

# FINANCIAL STABILITY REPORT

December 2023

EIOPA-BoS-23-532  
11 December 2023

# CONTENTS

<b>Foreword by the Chairperson</b>	<b>3</b>
<b>Key Developments and Risks</b>	<b>6</b>
<b>Topical Focuses</b>	<b>11</b>
<b>1. Recent Developments in the Liquidity Positions of Insurers</b>	<b>12</b>
<b>2. Evolution of the Asset Allocation of Insurers in an Environment of Rising Interest Rates</b>	<b>27</b>
<b>3. Increases in Interest Rates and the Liquidity Needs of IORPs on Interest Rate Derivatives</b>	<b>34</b>
<b>4. Past Recessions and Insurance Business</b>	<b>42</b>
<b>A.1. Results of the Questionnaire to National Competent Authorities</b>	<b>50</b>
<b>A.2. Statistical Annex</b>	<b>53</b>
<b>A3. Annexes for the Topical Focus “Recent Developments in the Liquidity Position of Insurers”</b>	<b>58</b>

## FOREWORD BY THE CHAIRPERSON



It sometimes feels like we are living in a period of permanent crisis.

Geopolitical tensions are at a level not seen for many years. We now have two wars, one in Ukraine and the other one in the Middle East, leading to suffering and uncertainty. Observers see the United States and China in the “Thucydides Trap” where the rivalry between an existing and a rising power leads finally to War. With COVID the World experienced recently the first global pandemic for many decades. In several EU Member States we see increasing fragmentation and polarisation. We also see more and more manifestations of climate change. Finally, inflation reached levels many knew only from books and interest rates rose with unprecedented speed while the outlook for economic growth is overshadowed by poor demographics and a winding back of globalisation.

As our aim is to foster financial stability and confidence in the insurance and pensions markets, EIOPA is closely monitoring the relevant developments and threats. But in all this we should not get too gloomy and forget what has been achieved.

27 Countries with around 448 million citizens have formed the European Union. Among its aims are to promote peace and the well-being of its citizens and to offer freedom, security and justice. One illustration that these efforts have had some success is the fact that the EU is one of the World regions with the highest Human Development Scores assigned by the United Nations Development Programme.

The EU insurance and pension sectors with combined investments in excess of 10 tn. EUR help to achieve these aims by allowing citizens and companies to protect against biometrical, physical and other risks and to build up retirement savings. EIOPA seeks to protect the public interest by contributing to the short-, medium- and long-term stability, effectiveness and sustainability of the financial system with the focus on insurers and pension funds. The activities of EIOPA that contribute to financial stability include:

- Development of tools like the natural catastrophe dashboard to help measure and close protection gaps and promotion of climate-related adaptation measures in non-life underwriting practices.
- Recommendation for the development of pension tracking systems to provide information to consumers that helps them make better decisions about their long-term savings as well as work on pension dashboards that provide accessible data in one place.

- Work to enhance cyber resilience like the production of draft Regulatory Technical Standards and Implementing Technical Standards for the Regulation regarding digital operational resilience (DORA).
- Regular publication of the EIOPA Risk Dashboard which allows to track the development of a comprehensive set of risk indicators for the EEA insurance sector over time.

In 2024 EIOPA will focus its financial stability activities on stress test and scenario analyses. In parallel with the Fit-for-55 cross financial sector climate scenario analysis, EIOPA will run its regular EU-wide insurance stress test exercise. It will test the resilience of the capital and liquidity positions for European insurers in an adverse economic scenario with higher yields and inflation. As the transparency of the exercise and its results remains paramount, EIOPA will pursue in cooperation with the industry the publication of individual results.

The complex and volatile environment poses challenges for the people working to reduce the risks to financial stability in the European Union. I think two elements can help us to cope with these challenges:

First, we have to constantly monitor new and emerging risks and can never take things for granted. An example is the case of Silicon Valley Bank in the first months of 2023 where social media might have contributed to a bank run. Another case were the events around LDI funds in the UK in 2022 where the volatility in the sovereign debt market reached levels that are more typical of a developing country. Finally, there are geopolitical tensions which might break out at any moment in unexpected areas.

Second, we have to take a broad, holistic perspective on risks to financial stability. An example are protection gaps. Climate change may make certain risks uninsurable. But this is not only a consumer protection concern but might also have impacts on the wider economy and thus on financial stability if uninsured losses after a natural catastrophe inhibit the reconstruction. A second example are pension gaps. Savings products with exorbitant fees are not only a concern from a consumer protection perspective. The resulting lower wealth of future retirees increases also the risk of conflicts about the distribution of resources and thus the risk of societal and political instability.

In addition to an overview of the risks currently facing insurers and pension funds like higher interest rates and inflation this edition of the EIOPA Financial Stability Report provides deep dives for several topics: 1. The development of the liquidity position of insurers. 2. observed and potential changes in the investment behaviour of insurers in the new interest rate environment 3. the liquidity needs for IORPs resulting from interest rate derivate positions during the period of rapidly rising interest rates in 2022 and 4. the impact of past recessions on insurers and possible lessons for the next recession.

So far, the insurance and pension funds sectors in the EU have proved to be quite robust. We do not have a crystal ball to know whether this will remain the case in future. But you can be confident that we will continue to pursue with all our energy our mission to preserve a robust insurance and pension industry to the benefit of all European citizens.

