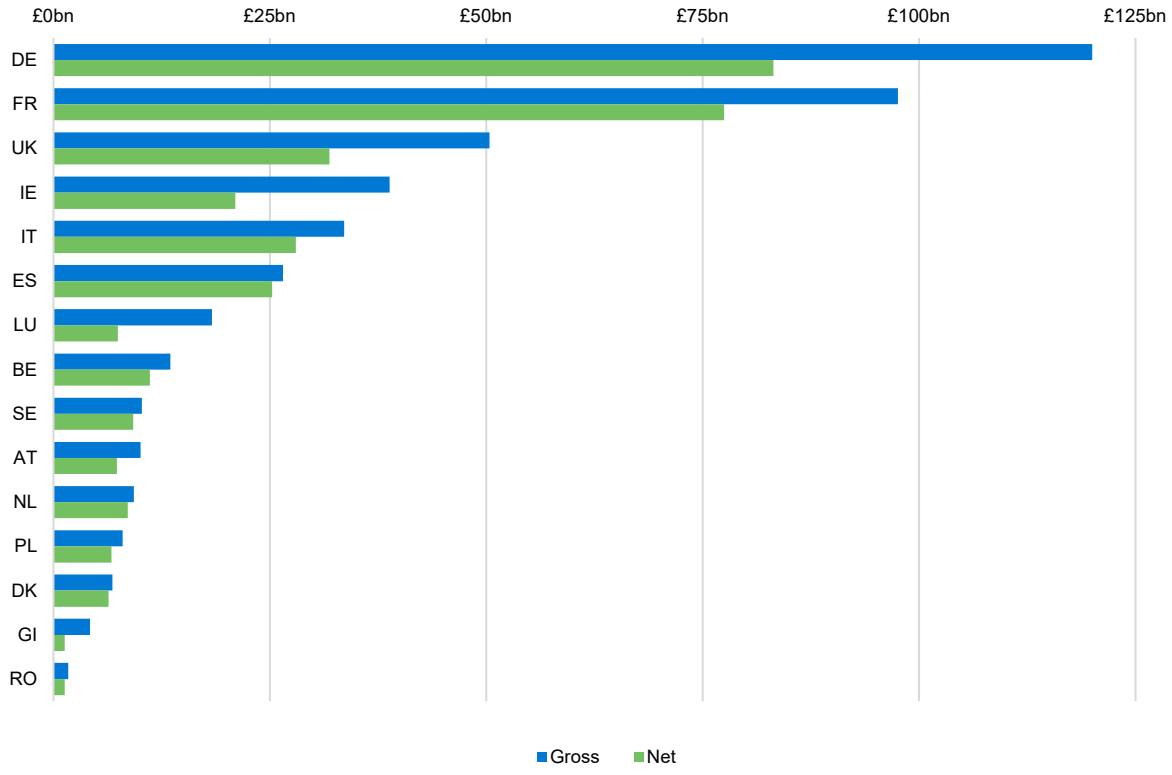
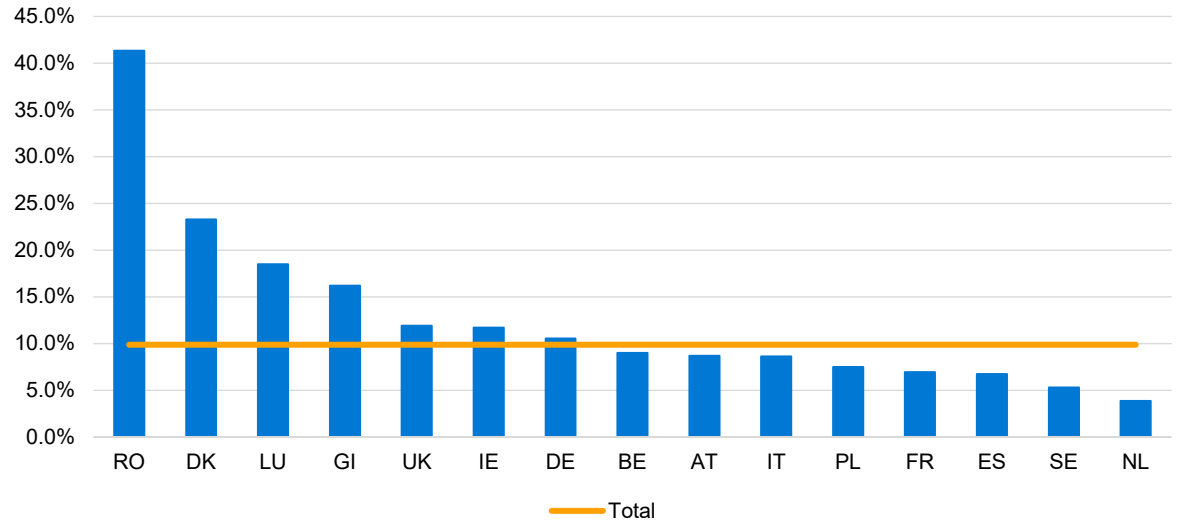


