

MILLIMAN RESEARCH REPORT

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

European non-life insurers

Year-end 2021

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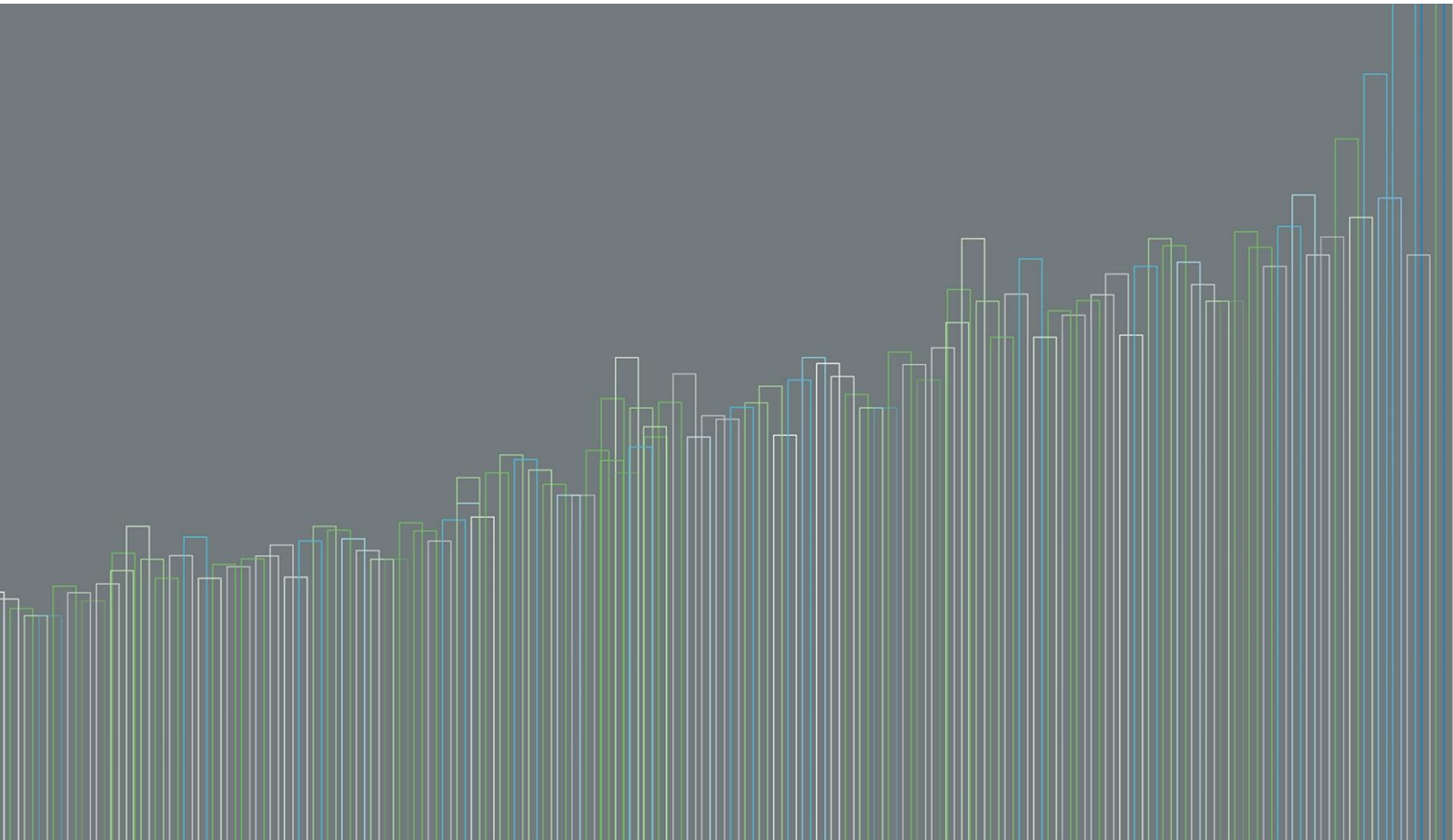


Table of Contents

EXECUTIVE SUMMARY	1
INTRODUCTION.....	2
EUROPEAN MARKET COVERAGE	2
UNDERLYING DATA	3
COVID-19.....	4
RUSSIA UKRAINE CONFLICT	4
ANALYSIS OF EUROPEAN NON-LIFE COMPANIES	4
SOLVENCY COVERAGE RATIOS: HOW DID THE EUROPEAN COMPANIES DO?	4
ANALYSIS OF SCR AND MCR: WHERE IS THE RISK?	8
ANALYSIS OF OWN FUNDS.....	9
ANALYSIS OF MAIN BALANCE SHEET ITEMS	10
ANALYSIS OF UNDERWRITING	17
APPENDIX A: LIST OF SOLVENCY II LINES OF BUSINESS.....	22

Executive Summary

Based on our analysis of 769 solo companies, across 13 European Union (EU) member states as well as the UK and Gibraltar, that are both primarily non-life business and regulated in the EU, we have found that financial resilience has increased in 2021.

1. **The ratio of eligible own funds to the Solvency Capital Requirement (SCR) increased** from 243% as at year-end 2020 to 245% as at year-end 2021.
2. **Gross written premiums (GWP) increased** from £339¹ billion for the year 2020 to £369 billion for the year 2021. Net written premiums (NWP) also increased, from £254 billion for the year 2020 to £275 billion for the year 2021.
3. **Overall, gross technical provisions increased** from £470² billion as at year-end 2020 to £502 billion as at year-end 2021. Similarly, the net technical provisions increased from £347 billion as at year-end 2020 to £362 billion as at year-end 2021.
4. **The proportion of Fire and Non-Proportional Property technical provisions has grown in 2021.** This is mainly driven by the severe weather losses that impacted Europe over the past year, including snowstorm Darcy, flooding in Limburg, and heavy rainfall in Luxembourg and Germany, which was caused by the Bernd, Volker and Wolfgang weather systems. These extreme weather events also led to **the proportion of reinsurance recoverables for Non-Proportional Solvency II lines of business increasing in 2021.**
5. **The proportion of Motor Vehicle Liability technical provisions has reduced in 2021.** This is primarily driven by COVID-19, and the restrictions that were imposed, as the volume of claims reported to insurers decreased (and hence the technical provisions decreased) following reduced road usage. The COVID-19 restrictions have led to behavioural changes (e.g., changes to driving habits), which has meant that road usage generally remains below pre-pandemic levels.

¹ For comparison purposes, the 2020 year-end gross and net of reinsurance premiums have been converted using currency exchange rates as at year-end 2021.

² For comparison purposes, the 2020 year-end gross and net of reinsurance technical provisions have been converted using currency exchange rates as at year-end 2021.

Introduction

In 2021, (re)insurance undertakings across the EU published their sixth set of Solvency and Financial Condition Reports (SFCRs). In this research report, we summarise those SFCRs as they relate to non-life insurers regulated in the EU, and set out the results of our analyses of the SFCRs. This includes comparison of the 2021 year-end SFCRs with their counterparts as at the 2020 year-end (and at earlier year-ends, where relevant).

We have also included the UK 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.³

The analyses underlying this research report focus on the quantitative information contained in the Quantitative Reporting Templates (QRTs) within the SFCRs and draw conclusions from them about the balance sheets and risk exposures of European non-life insurers. Our focus is on solo entities rather than groups.

This research report is laid out as follows:

- We first consider the solvency position of the European market as a whole.
- We then look at the components of the SCR.
- We continue with an analysis of the main Solvency II balance sheet items, including invested assets and technical provisions.
- Lastly, we look at some key indicators of underwriting performance, such as loss ratios and expense ratios.

In this research report, we have used shortened versions of the names of the Solvency II lines of business. They are listed in Appendix A.

EUROPEAN MARKET COVERAGE

Our European analysis of the non-life market covers 769⁴ companies from the 15 countries listed below, which in aggregate account for £369 billion of GWP and £502 billion of gross non-life technical provisions.⁵ Our sample as at the 2021 year-end has 737 companies that were also included in our analysis as at the 2020 year-end. These companies accounted for more than 97% of the total GWP as at the 2021 year-end (and approximately 98% of the total SCR). As at the 2020 year-end, they account for approximately 91% of the total GWP (and approximately 90% of the total SCR). Our analysis includes some composite companies but only those writing predominantly non-life⁶ 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 of its syndicates. We have excluded it from our study because of its size compared with the rest of the market, because much of its activities relates to insurance coverage outside of Europe, and because it contains significant reinsurance and retrocessional business. The Society of Lloyd's represents £41 billion of GWP and £65 billion of gross technical provisions (compared with a total £45 billion of GWP and £58 billion of gross technical provisions for the 85 UK solo companies that we have included within our analysis) and exhibits a solvency coverage ratio of 177% at year-end 2021 (made up of £35 billion of eligible own funds and £20 billion of SCR).

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).⁷

³ The UK is reviewing the current form of Solvency II. The UK government released a Consultation Paper in April 2022 outlining proposed changes to the Solvency II reporting requirements. Changes in the Solvency II regime may have an impact on future SFCRs for UK non-life insurers.

⁴ In our review as at the 2020 year-end, we included 870 entities within our analysis.

⁵ Excluding the UK and Gibraltar, as they are not shown in the EIOPA statistics as at year-end 2021, the gross non-life technical provisions total £440 billion, approximately 83% of the total non-life technical provisions across the remaining 13 listed countries.

⁶ 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.

⁷ Annual aggregated balance sheet statistics for solo entities, as at year end 2021. 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 = £0.841254.

FIGURE 1: GWP AND GROSS TECHNICAL PROVISIONS BY COUNTRY

COUNTRY ⁸	GROSS WRITTEN PREMIUM (£ BN)	GROSS TECHNICAL PROVISIONS (£ BN)	
	SAMPLE	SAMPLE	EIOPA (S.02.01)
AUSTRIA (AT)	10.1	8.2	7.5
BELGIUM (BE)	12.0	17.4	25.5
GERMANY (DE)	107.5	153.7	188.7
DENMARK (DK)	5.3	5.5	5.0
SPAIN (ES)	28.5	20.8	21.8
FRANCE (FR)	70.9	112.9	120.4
GIBRALTAR (GI)	2.8		N/A
IRELAND (IE)	22.6	38.2	58.1
ITALY (IT)	26.2	38.7	40.5
LUXEMBOURG (LU)	9.9	15.5	33.0
NETHERLANDS (NL)	8.9	8.4	10.0
POLAND (PL)	7.8	7.1	7.8
ROMANIA (RO)	1.2	0.9	1.2
SWEDEN (SE)	10.2	12.9	10.5
UK (UK)	45.2		N/A
TOTAL	369.2	440.1	530.1



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.

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 of 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 2021.⁹

⁸ Gross technical provisions for UK (including Gibraltar) are not available from EIOPA as at year-end 2021.