**Petra Hielkema**

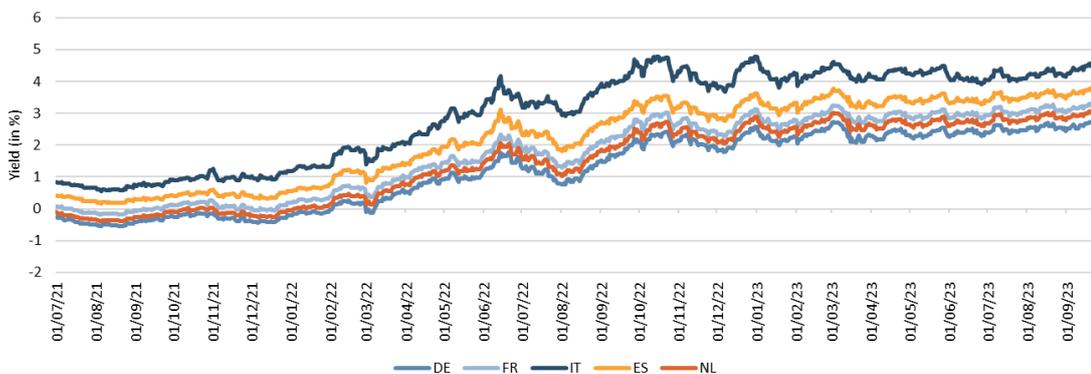
## KEY DEVELOPMENTS AND RISKS

2022 brought seismic shifts in both the geopolitical and economic sphere. These changes persisted in 2023. This poses considerable challenges to insurers and pension funds which they have tackled so far well.

**No end in sight for the war in Ukraine.** The Russian invasion of Ukraine continues to exert its toll in human lives and suffering. This act of aggression has shattered long-held beliefs about geopolitical stability in Europe. Although the effects of the supply shock on energy prices is still felt, the immediate concerns about Europe running out of energy have receded. The direct effects on EEA insurers and pension funds in terms of their exposures have been so far quite limited.

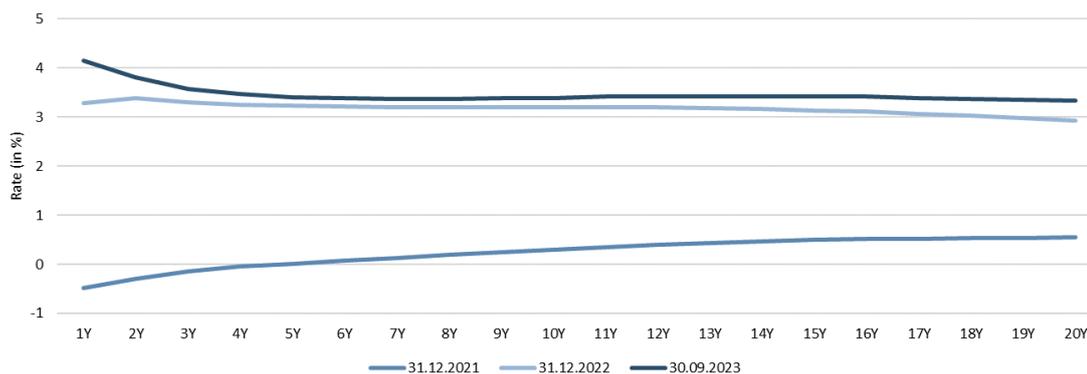
**Globally, interest rates were in a downward trend since the early 1980s. This trend has now decidedly reversed (Figure 1).** Yields for 10-year German government bonds rose swiftly from -0.18 % at the beginning of 2022 to 2.56 % at the end of that year and to 2.84 % in early October 2023. This has been mirrored by an increase in the EIOPA Risk Free Rates which have a significant impact on the value of technical provisions and therefore the own funds of insurers. The 20-year Risk Free Rate for the Euro increased from 0.46 % at the end of 2021 to 2.77 % at the end of 2022 and to 3.21 % in September 2023. The spreads on EU sovereign bonds expanded in 2022 but have not changed much since then. Based on the Euro yield curve, markets do currently not expect a return to the period of low yields (Figure 2). The exit from the long period of low rates means also heightened uncertainty about their future path.

Figure 1: Yields of 10-year Eurozone Governments Bonds



Source: Refinitiv, cut-off date 30/09/2023

Figure 2: Euro Swap Rates



Source: Refinitiv

**It is hard to overstate the importance of the changing interest rate environment for insurers (particularly life) and pension funds.** Interest rates define the time value of money and the insurance and pension business is about paying premiums and contributions now to receive claims and benefit payments in the (sometimes distant) future. The new environment affects insurers and pension funds through different mechanisms.

**Insurers and pension funds are large holders of fixed income instruments.** In the longer term, higher interest rates are positive for them as funds can be invested with higher returns. But in the meantime, insurers and pension funds have to digest substantial losses on their existing fixed income investments. These are at least partially offset by substantial drops in the present value of future payments to policyholders and beneficiaries due to higher discount rates. The assets of EEA IORPS dropped for example by EUR 362 bn in 2022 while their technical provisions were EUR 294 bn lower.

**An open question is how investment behaviour will change.** During the low yield environment insurers and pension funds increased their allocation to alternative investments. This might reverse now that more conventional investments like government bonds have significantly higher yields. The topical focus on the investment behaviour of insurers finds so far no indications for a reversal. It also evaluates whether insurers are locking-in the higher rates by increasing their allocation to bonds with long maturities.