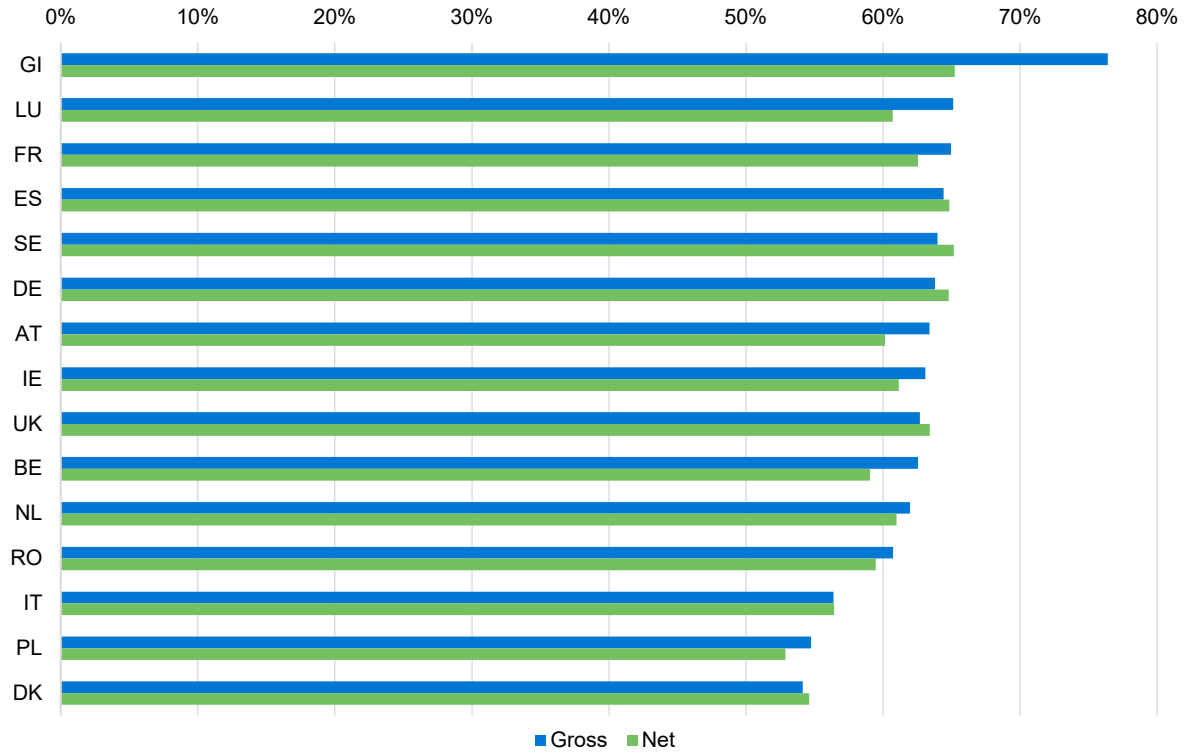
Figure 21, below, shows the change in non-life GWP between 2021 and 2022. We observe that all the 15 countries experienced an increase in GWP between 2021 and 2022, and that the average premium growth in this sample is around 10%. We note that the growth for Romania is over 40%, mainly driven by two companies, but, within our sample of 15 countries, Romania has the smallest GWP volume. The data underlying Figure 21 is derived mostly from pure non-life insurers. However, it also includes data relating to composite insurers that primarily write non-life business. In such cases, the life component of the premiums, although relatively small, could distort the picture.