⁹ The rate of exchange for SFCRs not reported as at 31 December 2021 may differ slightly from the rate stated in footnote 7, above.

COVID-19

The data in this research report reflects the published data from the SFCRs as at year-end 2021, which in turn reflects the effects of the COVID-19 pandemic on firms' balance sheets and results. The COVID-19 pandemic has affected some lines of business more than others. We expect the COVID-19 pandemic to continue to affect firms' balance sheets and results for some years to come, as it continues to influence changes in consumer behaviour as insurers and markets adjust their valuations of its impact on businesses and reappraise their risk appetites.

RUSSIA-UKRAINE CONFLICT

On 24 February 2022, Russia invaded Ukraine. As at the date of this research report, Ukrainian forces continue to resist the Russian offensive. The conflict has resulted in financial and trade sanctions being imposed on Russia, which has led to further upward pressure on inflation and to disruption in supply chains. Those insurers that have material direct exposure to Russia or Ukraine are likely to experience significant claims, particularly in lines of business such as marine, aviation and transport (MAT), fire, political violence, and trade credit.

We observe that many insurers in our sample have included information on the conflict in their SFCRs, along with high-level descriptions of the potential effects. The publication deadlines for the SFCRs meant that most insurers had to base those assessments upon limited information, and were unable to take account of more recent developments.

We have not commented further on any company's disclosures relating to the Russia-Ukraine conflict.

Analysis of European non-life companies

SOLVENCY COVERAGE RATIOS: HOW DID THE EUROPEAN COMPANIES DO?

On an aggregated basis, as at the 2021 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 245%. This is slightly higher than the equivalent figure of 243% as at the 2020 year-end, but identical to the equivalent figure as at the 2019 year-end.

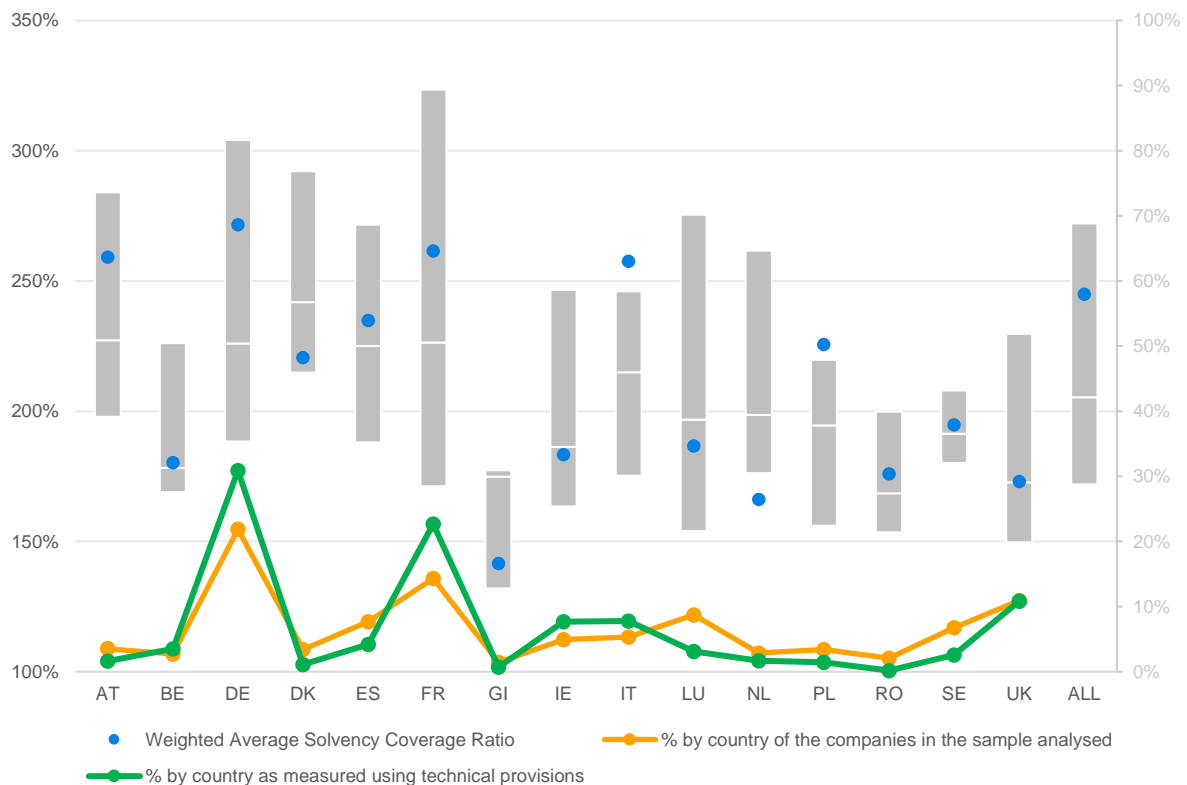
Figure 2, below, shows how the average solvency coverage ratios are distributed throughout the 15 countries included in our sample. It sets out the median, 25th and 75th percentiles and weighted average of the distribution of the solvency coverage ratios for the market as a whole and then separately 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 France and Germany, were, on average, very well-capitalised, with average solvency coverage ratios of over 260%. 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 2020 year-end.

We note that France, Germany and Luxembourg have very wide distributions of solvency coverage ratios, whereas Belgium, Gibraltar, Romania and Sweden have much narrower distributions.

We also note that, for the Netherlands, the weighted average solvency coverage ratio (166%) is well below the median (199%) as at year-end 2021, which implies that, in that country, smaller insurers have, in general, much higher solvency coverage ratios than have the larger insurers. The two largest insurers in our sample, from the Netherlands, have solvency coverage ratios of 141% and 142%, while the smallest insurer in our sample has a solvency coverage ratio of 313%.

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.

FIGURE 2: DISTRIBUTION OF THE SOLVENCY COVERAGE RATIOS BY COUNTRY

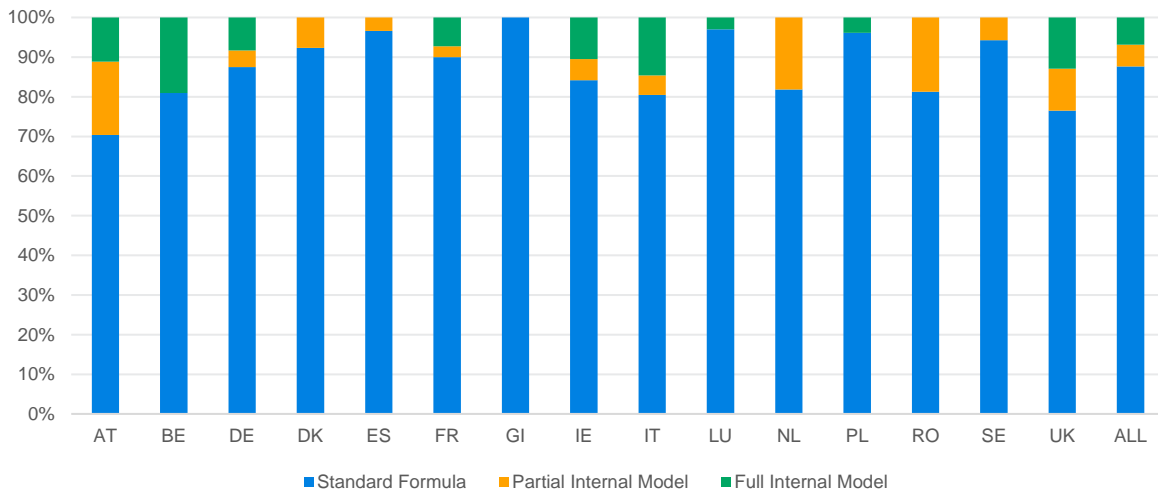


Not surprisingly, and as highlighted in Figure 3, below, the vast majority (88%) of the undertakings in the analysed sample have used the Standard Formula (SF) to calculate their SCRs, which is identical to the equivalent proportions calculated as at both the 2019 and 2020 year-ends, although only 49% 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, approximately 25% of undertakings regulated in the UK and approximately 20% of the undertakings regulated in Belgium and Italy use either a Partial Internal Model (PIM) or a Full Internal Model (FIM). Over the year we observe that:

- One undertaking from each of Germany and Poland moved from the SF to a FIM.
- One undertaking from Germany moved from a PIM to a FIM.
- One undertaking from Luxembourg moved from a PIM to a SF.
- Two undertakings from Germany, one undertaking from Ireland and one undertaking from the UK moved from a FIM to a PIM.

As at year-end 2021, 16% of the total value of the aggregated SCRs were generated using a PIM and 36% 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 will most likely be smaller insurers, less likely to have sustained the additional costs of PIMs and FIMs.

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

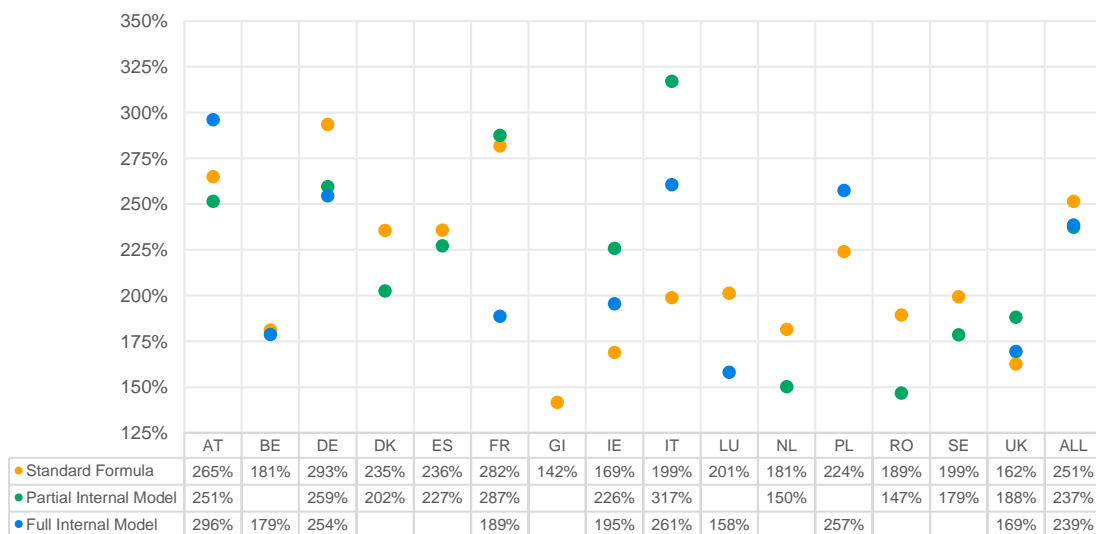


Our analysis has indicated that:

- The weighted average of the solvency coverage ratios for companies using the SF is 251% as at year-end 2021, lower than the equivalent figure as at year-end 2020 (256%).
- The weighted average of the solvency coverage ratios for companies using a PIM is 237% as at year-end 2021, lower than the equivalent figure as at year-end 2020 (239%).
- The weighted average of the solvency coverage ratios for companies using a FIM is 239% as at year-end 2021, higher than the equivalent figure as at year-end 2020 (230%).