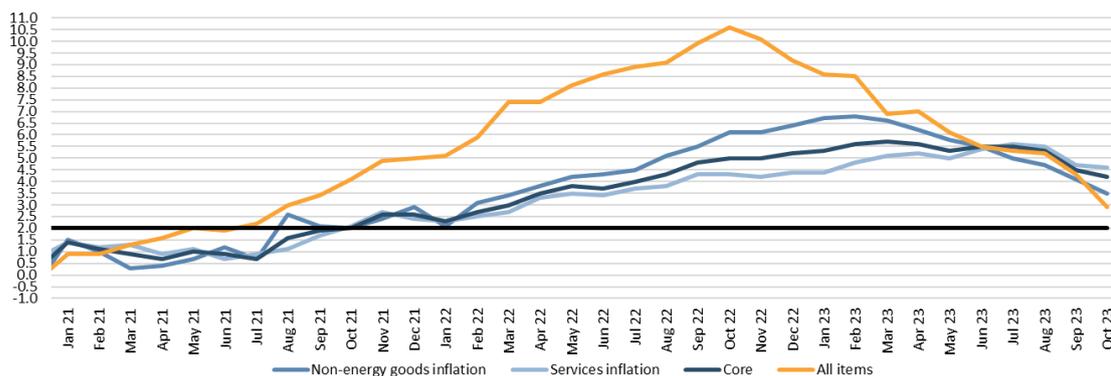
**Insurers and pension funds are also affected by rising and more volatile interest rates as they use interest rate derivatives.** Rising rates trigger calls for additional cash variation margin. The events in the UK in 2022 illustrated the detrimental effect of sudden large collateral calls on pensions funds when rates suddenly spiked. The topical focus on variation margin and their funding shows that EEA IORPS received substantial margin calls when rates rose in the first three quarters of 2022 and analyses which investments they sold in response. This complements a similar analysis for insurers published in the December 2022 EIOPA Financial Stability Report.

**The changing interest rate environment also affects the competitive position of traditional life business.** New customers might decide to buy non-insurance investment products instead of the offerings by life insurers with their existing portfolios of low yielding bonds. Existing policyholders may surrender their contracts. The growth in Gross Written Premiums (GWP) for life business in

2021 turned negative in 2022 with no meaningful reversal in 2023 so far. Surrender values relative to GWP showed only a slight increase in 2022.

**The second large shift was the return of inflation. After a long period of moderate price increases, it reached levels not seen in decades (Figure 3).** Since inflation peaked in late 2022 with an annualized rate of approximately 19 %, it has dropped but is still considerably above the inflation targets of central banks. So far markets expect a further drop in inflation as the break-even rates for inflation-linked Bunds with a remaining maturity of 2.5 (6.5) years were at 2.19% (2.29 %) at the end of September.

Figure 3: Eurozone Inflation and Main Components



Source: ECB, cut-off date September 2023

**Higher prices mean increased costs for claims as well as for the operations of insurers.** The rise in non-life GWP of 11% in 2022 could not offset the growth in claims and expenses so that the Gross Combined Ratio increased.

**Higher geopolitical uncertainty, rising interest rates and lower real disposable incomes were not helpful for economic growth.** After a strong COVID rebound in 2021 with 5.4 % real GDP growth the EU grew still by 3.3 % in 2022. In the first six months of 2023 economic output increased only by 0.2%. In its European Economic Forecast Autumn 2023 the European Commission projects 0.6 % growth in 2023 and 1.3 % in 2024.<sup>1</sup> A positive remains the record low unemployment rate in the EU with 5.9 % in July 2023.

**A recession in the next months seems a real possibility.** The economy has slowed down and further rising rates might be a headwind for the economy. At the same time central banks might not be able to cut interest rates as decisively as in past recessions due to the inflationary pressures. The topical focus on past recessions looks at the behaviour of financial markets and profitability measures for insurers during past recessions and explores whether any lessons can be drawn for a possible future recession.

**Lower growth prospects and higher interest rates also affect the value of risky assets like equities, real estate and corporate bonds.** Companies have to cope with higher refinancing costs. At the end of September 2023, the option adjusted spreads for BBB Euro corporates were lower

<sup>1</sup> [Autumn 2023 Economic Forecast: A modest recovery ahead after a challenging year \(europa.eu\)](https://ec.europa.eu/economy_finance/autumn-2023-economic-forecast-a-modest-recovery-ahead-after-a-challenging-year_en)

than at the start of the year but considerably higher than in January 2022. After a prolonged rise, real estate prices peaked in 2022 with continued decreases in 2023.

**A medium to long term concern for financial stability is the pensions gap.** From Q1 2022 to Q1 2023 real wages in most European countries dropped, in many cases substantially, as wage increases were not sufficient to compensate for higher prices.<sup>2</sup> At the same time, inflation eroded the value of nominal assets like bonds.

**Liquidity risks have come relatively recently into the focus of insurance and pension funds supervisors.** The UK Gilt crisis was a recent example and the turmoil around the US regional banks and Credit Suisse in spring 2023 underscores the risk of a sudden loss of confidence and rapid contagion. The new environment has arguably increased liquidity risks. The topical focus on liquidity sets out these risk factors, looks at how the liquidity positions and cash flows of insurers have developed and how they were affected by margins on derivatives and inflation.

**A bright spot in all the uncertainty has been the robust solvency position of insurers and IORPS which allows them to absorb shocks.** The median SCR ratio for solo life undertakings improved from 227 % at the end of 2021 (228 % at YE 2022) to 243 % in Q2 2023 (Figure 4). The SCR ratio for the median solo non-life undertaking moved from 211% at the end of 2021 (215 % at YE 2022) to 214 % in Q2 2023. The median SCR ratio for solo reinsurers dropped from 234% at the end of 2021 (223% at YE 2022) to 213% in Q2 2023. The funding ratio of EEA Defined Benefit IORPs dropped slightly from 119 % to 118 % in 2022 followed by an upward move in the first two quarters of 2023 (Figure 5).