FIGURE 21: 2021-2022 GROWTH IN NON-LIFE (INC. HEALTH SIMILAR TO NON-LIFE) GROSS WRITTEN PREMIUMS BY COUNTRY[15]



In Figure 22, below, we show the loss ratios (incurred claims / premiums earned), both gross and net of reinsurance, by country for the 2022 financial year. The loss ratios shown are on a calendar-year basis, and therefore reflect the loss ratios for the risks exposed during the calendar year, adjusted by any strengthening or weakening of the outstanding claims reserves relating to prior years' exposure.

FIGURE 22: GROSS AND NET NON-LIFE (INC. HEALTH SIMILAR TO NON-LIFE) LOSS RATIOS BY COUNTRY



We show in Figures 23 and 24, below, the gross and net of reinsurance loss ratios for all countries over the last four years. The grey lines indicate the GWP and NWP for the countries as a proportion of the total GWP and total NWP.

[15] For this chart we have only included companies for which we have SFCRs in both 2021 and 2022—this is a total of 606 companies.

FIGURE 23: GROSS LOSS RATIOS BY COUNTRY FOR YEAR-ENDS 2019-2022

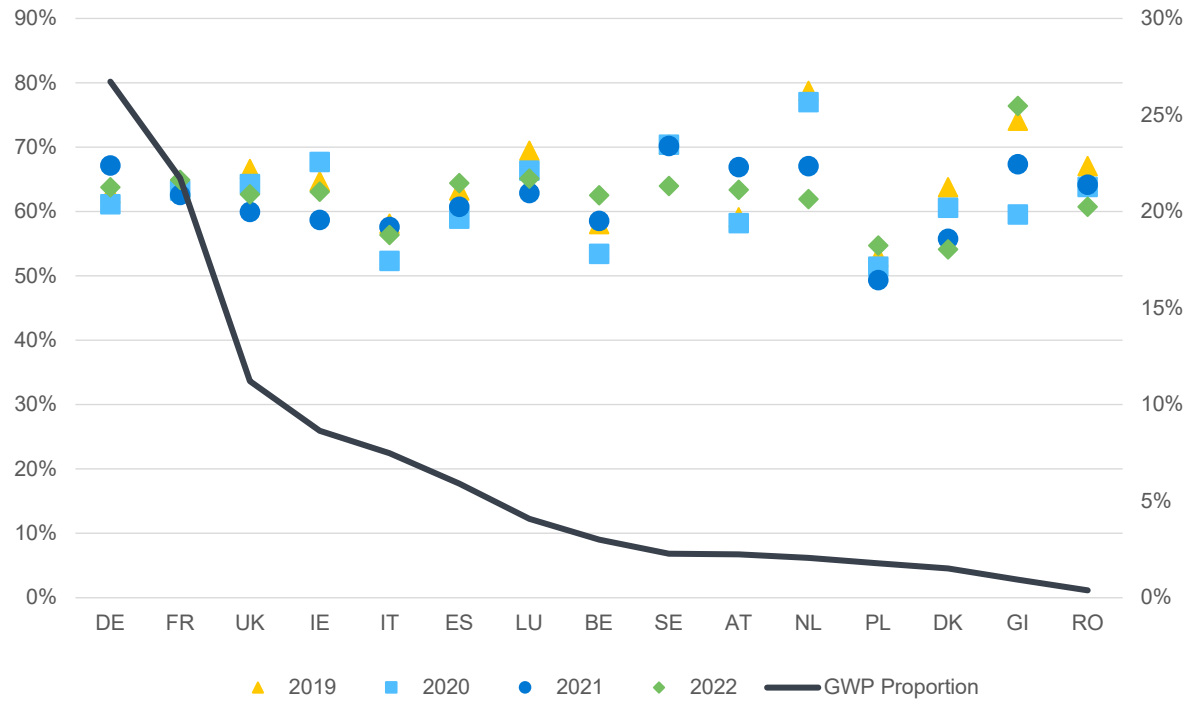
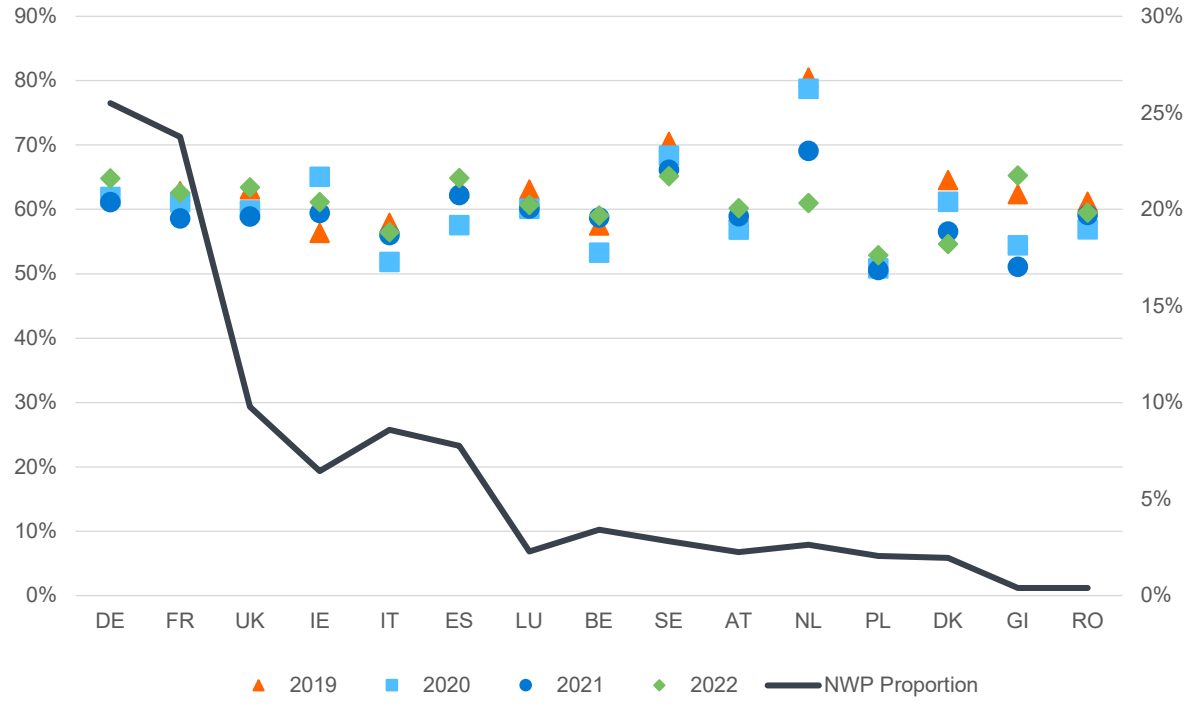