Using an internal model enables companies to capture specific risks that they face that are not covered in the SF (e.g., pension risk, inflation risk etc.) 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 Luxembourg only.

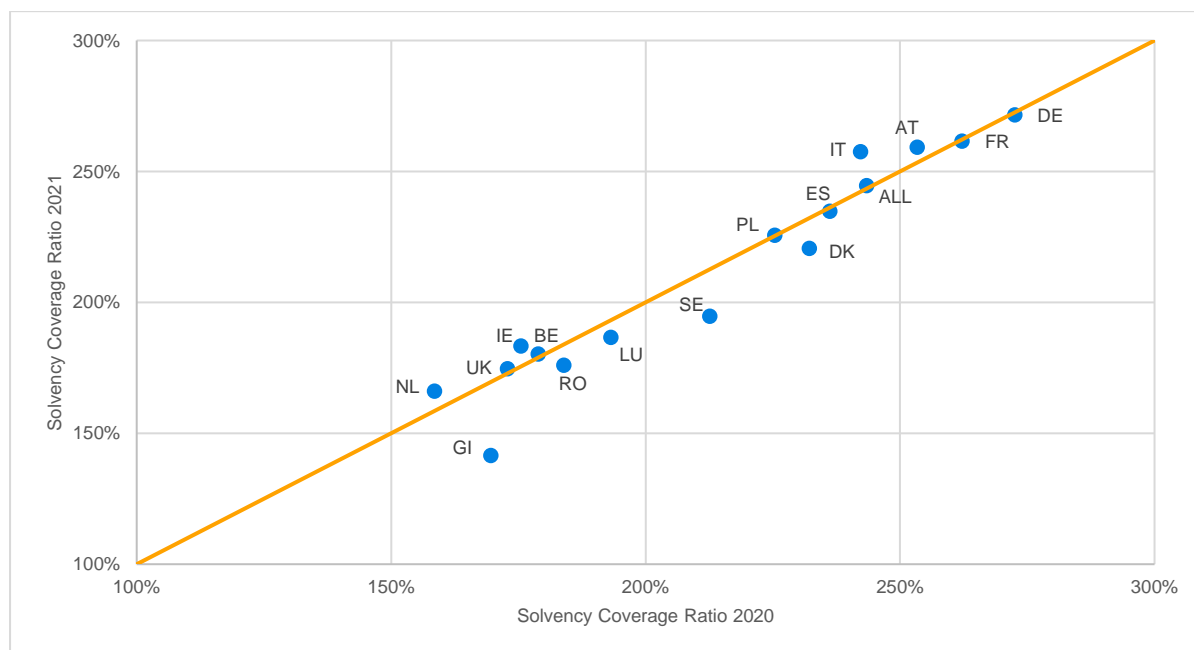
FIGURE 4: WEIGHTED AVERAGE SOLVENCY COVERAGE RATIOS¹⁰ BY SCR CALCULATION METHODS ACROSS EUROPE



¹⁰ 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 2021 year-end with the equivalent figure as at the 2020 year-end (for those countries above the line, the weighted average of the solvency coverage ratios as at the 2021 year-end is greater than that as at the 2020 year-end, and vice versa for those below the line). This shows that, for all countries, the weighted average of the solvency coverage ratios is broadly unchanged across the two year-ends. The most material movements in the weighted average of the solvency coverage ratios are for Gibraltar, Sweden and Italy, movements of -28%, -18% and +15%, respectively, mainly driven by movements in the solvency coverage ratios for the largest companies. We highlight some of the companies and the movements, below.

FIGURE 5: CHANGE IN SOLVENCY COVERAGE RATIO

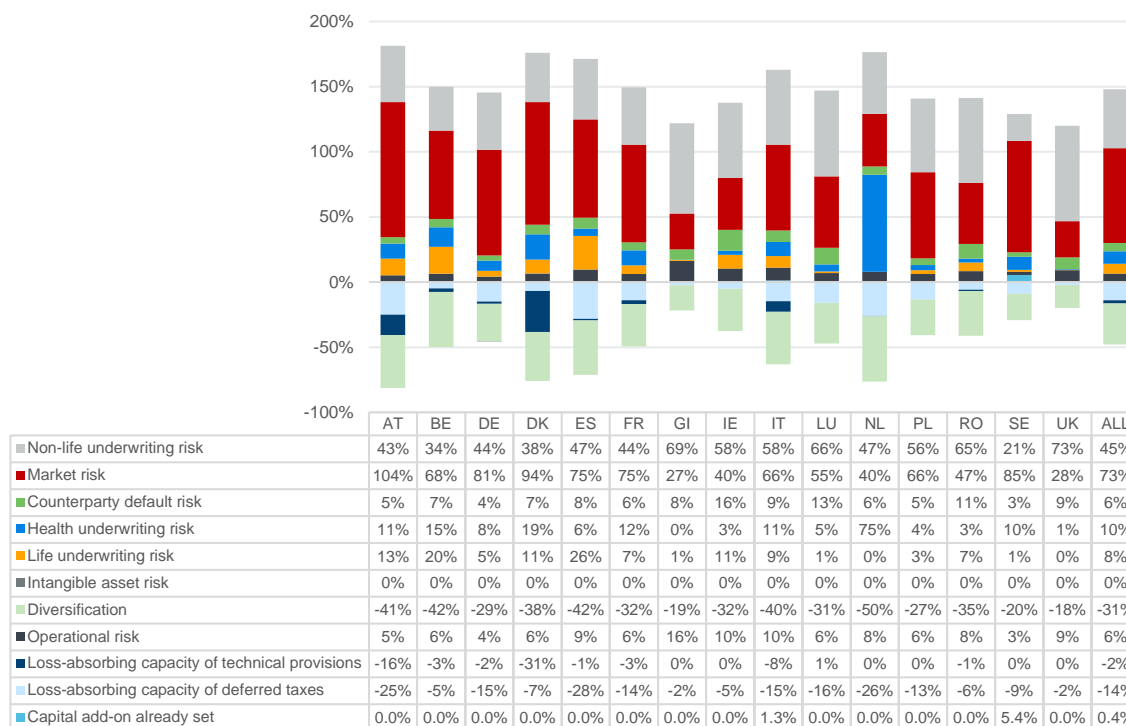


- Admiral (Gibraltar):** The solvency coverage ratio reduced from 171% as at year-end 2020 to 131% as at year-end 2021, driven by a combination of an increase in the SCR from £377 million to £404 million and a decrease in eligible own funds from £646 million to £528 million. The increase in the SCR is explained by a growing allocation of assets to private debt, with the market risk charge moving from £94 million as at year-end 2020 to £106 million as at year-end 2021. The eligible own funds decreased from £646 million as at year-end 2020 to £528 million as at year-end 2021, due to a reduction in the Tier 1 own funds, driven by payment of dividends. As at year-ends 2018 and 2019, the solvency coverage ratios were lower than as at year-end 2020 (142% and 154%, respectively).
- Allianz S.p.A:** The solvency coverage ratio increased from 205% as at year-end 2020 to 225% as at year-end 2021, mainly driven by an increase in the eligible own funds. The driver of this increase was growth in the reconciliation reserve (caused by an increase to the surplus of assets over liabilities and an increase in dividends). As at year-ends 2018 and 2019, the solvency coverage ratios were lower than as at year-end 2020 (189% and 183%, respectively).
- Assicurazioni Generali S.p.A.:** The solvency coverage ratio increased from 259% as at year-end 2020 to 276% as at year-end 2021, mainly driven by an increase in the eligible own funds and an increase in the value of equity investments in subsidiaries. As at year-ends 2018 and 2019, the solvency coverage ratios were similar to that at year-end 2020 (257% and 260%, respectively).
- Länsförsäkringar AB (formerly Länsförsäkringar Sak):** The solvency coverage ratio decreased from 197% as at year-end 2020 to 181% as at year-end 2021, mainly driven by a merger between Länsförsäkringar Sak and Gamla Länsförsäkringar AB in May 2021, with the own funds and the capital requirement increasing significantly (an approximately £1,654 million increase in own funds and an approximately £931 million increase in the SCR). The merger has meant that the company's equity has increased by approximately £1,419 million. A proposed dividend to shareholders in the coming year will reduce the own funds by approximately £143 million.

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



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). Overall, the market risk SCR and the non-life underwriting risk SCR represent a substantial proportion of the SCR.

- As at year-end 2021, the market risk SCR proportion (73%) is higher than the equivalent proportions observed as at year-end 2019 (64%) and year-end 2020 (65%).
- As at year-end 2021, the non-life underwriting risk SCR proportion (45%) is similar to the equivalent proportions observed as at year-end 2019 (44%) and year-end 2020 (47%).

In Austria, Germany and France, firms have substantial portions of their investments allocated to collective investments and holdings in related undertakings including participations (42%, 66% and 49%, respectively, slightly higher than the equivalent proportions as at year-end 2020), which largely explains the higher proportions of charge attributable to market risk in those countries.

In the Netherlands, the health underwriting risk is more important than the non-life underwriting risk, whereas in other countries, such as the UK and Gibraltar, 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 players in their markets being composite insurers (i.e., 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.

Capital add-ons

Overall, on average, capital add-ons represent 0.4% of the total SCR (0.1% as at year-end 2020). Our analysis has indicated that:

- As at year-end 2021, four companies from Italy had capital add-ons (those add-ons totalling roughly £50 million), compared with just three companies as at year-end 2020 (at which time the add-ons totalled roughly £38 million).
- As at year-end 2021, just one company from Sweden had capital add-ons (totalling £511 million)—as at year-end 2020, no Swedish companies had any capital add-ons.
- As at year-end 2020, one company from each of Denmark and the UK had capital add-ons (totalling £9 million and £40 million, respectively). Those add-ons were both removed during 2021.

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 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, 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.

As at year-end 2020, one UK insurer in our sample was required to include a significant capital add-on, contributing materially to its SCR. CIS General Insurance Limited (CISGIL) had a £40 million capital add-on (24% of its overall SCR), as the Prudential Regulation Authority deemed that the SF did not adequately reflect CISGIL's risk profile in respect of operational risk. This capital add-on was removed in December 2021.

We believe that, with the regulators increasingly scrutinising emerging risks such as cyber or climate change, insurers will need more tailored calculations in future that reflect better their risk profiles.

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 92% classified in Tier 1, which is higher than the equivalent figure as at the 2020 year-end (91%). In Figure 7, the proportions of Tier 1 own funds vary from country to country, from 83% to 99%.