Figure 4: SCR Ratios by type of undertaking

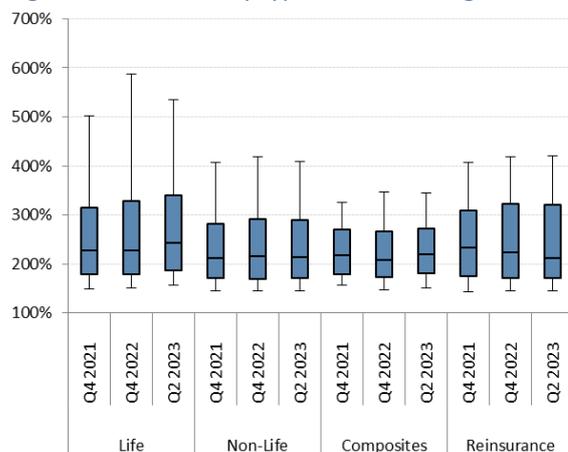
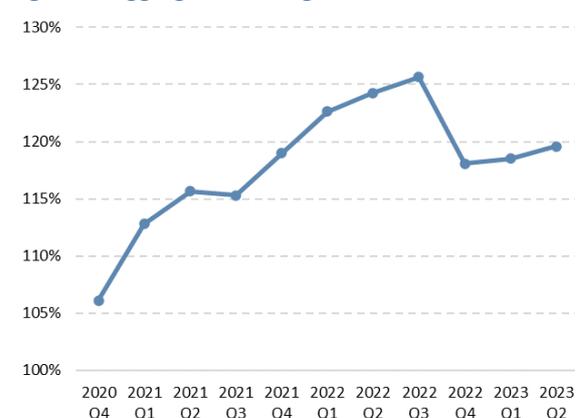


Figure 5: Aggregate Funding Ratio for DB IORPs



Source: SII Quarterly Reporting Solo and Occupational Pension Statistics, Q2 2023

**The stocks of listed European insurers included in the Stoxx Europe 600 Insurance Index have not moved much since the end of 2021 and CDS spreads are only slightly higher.** At the end of September 2023, the price-to-earnings ratio based on current earnings was around the January level (14.04 x vs. 13.89). The median CDS spread of insurers surged significantly during 2022 but is now only slightly higher than at the end of 2021.

<sup>2</sup> <https://www.oecd.org/newsroom/oecd-job-markets-remain-tight-though-inflation-is-hitting-real-wages.htm>

**The recurring droughts and fires across Europe in the summer have almost become a sad normality.** The risks of climate change for insurers and pension funds remain a key priority of the EIOPA work.

**Cyber-attacks are on a growing trend and concerns about a possible hybrid geopolitical conflict remain.** The supervisory assessment of digitalisation and cyber risks increased in the first half of 2023.

# TOPICAL FOCUSES

# 1. RECENT DEVELOPMENTS IN THE LIQUIDITY POSITIONS OF INSURERS

*Recent events like the COVID-19 pandemic, the 2022 UK gilt crisis, and the 2023 US regional bank turmoil have underscored the importance of considering liquidity risk in the insurance sector. The changing economic environment with higher inflation and rising interest rates may lead to unexpected cash outflows (e.g., due to more lapses) and cash inflows below forecast and thus the need for insurers to manage their liquidity position more actively. This topical focus examines the evolution of the liquidity positions of European insurers based on the ad-hoc information from the EIOPA Liquidity Monitoring Exercise.*

## INTRODUCTION

**Historically, liquidity risk was never considered among the highest concerns for insurance supervisors.** This was due to the liability-driven business model of insurers that is typically characterised by an inverted production cycle<sup>3</sup> and by an asset allocation with large exposures to (highly) liquid securities.

**The perspective on liquidity risk changed as the result of the recent series of crises and adverse events such as the pandemic breakout, the 2022 Gilt crisis in the UK and the US regional bank turmoil in the first half of 2023.** The COVID-19 crisis raised concerns about cash outflows for health-related claims. The UK Gilt crisis in 2022 shed light on two key aspects: *i)* the liquidity implication of collateral needs resulting from hedging interest rate risks, and *ii)* the liquidity of asset classes (in the specific case long-term UK sovereign debt) has to be assessed taking into account the concentration of investment portfolios and the deepness of markets. The 2023 US regional bank turmoil provided a reminder for the risk of bank-runs and the potential occurrence of similar events in the insurance industry.

**While the European insurance industry navigated successfully through these crises, a new economic environment with stubbornly high inflation and increasing interest rates might generate liquidity strains in the technical flows and in the investment flows.** With respect to technical cash flows, lapses might increase due to the erosion in disposable income of lower income groups, or, for the wealthier parts, due to the reallocation of investments to opportunities perceived as more profitable outside of the insurance market. The same factors might also reduce the inflows from the underwriting of new business. Liquidity needs can also arise from the investment activities. Insurers, typically life-insurers, hedge with derivatives against the decrease in interest rates to limit the risks from the negative duration gap between their assets and

---

<sup>3</sup> Policyholders pay premiums upfront, and contractual payments are generally made only if and when an insured event has occurred.

liabilities. The increases in interest rates resulted in material margin calls<sup>4</sup> to insurers that had to be covered by cash, repo agreements or sales of liquid assets.

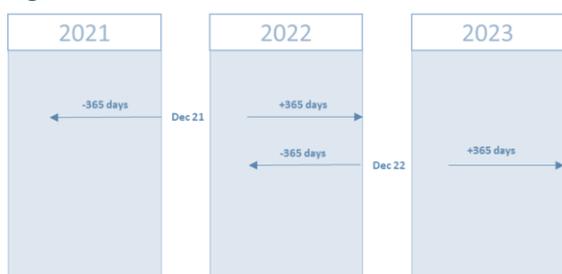
**This topical focus analyses the evolution of the liquidity positions of European insurance undertakings and attempts to answer the following questions:**