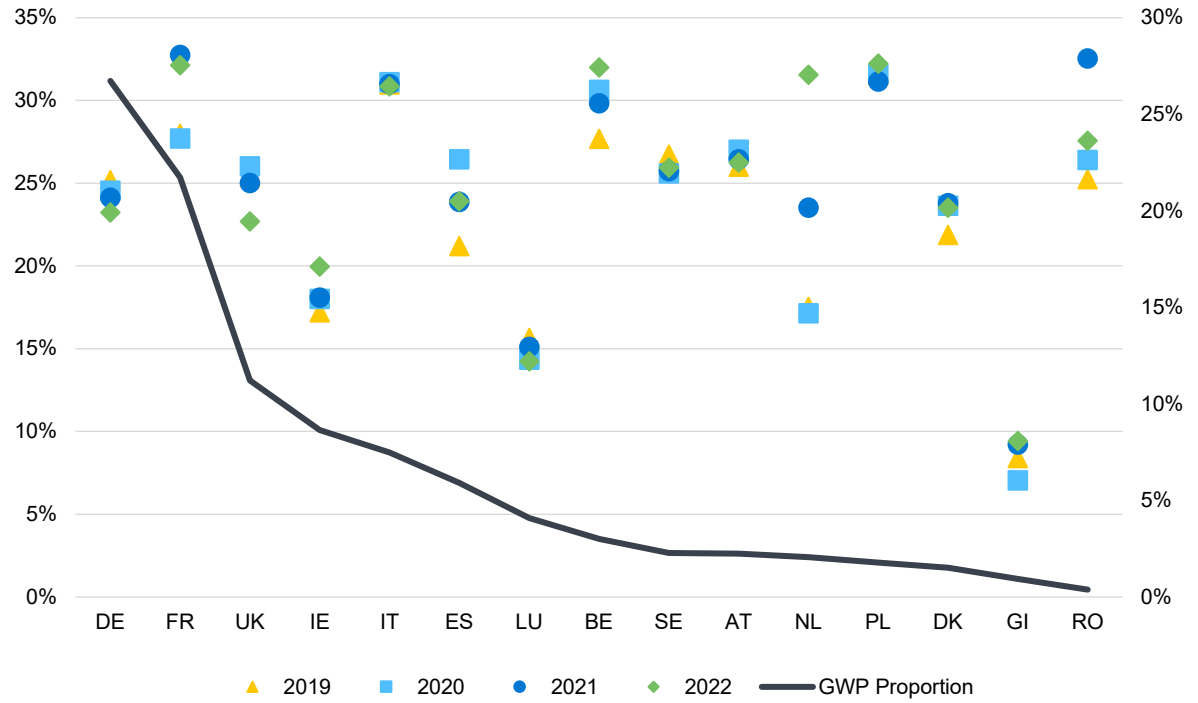
FIGURE 24: NET LOSS RATIOS BY COUNTRY FOR YEAR-ENDS 2019-2022



Figures 23 and 24 show that, in general, the loss ratios have been fairly consistent over the last four years for most countries included in our sample. As one would expect, the countries that have the larger volumes of premiums have, in general, seen less volatility in their loss ratios over the last four years than have many countries with smaller volumes of premiums. Intuitively, one would also expect volatility in loss ratios to be less net of reinsurance than gross of reinsurance; however, in some countries (most notably Spain and Netherlands), the opposite appears to be the case.

We show in Figure 25, below, the average expense ratios for all countries over the last four years. The grey lines indicate the GWP for the countries as a proportion of the total GWP.

FIGURE 25: AVERAGE EXPENSE RATIOS BY COUNTRY FOR YEAR-ENDS 2019-2022



Similar to the loss ratios above, the expenses ratios have, on the whole, been fairly consistent over the last four years for all countries included in our sample, although the experience of Spain, the Netherlands and Romania has been more volatile than that of the other countries.

Figure 25 also shows that the expense ratios are generally between 20% and 35% for all the countries included in our sample, with the exception of Gibraltar, Ireland and Luxembourg, where the expense ratios are consistently below 20% (and for Gibraltar consistently below 10%). We are aware that several companies in our sample outsource to third parties certain administrative and claims handling tasks and pay for these services by policy at the point of sale, their premiums then being recorded net of these charges.

Figure 26, below, shows the average operating margin for each country between the 2019 and 2022 year-ends. We defined the operating margin as (net earned premium – net claims incurred – expenses incurred) / (gross earned premium). We note that the operating margin as defined includes movements in prior year reserves (part of the net claims incurred) but does not include investment income.