FIGURE 7: STRUCTURE OF ELIGIBLE OWN FUNDS¹¹

	AT	BE	DE	DK	ES	FR	GI	IE	IT	LU	NL	PL	RO	SE	UK	ALL
Eligible own funds to meet the SCR	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Tier 1 - unrestricted	88%	87%	92%	85%	99%	92%	86%	94%	83%	93%	96%	92%	91%	98%	92%	92%
Tier 1 - restricted	2%	0%	2%	5%	0%	2%	1%	0%	9%	0%	2%	0%	0%	0%	1%	2%
Tier 2	10%	11%	6%	10%	1%	5%	13%	4%	8%	5%	2%	8%	7%	1%	5%	6%
Tier 3	0%	2%	0%	0%	0%	0%	1%	1%	0%	1%	0%	0%	1%	0%	2%	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 (52% as at year-end 2021 compared with 54% as at year-end 2020).

¹¹ Due to rounding, values in the columns may not add up to 100%.

FIGURE 8: COMPONENTS OF OWN FUNDS¹¹

Basic own funds	AT	BE	DE	DK	ES	FR	GI	IE	IT	LU	NL	PL	RO	SE	UK	ALL
Ordinary share capital	2%	20%	3%	10%	14%	9%	4%	25%	10%	20%	2%	7%	52%	1%	23%	8%
Share premium account related to ordinary share capital	12%	9%	14%	1%	7%	6%	15%	5%	14%	31%	20%	9%	24%	1%	16%	12%
Surplus funds	2%	4%	0%	47%	0%	0%	6%	0%	0%	0%	0%	0%	0%	1%	4%	1%
Reconciliation reserve	85%	67%	82%	42%	79%	85%	75%	48%	76%	49%	78%	84%	24%	97%	56%	79%
Other basic own funds	0%	0%	0%	0%	0%	0%	0%	22%	0%	0%	0%	0%	0%	1%	1%	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	100%	0%	3%	0%	0%	0%	0%	0%		66%	100%			0%	70%	21%
Supplementary member calls	0%	100%	95%	0%	0%	100%	0%	0%		27%	0%			100%	0%	66%
Other ancillary own funds	0%	0%	2%	100%	100%	0%	100%	100%		7%	0%			0%	30%	13%

The UK experienced the largest movement in ancillary funds, with letters of credit and guarantees comprising 70% of ancillary own funds as at year-end 2021, compared with 100% as at year-end 2020, driven by approval of an ancillary own funds item for one of the largest companies (Royal & Sun Alliance).

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. Except for Denmark, Gibraltar, Ireland, Luxembourg, Romania and the UK, all countries have more than 70% of total assets in investments, as can be observed in Figure 9, below. These countries with lower percentages of assets in investments, with the exception of 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 66% as at year-end 2021 (compared with 65% as at year-end 2020), and the proportion of reinsurance recoverables over total assets would be 19% as at year-end 2021 (identical to the figure as at year-end 2020).

FIGURE 9: PROPORTION OF ASSETS IN INVESTMENTS AS AT YEAR-ENDS 2020 AND 2021

	AT	BE	DE	DK	ES	FR	GI	IE	IT	LU	NL	PL	RO	SE	UK	ALL
Year-end 2020	76%	73%	81%	59%	77%	77%	57%	42%	82%	50%	76%	87%	69%	83%	42%	73%
Year-end 2021	76%	72%	79%	57%	76%	78%	56%	42%	81%	53%	77%	86%	69%	83%	42%	72%

FIGURE 10: PROPORTION OF REINSURANCE RECOVERABLES OVER TOTAL ASSETS AS AT YEAR-ENDS 2020 AND 2021

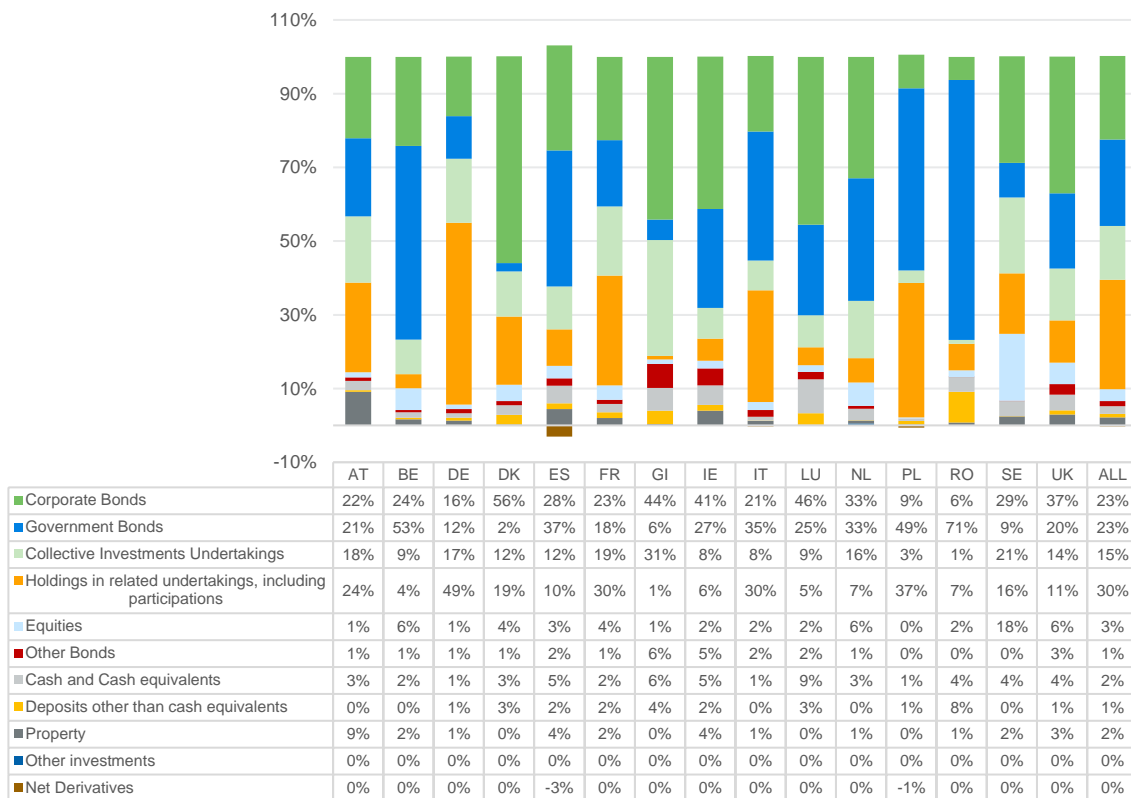
	AT	BE	DE	DK	ES	FR	GI	IE	IT	LU	NL	PL	RO	SE	UK	ALL
Year-end 2020	2%	2%	7%	1%	6%	7%	32%	34%	2%	25%	5%	6%	11%	5%	12%	7%
Year-end 2021	3%	2%	9%	1%	6%	7%	34%	34%	2%	25%	5%	6%	12%	6%	12%	8%

For the UK, the deposits to cedants make a substantial proportion of the assets (37% as at year-end 2021 compared with 36% as at year-end 2020) and relate almost exclusively to Aviva International Insurance Limited, which acts as an internal reinsurer for various companies within the Aviva Group. With Aviva International Insurance Limited omitted, the proportion reduces to a negligible figure just over 0%.

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 the regular payment streams, which complement duration-matching strategies, reduced volatility and the associated capital requirements relative to equities.

Germany is the exception to this in that holdings in related undertakings dominate the balance sheets and, in aggregate, make up 49% of the total investments, identical to the proportion as at year-end 2020.

FIGURE 11: INVESTMENT BREAKDOWN, AGGREGATED BY COUNTRY



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 77% of the total liabilities in aggregate, which is identical to the figure as at the 2020 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 (39% as at year-end 2021, slightly lower than the equivalent figure of 42% at year-end 2020). We note that non-life liabilities only comprise greater than 50% for seven countries in our sample. Countries which have a higher proportion of life liabilities generally contain more composite insurers in our sample.

FIGURE 12: SPLIT OF LIABILITIES BY COUNTRY

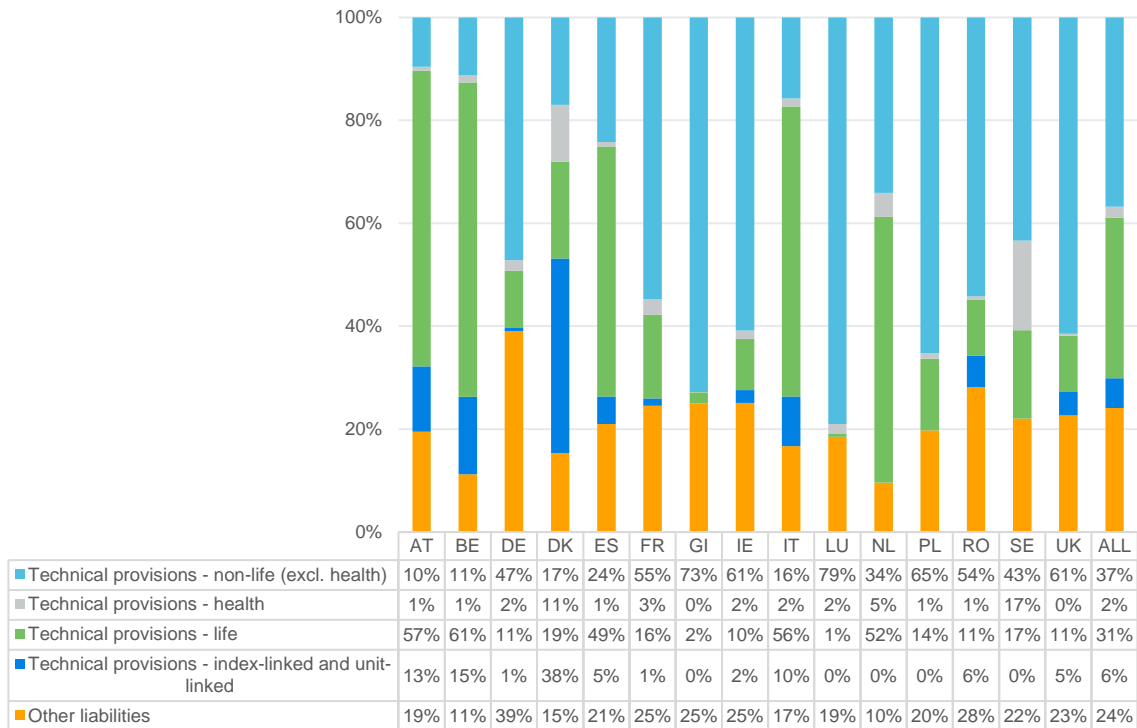


Figure 13, below, illustrates the split of gross non-life technical provisions across the 15 European countries analysed as at the 2021 year-end. In Figure 13, below, we include all companies that were available on Solvency II Wire (1,256 companies versus the 769 companies in our sample) to ensure that 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 79% of the non-life technical provisions, slightly lower than the 80% as at the 2020 year-end.