1. *Have the balance sheets of insurance undertakings deteriorated from a liquidity perspective?*
2. *What are the overall trends in terms of net cash flows and their technical and investment components?*
3. *What was the effect of claims payments, surrender payments and written premia on technical cash flows?*
4. *How significant were the different components of the investment cash flow of life insurers?*
5. *Did hedging with derivatives result in negative net cash flows?*
6. *Is the headline inflation increasing liquidity needs?*
7. *Can insurers sustain potential net-outflows?*
8. *How accurately did insurers estimate their liquidity needs in the current dynamic economic and market context?*

#### APPROACH AND DATA

**The methodology and data sources used for the analysis provide the foundation for a comprehensive understanding of the liquidity position of the participating insurers.** The analysis is based on the most recent set of information reported to EIOPA in the context of the Liquidity Monitoring Exercise that is in place since the Covid-19 pandemic. The unique dataset is collected by EIOPA from National Competent Authorities (NCAs) and contains a set of stock-based and actual/projected cash flow information covering the years 2021 (actual), 2022 (projected as reported at the end of May 2022), 2022 (actual) and 2023 (projected as reported at the end of May 2023) as shown in Figure T1.1.

Figure T1.1: Time horizon



**The reported data on stocks is based on Solvency II reporting while the data on cash flows is collected via an ad-hoc template.** Stock data is based on the Solvency II values for the assets (collateralised and non-collateralised) and on an ad-hoc breakdown of the Solvency II life technical

<sup>4</sup> See EIOPA (2023): Impact of Inflation on Insurance Sector. Page 62-63. Available at: [Impact of inflation on insurance sector](#).

provisions depending on the surrender options of the underlying contracts at year-end 2021 and 2022.<sup>5</sup> Cash flow data was collected with an ad-hoc template that allows to calculate the cash in- and out-flows over a one-year period for the main activities of an insurer: traditional life, UL/IL, non-life, investments and other cash-flows. The collection of information on the received and paid amounts is inspired by Solvency II reporting<sup>6</sup>. It takes a backward-looking (actual payments in the 365 days before the reference date) and a forward-looking perspective (expected cash flows in the 12 months following the reference date).

**The sample is composed of solo undertakings that were identified before each submission by NCAs based on their potential high exposures to liquidity risk.** These selection criteria led to heterogeneity in terms of geographical coverage, type of insurers, and size (see Figure T1.2) and a potential overestimation of the liquidity risks for the European insurance market. To construct a complete panel that allows cross-section and time series analysis, only those undertakings that submitted information in both 2022 and 2023 have been included. The sample contains 100 solo undertakings from 15 EU countries with total assets of EUR 3,132.3 billion (including EUR 685.6 billion held in separate accounts – i.e., UL/IL business). Composite, life and non-life insurers are almost equally represented in the sample. However, due to their normally larger size,<sup>7</sup> composite and life insurers represent 83% of the total assets. Figure T1.2 shows the composition of the panel in terms of type, size, and geographical distribution.

Figure T1.2: Panel composition

Type of undertakings	Number of undertakings	Non UL/IL assets [EUR million]					UL/IL Assets [EUR/million]	Countries represented	
		Total	10th percentile	25th percentile	50th percentile	75th percentile			90th percentile
Composite	31	1,026,249	178	254	2,200	18,019	116,161	442,507	10
Life	31	879,381	89	877	3,826	26,069	90,130	243,046	10
Non-life	30	485,839	56	138	477	4,590	14,574	-	7
Reinsurers	8	55,238	374	3,480	5,291	7,804	29,342	-	2
<b>Total sample</b>	<b>100</b>	<b>2,446,708</b>						<b>685,553</b>	<b>15</b>
Total EEA insurance sector	1787	7,261,898						1,942,355	30

Source: EIOPA Liquidity monitoring exercise, June 2023, EIOPA Statistic for Q4 2022; Note: Assets refer to the 2022 reported data. The total number of countries represented is not the sum of the countries represented for each type of undertaking as there can be different types of undertakings in a jurisdiction.

**To answer the questions listed in the introductory part, a series of stock-based and flow-based indicators is constructed.** The stock analysis assesses the liquidity of the assets by classifying them according to their liquidity and by applying specific haircuts to each class inspired by the banking regulation<sup>8</sup>. For each asset class, securities pledged as collateral or issued by financial institutions are not considered as liquid (i.e. treated with a haircut of 100%).<sup>9</sup> The liquidity of the liabilities is assessed based on the principle that the more foreseeable the cash-flows of an insurance contract

<sup>5</sup> Assets information based on QRT templates S.02.02, S.06.02. Best estimates and surrender values of the Solvency II Life Technical Provisions split by: i) Without surrender options; ii) Surrender value equal to the 100% of best estimates/statutory reserves; iii) Surrender value between 100% (exclusively) and 80% of the best estimates/statutory reserves; iv) Surrender value lower than 80% of the best estimates/statutory reserves.

<sup>6</sup> The Solvency II reference template is the S.05.01 where information on premium written, claims and expense incurred, and reinsurance shares of premia and claims are reported.

<sup>7</sup> Life insurers and composites had median total assets of EUR 2.2 bn and EUR 3.8 bn respectively at the end of 2022 compared with EUR 0.5 bn for the median non-life undertaking.