FIGURE 26: OPERATING MARGINS BY COUNTRY FOR YEAR-ENDS 2019-2022

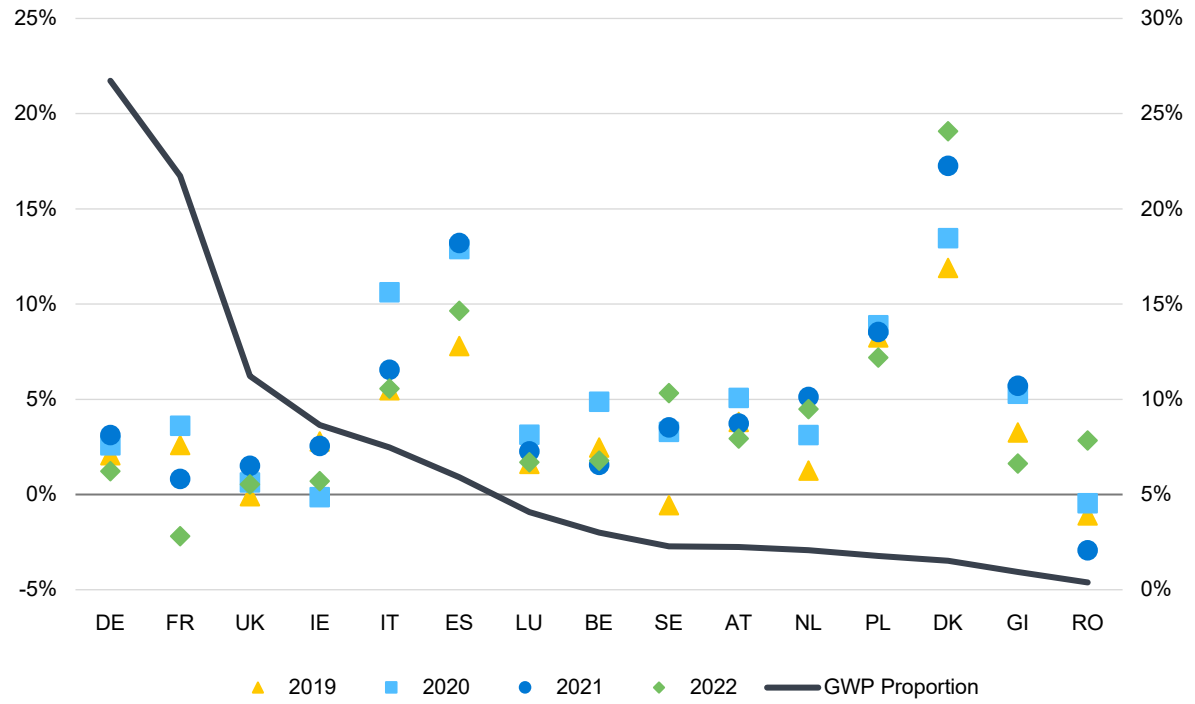


Figure 26 demonstrates that, in most years and in most of the 15 countries, the non-life business, in aggregate, has been operating profitably. We note that, in general, the profit margins in the largest markets are small, reflecting intense market competition.

The volatility shown in the operating margins is broadly a product of the volatility shown above in the loss ratios and expense ratios.

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Appendix A:
List of Solvency II lines of business

FULL NAME	SHORT NAME USED IN THIS REPORT
Assistance	Assistance
Credit and suretyship insurance	Credit and suretyship
Fire and other damage to property insurance	Fire
General liability insurance	General liability
Income protection insurance	Income protection
Legal expenses insurance	Legal expenses
Marine, aviation, and transport insurance	MAT
Medical expense insurance	Medical expense
Miscellaneous financial loss	Miscellaneous
Motor vehicle liability insurance	Motor vehicle liability
Non-proportional reinsurance accepted / Casualty	NP Casualty
Non-proportional reinsurance accepted / Health	NP Health
Non-proportional reinsurance accepted / Marine, aviation, transport	NP MAT
Non-proportional reinsurance accepted / Property	NP Property
Other motor insurance	Other motor
Workers' compensation insurance	Workers' compensation