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

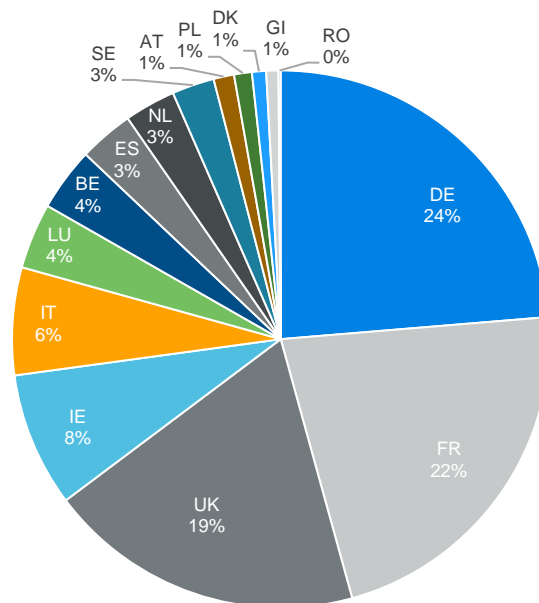
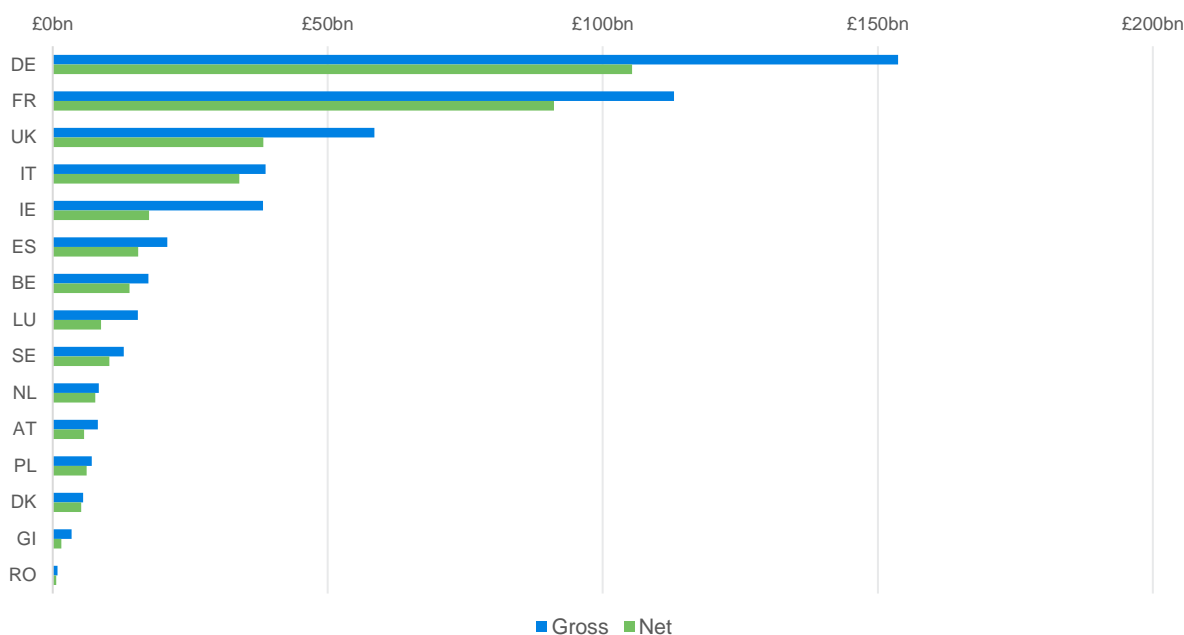


Figure 14, below, shows the non-life technical provisions, both gross and net of reinsurance, for each country as at the 2021 year-end.

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



As at the 2021 year-end, the 769 insurers included in our sample have £502 billion of non-life technical provisions, gross of reinsurance, and £362 billion, net of reinsurance. The equivalent figures as at year-end 2020 were lower at £470 billion¹² and £347 billion, respectively. The largest absolute increase, gross of reinsurance, was observed in Germany, with the technical provisions increasing by £15 billion (10.9%), driven by movement in the largest companies in terms of GWP. In relative terms, the largest increase, both gross and net of reinsurance, was observed in Denmark, with the gross and net technical provisions increasing by approximately £3 billion (147%), driven by a new company in our sample (Tryg Forsikring A/S) as at year-end 2021, which has GWP of just under £3 billion (on 1 June 2021, Tryg completed the acquisition of RSA Insurance Group plc together with the Canadian insurer Intact).

Figure 15, below, shows how the proportions have moved over the past five years. We observe that the most noticeable movements have been in the Motor Vehicle Liability, Fire, and Non-Proportional (NP) Property classes.

- The proportion of Motor Vehicle Liability technical provisions has reduced from 29.9% as at year-end 2017, to 27.4% as at year-end 2020, decreasing to 25.8% as at year-end 2021. This is primarily driven by COVID-19, and the restrictions that were imposed, as the volume of claims reported to insurers decreased (and hence the technical provisions decreased) following reduced road usage. The COVID-19 restrictions have led to behavioural changes (e.g., changes to driving habits), which has meant that road usage generally remains below pre-pandemic levels.
- The proportion of Fire technical provisions has grown from 15.8% as at year-end 2017, to 17.9% as at year-end 2020, increasing to 19.6% as at year-end 2021. This is mainly driven by the severe weather losses that impacted Europe over the past year. The Netherlands was impacted by snowstorm Darcy in early 2021 and flooding in Limburg, while Belgium insurers were impacted by heavy rainfall and flooding in the south-eastern part of the country. Heavy rainfall also impacted parts of Luxembourg and Germany, which was caused by the Bernd, Volker and Wolfgang weather systems.
- The proportion of NP Property technical provisions has grown from 1.9% as at year-end 2017, to 2.4% as at year-end 2020, increasing to 3.5% as at year-end 2021, for reasons similar to Fire, above.

¹² For comparison purposes, the 2020 year-end gross and net of reinsurance technical provisions have been converted using currency exchange rates as at year-end 2021.

From Figure 15 we also note that the liability lines of business account for 52% of insurers' total non-life technical provisions, slightly lower than the equivalent figure as at year-end 2020 (55%).

FIGURE 15: NON-LIFE (INC. HEALTH SIMILAR TO NON-LIFE) GROSS TECHNICAL PROVISIONS BY LINE OF BUSINESS AS AT EACH YEAR-END 2017-2021

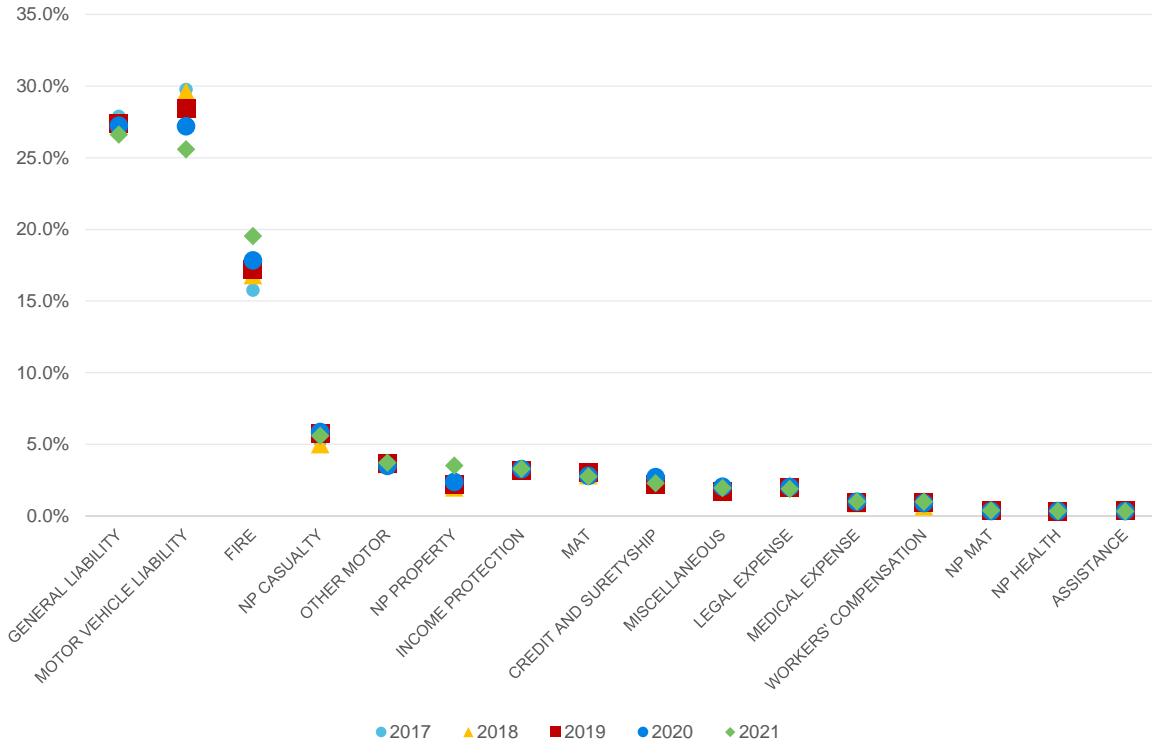
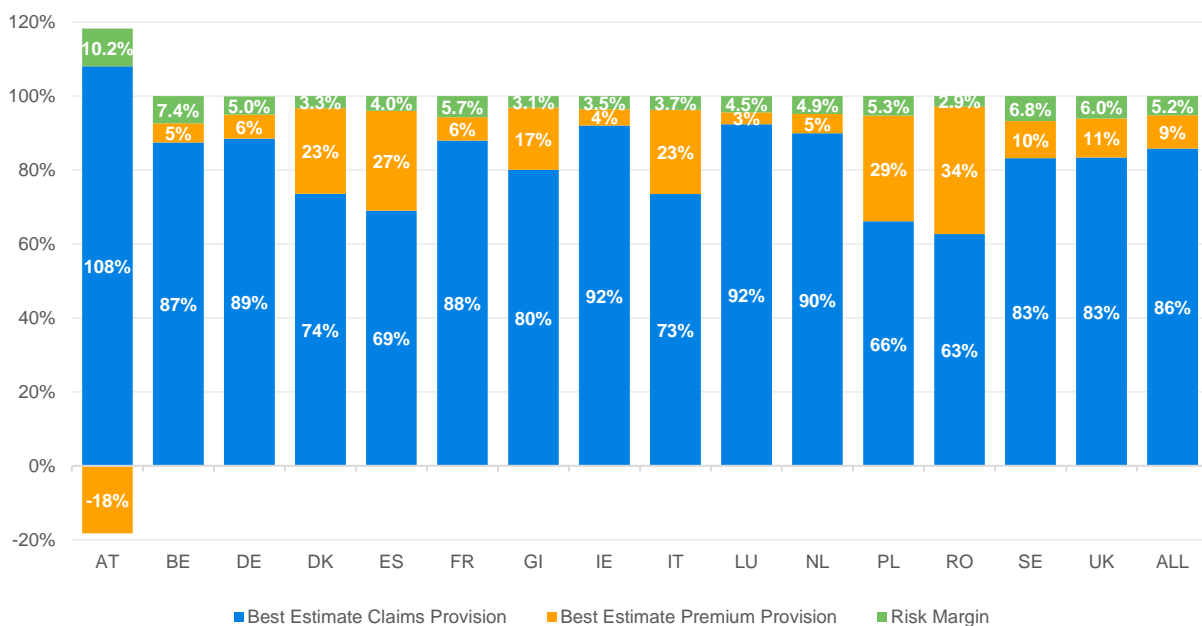


Figure 16, below, shows the composition of the non-life technical provisions across the 15 countries as at the 2021 year-end. We observe that, in aggregate, claims provisions make up 86% of the gross technical provisions (slightly higher than the equivalent figure reported as at the 2020 year-end, 85%).