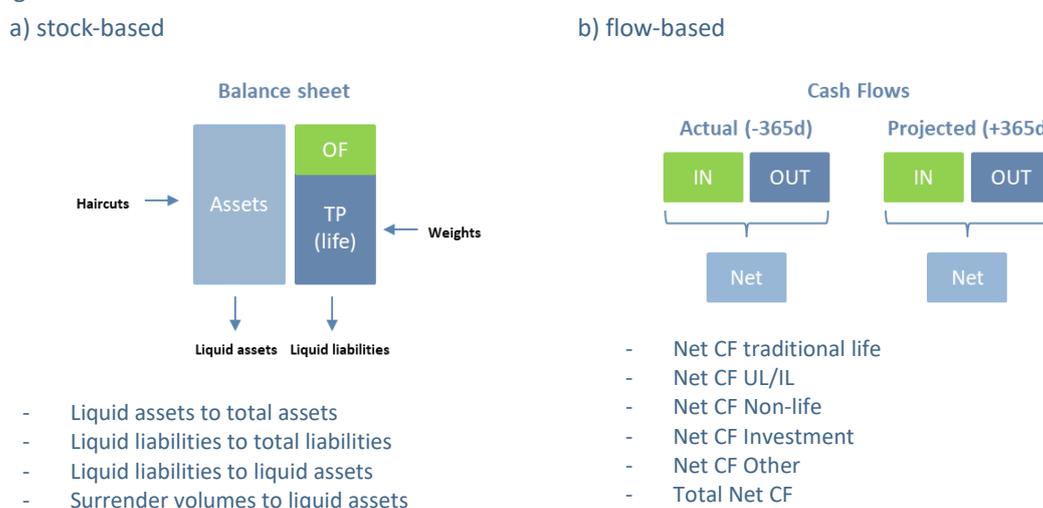
<sup>8</sup> See [Implementing Technical Standards on Supervisory Reporting amendments with regards to COREP LCR | European Banking Authority \(europa.eu\)](https://www.eba.europa.eu/en/implementation/technical-standards/supervisory-reporting-amendments-with-regards-to-corep-lcr)

<sup>9</sup> The classification of assets and related haircuts are available in Annex A3.1

are, the lower its liquidity.<sup>10</sup> The (non)-existence of surrender options and the degree of related penalties was used as a proxy of the foreseeability of the cash flows. On this basis, weights are assigned to the liabilities with lower weights for less liquid liabilities.<sup>11</sup> The stock-based indicators built on this information are shown in Figure T1.3 a).

**In the flow-based analysis, the information collected on the cash in- and out-flows is used to calculate the historical and projected net cashflows for the main activities (Figure T1.3 b)).** Additionally, the overlapping data for 2022 allows a comparison of the expected flows for 2022 reported in May 2022 and the actual cash flows for 2022. Where negative net cash flows are projected, they are compared with the cash available at the beginning of the period and, in case there is a deficit, with the available liquid assets. Stock- and flow-based indicators are eventually combined to assess the sustainability of the liquidity position of insurers in the next 12 months.

Figure T1.3: Indicators



**The approach and the data collected use some approximations and are subject to limitations.**

While the time window can be considered a good compromise of costs and benefits, it might not be optimal to capture the dynamics in the liquidity position. The generalization of the results for the sample to the aggregate EEA insurance sector might also be challenged due to the selection process for identifying the insurers in scope. It led to a heterogeneous geographical coverage and a potential overestimation of the vulnerabilities.

## 1. HAVE THE BALANCE SHEETS OF INSURANCE UNDERTAKINGS DETERIORATED FROM A LIQUIDITY PERSPECTIVE?

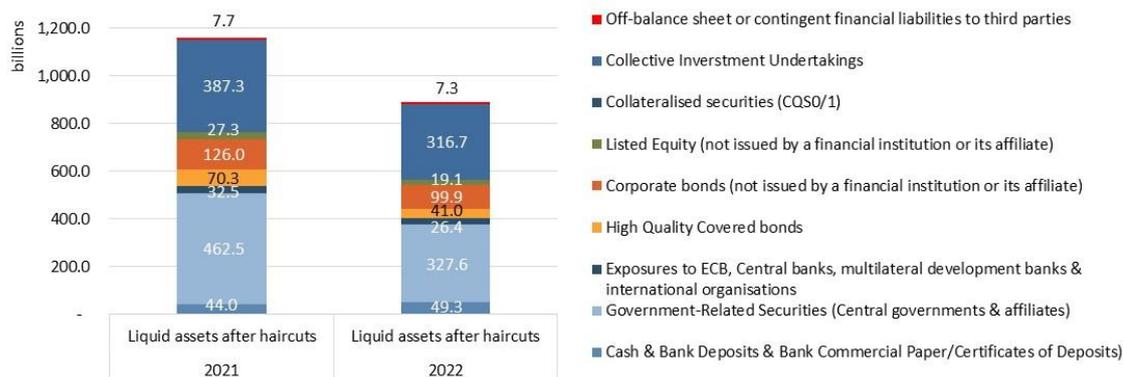
**It is crucial to understand how the liquidity of investment portfolios has evolved amid the market shifts.** Insurers hold traditionally large portfolios of liquid assets. But the current economic environment is characterized by a rapid transition from a decade of low and ultra-low yields to increasing interest rates and higher inflation with the potential for additional liquidity needs due to changes in policyholder behaviour and margin calls on derivative positions. This makes it

<sup>10</sup> EIOPA (2019): Report on Insurers' asset and liability management in relation to the illiquidity of their liabilities. Available at: [Insurers' asset and liability management in relation to the illiquidity of their liabilities \(europa.eu\)](https://www.eiopa.europa.eu/sites/default/files/2019-12/Insurers%20asset%20and%20liability%20management%20in%20relation%20to%20the%20illiquidity%20of%20their%20liabilities.pdf).

<sup>11</sup> The classification of liabilities and related weights are available in Annex A3.2

important to understand how the liquidity of the investment portfolios of insurers has evolved. As shown in Figure T1.4, the amount of liquid assets after the application of haircuts<sup>12</sup> decreased by 23.3% in 2022 with larger drops reported for *High quality covered bonds* (-41.7%), *Listed equities* (-30.1%) and *Government-Related Securities* (-29.2%). It is worth noting that insurers in the sample increased their holdings of *Cash & Bank Deposits & Bank Commercial Paper/Certificates of Deposits* by 12.1% in 2022. The drop in liquid assets can be due to both lower asset prices<sup>13</sup> and asset reallocations. From a liquidity perspective, the distinction is however not relevant as the focus is on the absolute value of the available liquid assets to cover potential liquidity needs.

Figure T1. 4: Holdings of liquid asset after application of haircuts (excluding UL/IL assets (EUR bn)



Source: EIOPA Liquidity monitoring exercise, June 2023; Note: Figures exclude securities pledged as collateral for debt instruments, and corporate bonds and equities instruments issued by financial institutions or affiliates.

**One noticeable effect of the current macroeconomic environment characterised by rising interest rates is the drop in the value of liquid assets, particularly government bonds.** This results in an “automatic” deterioration of liquidity measures for the insurance industry. The available data does not allow to identify potential asset reallocation towards more/less liquid asset classes. The combined effects of devaluation and potential asset reallocations led to a deterioration of the liquidity position of the asset side of the balance sheet as shown in Figure T1.5 with the ratio of *Liquid assets after haircuts* to *Total assets(excl. UL/IL)* dropping by 4.3 percentage points in 2022.

Figure T1.5: Liquidity of the asset portfolios

Reference date	Liquid assets after haircuts / Liquid assets	Liquid assets after haircuts/ Total assets (excluding UL/IL)
2021	74.3%	45.5%
2022	73.4%	41.2%

Source: EIOPA Liquidity monitoring exercise, June 2023

**The liquidity of technical provisions has increased despite the higher discount rates.** The amount of liquid liabilities as determined by the adjusted surrender values<sup>14</sup> increased by 15.0% in 2022 although interest rates have increased (Figure T1.6).<sup>15</sup> The rise was driven by the liabilities

<sup>12</sup> Haircuts applied to the asset classes are inspired by the HQLA classification used in the banking industry to calculate the LCR. Details on the values of the haircuts is available in Annex A3.1.

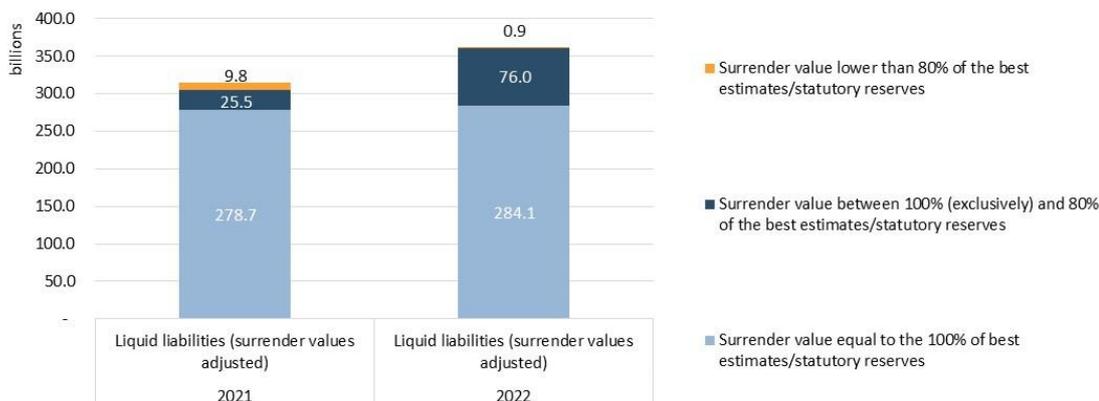
<sup>13</sup> Exposures are based on the Solvency II balance sheet where assets and liabilities are carried at market prices.

<sup>14</sup> Surrender values are adjusted with the weights that are set out in Annex A3.2 according to criteria on their liquidity.

<sup>15</sup> Values of liabilities and related surrender values are based on the Solvency II balance sheet assumptions where the discount curve reflects the level of the interest rates observed in the market.

considered more liquid (with lower or no penalties to surrender), while the amount for liabilities with surrender values below 80% of the best estimate reserves declined.<sup>16</sup>

Figure T1.6: Adjusted surrender values for liabilities with different liquidities excluding UL/IL (EUR bn) in 2021 and 2022



Source: EIOPA Liquidity monitoring exercise, June 2023

**The overall liquidity position of the insurers in the sample has deteriorated.** As a result of the combined effect of the decrease in liquid assets and the increase in liquid liabilities, both the ratio of the adjusted surrender values to liquid assets (after application of haircuts) and the ratio of the adjusted surrender values to cash and equivalents increased in 2022 (Figure T1.7). The former climbed from 27.1% to 40.6% while the latter rose from 713.5% to 731.9%.

Figure T1.7: Combined stock-based indicators for liquidity

Reference date	Surrender value adjusted / Cash and cash equivalent	Surrender value adjusted / Liquid assets after haircuts
2021	713.5%	27.1%
2022	731.9%	40.6%

Source: EIOPA Liquidity monitoring exercise, June 2023

**The stock-based assessment shows a negative trend in the aggregate liquidity indicators for the insurers in the sample.** There is, however, the caveat that the analysis of the liquidity measure for the liabilities is strongly dependent on the assumptions about the behaviour of policyholders reflected in the weights applied to the surrender values. The weights used imply, for example, that 50% of all policyholders with contracts where the surrender value corresponds to the best estimate/statutory reserves will surrender their policies.