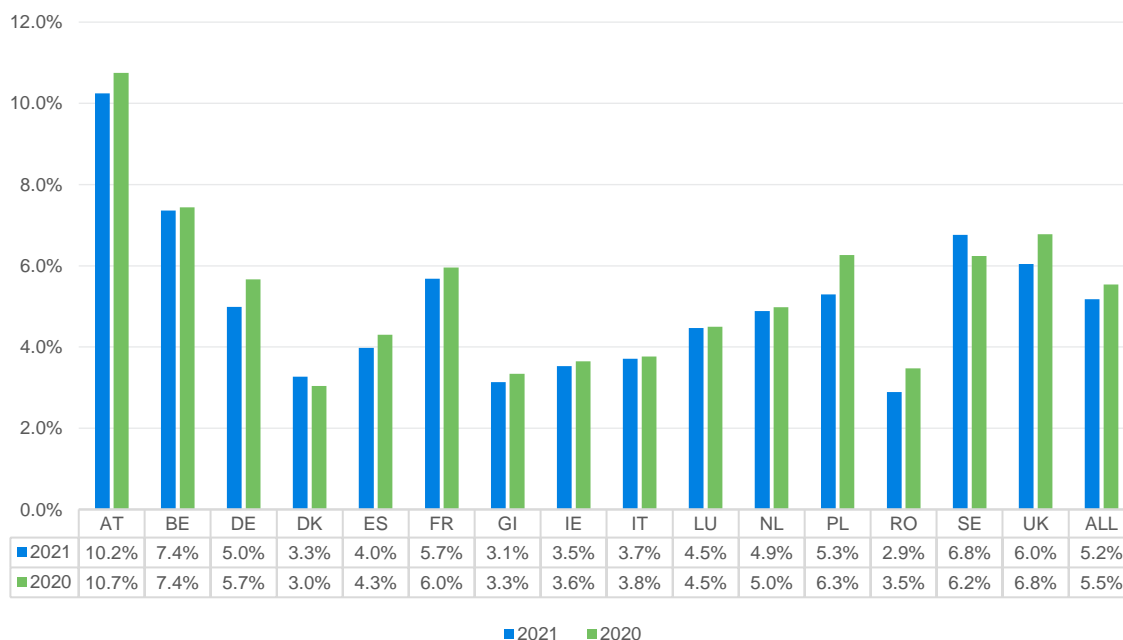
FIGURE 16: COMPONENTS OF NON-LIFE (INC. HEALTH SIMILAR TO NON-LIFE) NET TECHNICAL PROVISIONS



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 higher-than-average proportions in Denmark, Italy, Poland, Romania and Spain.

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 2020 and 2021 year-ends.

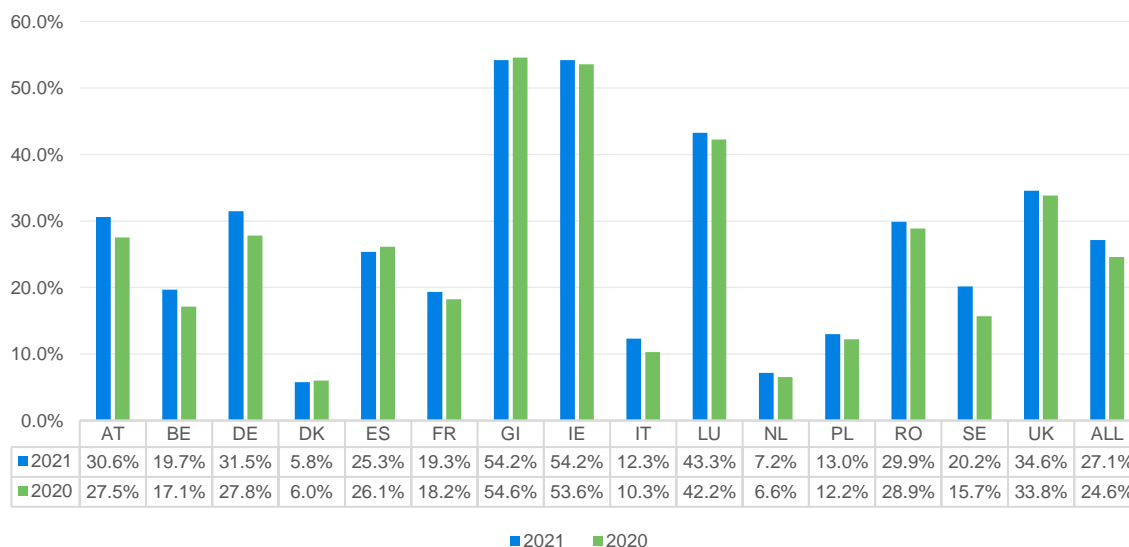
FIGURE 17: RATIO OF RISK MARGIN TO GROSS TECHNICAL PROVISIONS BY LINE OF BUSINESS AS AT YEAR-ENDS 2020 AND 2021



We note that, for more than half of the countries in our sample, the risk margin has decreased from year-end 2020 to year-end 2021, with the largest decreases seen in Germany, Poland and Romania. Indeed, 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. The lower proportion in Romania could be driven by the higher risk-free rates compared with 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.

Figure 18, below, shows how the reinsurance recoverables as a proportion of the gross technical provisions across all countries in our sample has changed between the 2020 and 2021 year-ends. We observe that, for the majority of the companies in our sample, the proportions have increased, with Sweden, Germany and Austria experiencing the largest increases (4.5%, 3.7% and 3.1%, respectively). Germany and Austria were both impacted by significant claims from weather events, with the NP Property and the NP Casualty classes particularly affected in Germany, as described below. A large insurer in Sweden also commented that the largest losses during 2021 emanated from storms and flooding in Europe, Hurricane Ida and flooding in the Henan province in China, with reinsurance recoverables in the Fire line of business increasing significantly when compared with 2020.

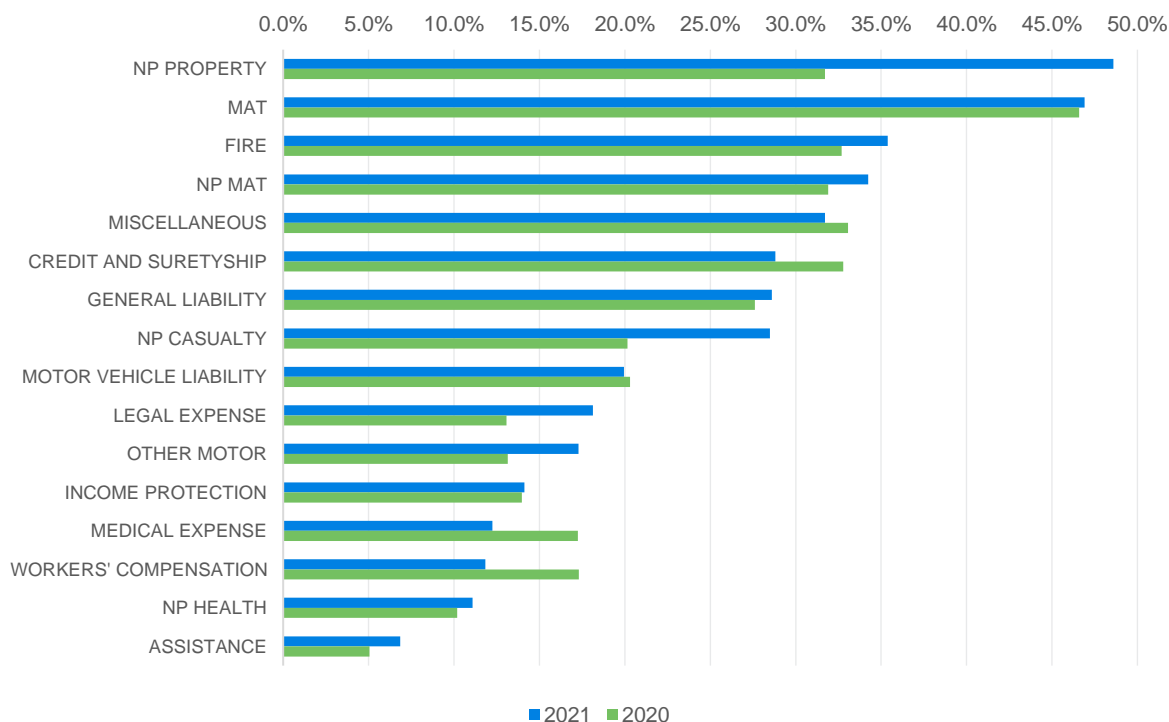
FIGURE 18: REINSURANCE RECOVERABLES AS A PERCENTAGE OF GROSS TECHNICAL PROVISIONS BY COUNTRY AS AT YEAR-ENDS 2020 AND 2021



The countries with the highest proportional usage of reinsurance are Gibraltar and Ireland (54% for both). This is similar to the position as at year-end 2020, with the ceded proportions being almost identical for both. The significant proportion of reinsurance in Ireland is driven by the high number of major players 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 2020.

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 2020 and 2021 year-ends.

FIGURE 19: REINSURANCE RECOVERABLES AS A PERCENTAGE OF GROSS TECHNICAL PROVISIONS, BY LINE OF BUSINESS AS AT YEAR-ENDS 2020 AND 2021



We note that, for more than half of the classes, the ceded level of reinsurance has increased from year-end 2020. We note in particular:

- NP Property increased from 31.7% as at year-end 2020 to 48.6% as at year-end 2021, mainly driven by movement in Germany (a 10.9% increase over the year) due to losses from natural catastrophes in 2021. The NP Property class was impacted by significant flooding in Germany caused by the Bernd and Volker weather systems. General Reinsurance AG commented that Volker was an event within the expected range of industry modelled scenarios, but this was not the case for Bernd, which may turn out to be the largest natural catastrophe in the history of Germany.
- NP Casualty increased from 20.1% as at year-end 2020 to 28.5% as at year-end 2021, mainly driven by movement in Germany (an 8.2% increase over the year). General Reinsurance AG commented that the NP Casualty class was heavily impacted by catastrophe events, including the European floods. Allianz SE also noted that the reinsurance business was heavily impacted by damage claims attributable to natural catastrophe events.

ANALYSIS OF UNDERWRITING

As noted above, in the Introduction, in 2021 our sample of European non-life insurers wrote almost £369 billion of non-life premiums, gross of reinsurance (more than £275 billion, net of reinsurance). This compares with £339 billion¹³ of non-life premiums, gross of reinsurance, and £254 billion net of reinsurance as at year-end 2020. Figure 20, below, shows the non-life GWP and NWP for each country for 2021.

FIGURE 20: 2021 GROSS AND NET NON-LIFE WRITTEN PREMIUMS BY COUNTRY

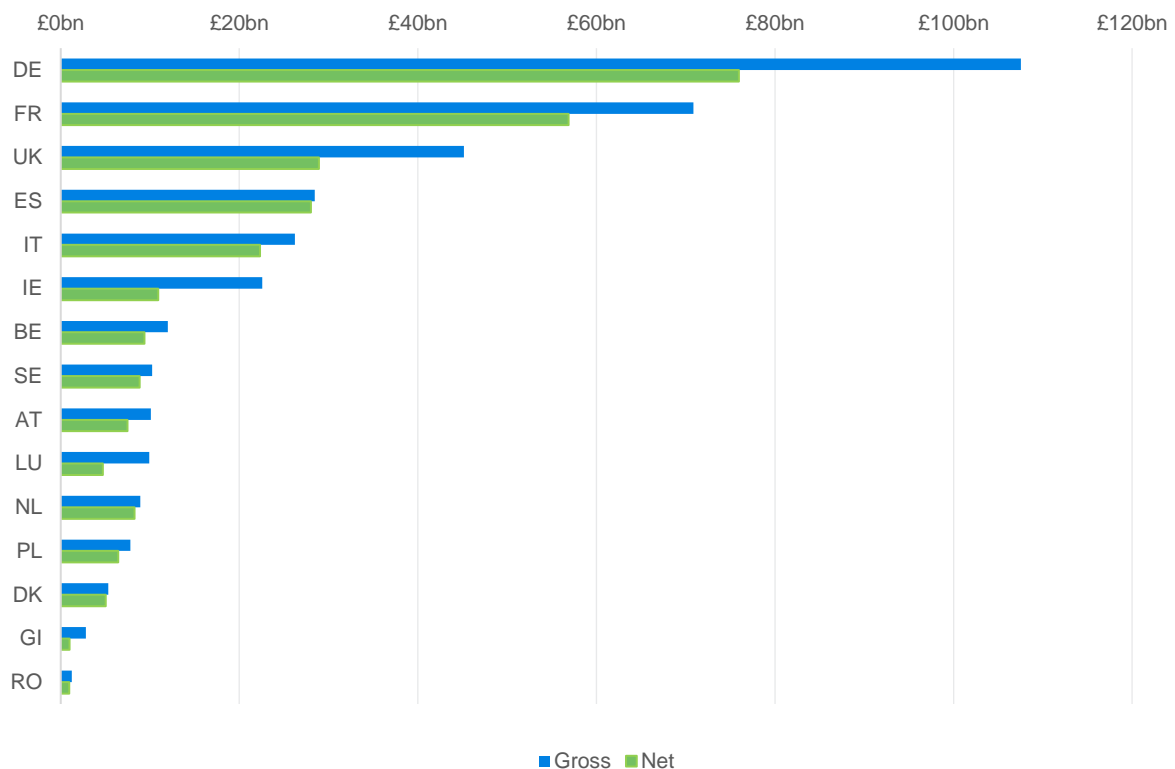
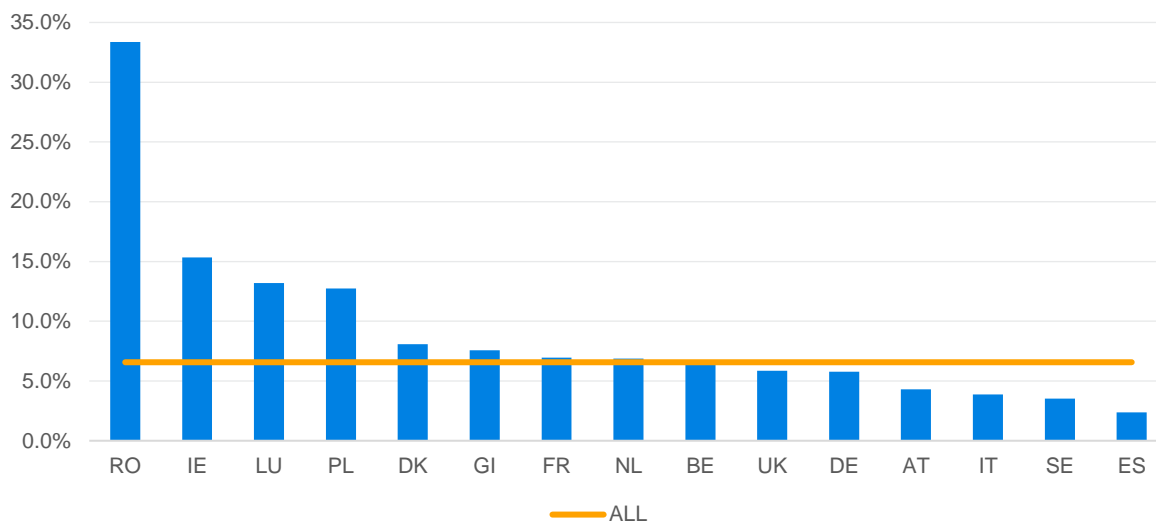


Figure 21, below, shows the change in non-life GWP between 2020 and 2021. We observe that all of the 15 countries experienced an increase in GWP between 2020 and 2021. We note that the growth for Romania is over 30%, mainly driven by two companies, but, within our sample of 15 countries, Romania has 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.

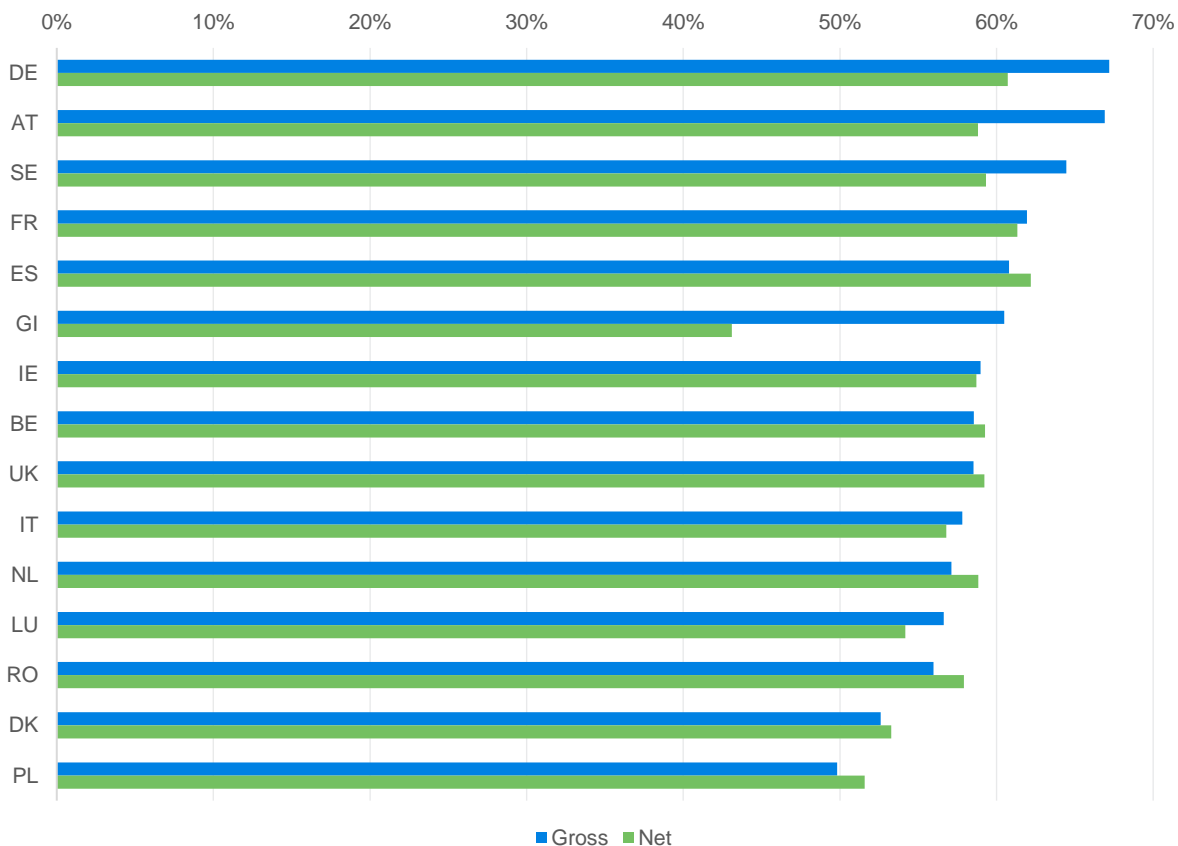
¹³ For comparison purposes, the 2020 year-end gross and net of reinsurance premiums have been converted using currency exchange rates as at year-end 2021.

FIGURE 21: 2020-2021 GROWTH IN NON-LIFE (INC. HEALTH SIMILAR TO NON-LIFE) GROSS WRITTEN PREMIUMS BY COUNTRY¹⁴



In Figure 22, below, we show the loss ratios (incurred claims / premiums earned), both gross and net of reinsurance, by country for the 2021 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



¹⁴ For this chart we have only included companies where we have SFCRs in both 2020 and 2021—this is a total of 737 companies.

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.

FIGURE 23: GROSS LOSS RATIOS BY COUNTRY FOR YEAR-ENDS 2018-2021

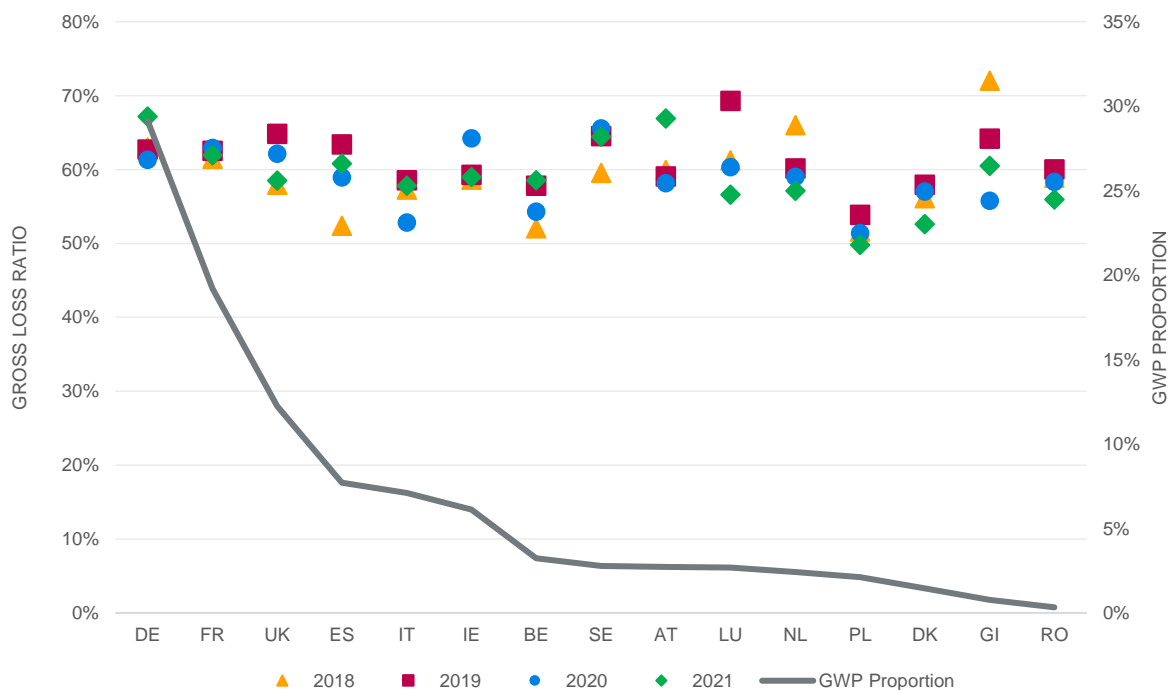
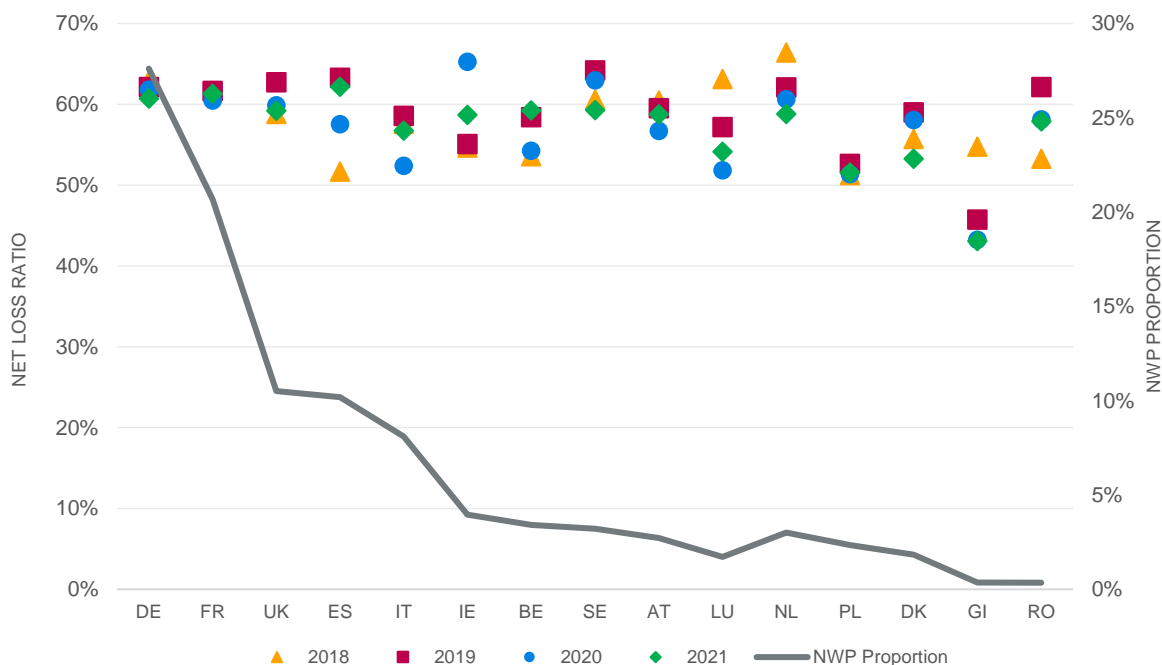


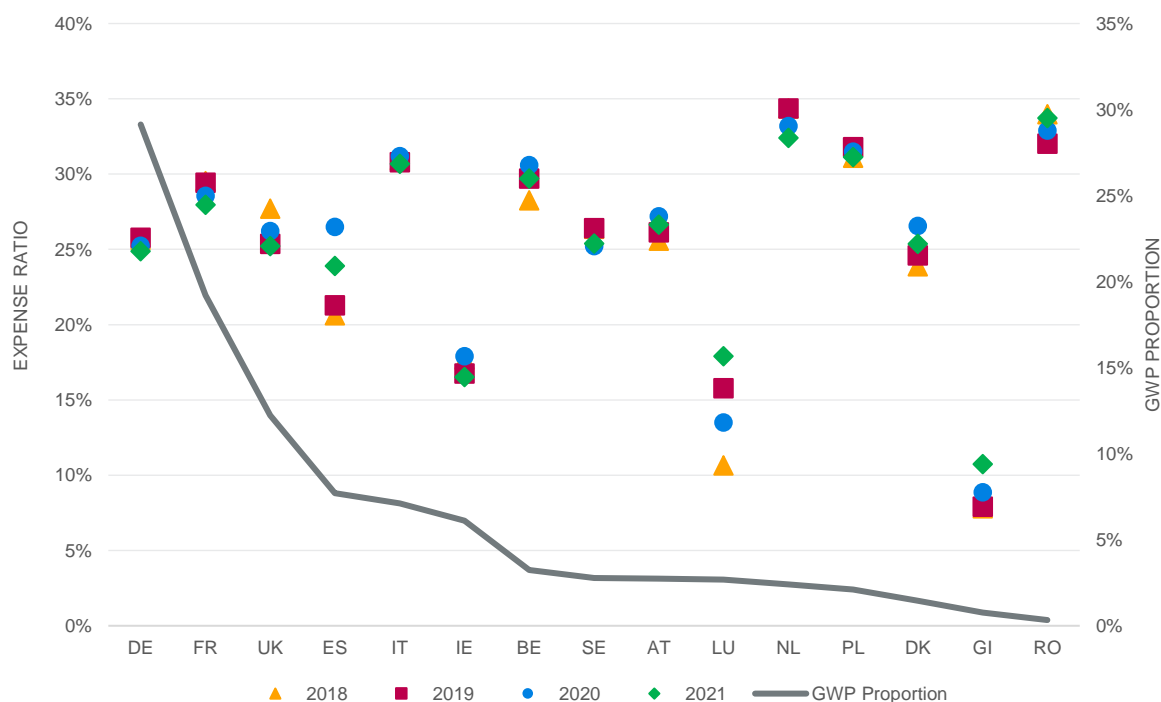
FIGURE 24: NET LOSS RATIOS BY COUNTRY FOR YEAR-ENDS 2018-2021



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 Ireland and Romania), 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 2018-2021



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 Spain's and Luxembourg's experience have been more volatile than that of the other countries.

Figure 25 also shows that the expense ratios are generally between 25% and 35% for all of 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%).

Figure 26, below, shows the average operating margin for each country between the 2018 and 2021 year-ends. We defined the operating margin as $(\text{net earned premium} - \text{net claims incurred} - \text{expenses incurred}) / (\text{gross earned premium})$. 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 2018-2021

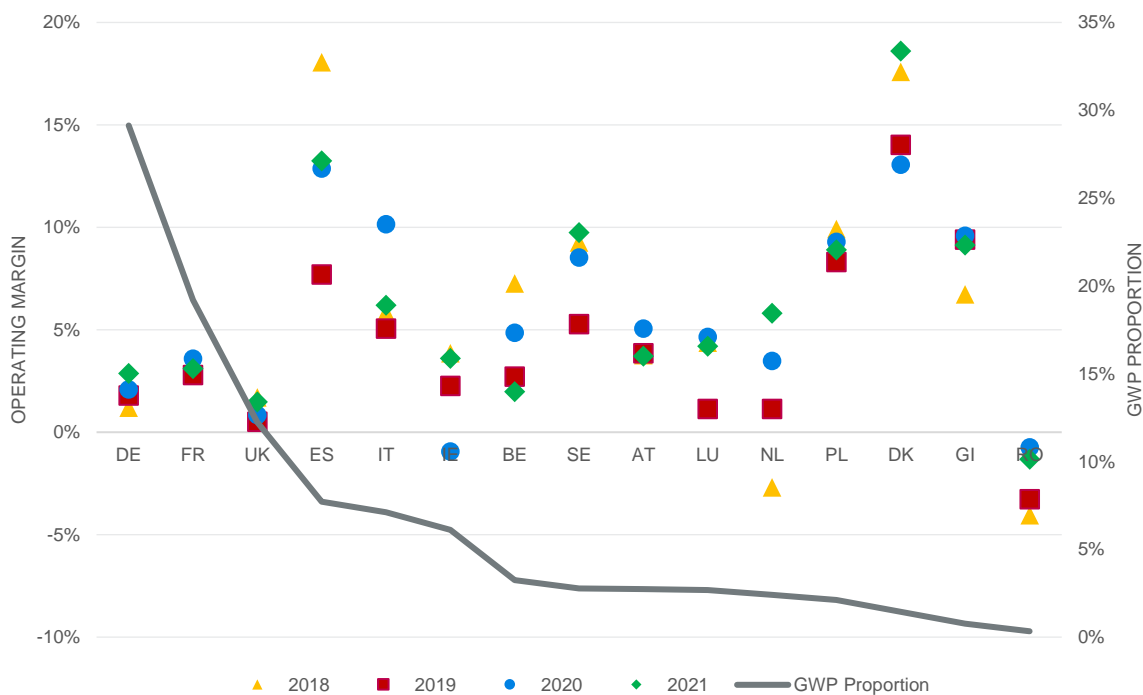


Figure 26 demonstrates that, in most years and in most of the 15 countries, the non-life business, in aggregate, has been operating profitably. We note that, in general, the profit margins in the largest markets are small, reflecting intense market competition.

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