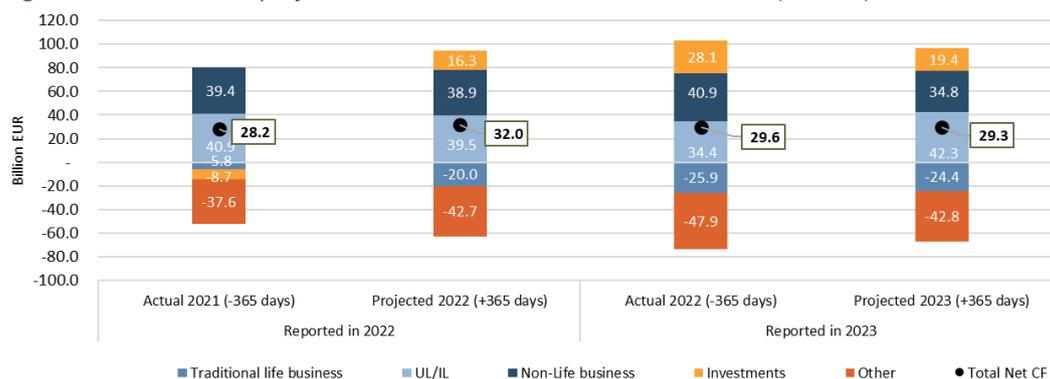
**To summarize, the balance sheets of insurance undertakings deteriorated from a liquidity perspective based on the chosen measures discussed above.** However, this stock-based analysis provides only a partial view and does not allow conclusive conclusions about the liquidity risks in the sector.

<sup>16</sup> Portfolios without surrender options are considered fully illiquid, hence excluded from the amount of liquid liabilities.

## 2. WHAT ARE THE OVERALL TRENDS IN TERMS OF NET CASH FLOWS AND THEIR TECHNICAL AND INVESTMENT COMPONENTS?

The total net cash flows in 2022 were below the projections. The flows-based analysis allows to identify trends for technical and investment in- and out-flows. At aggregate level, the 100 insurers in the sample reported net cash flow of EUR 29.6 bn for 2022 with a median value of EUR 0.7 m (Figure T1.8). This was below the forecasts that insurers made in 2021. A possible explanation could be that insurers underestimated the impact of the surging inflation in their projections for 2022.

Figure T1.8: Actual and projected net cash flows and their constituents (EUR bn)



Source: EIOPA Liquidity monitoring exercise, June 2023

**Undertakings reported in aggregate positive net cash flows for 2022.** Traditional life business experienced net outflows in 2022 which were projected to continue in 2023. The other detractor from net cash flows was the “Other” component which includes overhead expenses. The contribution of UL/IL business remained significantly positive in 2022 (albeit at the lowest level since the data collection started). The investments cash flows considered in this analysis arise from the traditional life and UL/IL business. Cash flows from investments were on aggregate positive in 2022 but differed widely across companies<sup>17</sup>. For 2023, insurers projected much lower inflows from investments. Possible explanations are higher margin calls, lower investment income and higher investment expenses due to the recent macroeconomic developments. The cash flows from non-life business were positive in 2021 and 2022 but are expected to drop in 2023.

## 3. WHAT WAS THE EFFECT OF CLAIMS PAYMENTS, SURRENDER PAYMENTS AND WRITTEN PREMIA ON TECHNICAL CASH FLOWS?

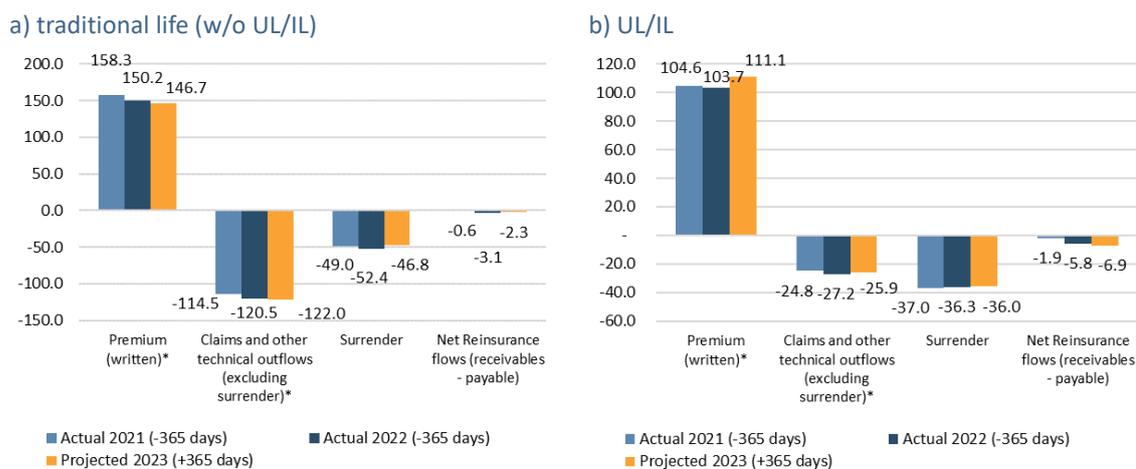
This section looks at the contribution of claims, surrender payments and written premia to technical cash flows for traditional life, UL/IL and non-life business. For traditional life and UL/IL business, technical cash flows are calculated as written premiums minus claims and surrender payments plus or minus the net reinsurance cash flow. For non-life business, claims payments are subtracted from written premiums and the net reinsurance cash flow added or subtracted.

<sup>17</sup> The interquartile range shows a variation between – EUR 29.2 m (25<sup>th</sup> percentile) and EUR 134.7 m (75<sup>th</sup> percentile) with a negative median value very close to 0.

TRADITIONAL LIFE BUSINESS AND UL BUSINESS

The aggregate cash flows for traditional life business were negative in 2021 and 2022 and insurers projected them to remain negative in 2023. The break-down of the individual cash in- and outflows (Figure T1.9 a) shows that written premiums decreased in 2022 while claims payments rose. These trends are expected to continue in 2023. As life insurers have mostly promised fixed nominal benefit payments to policyholders, they are less affected by claims inflation. New business may however drop, and lapses may increase because of higher interest rates. This might explain the lower projections for written premiums. However, insurers projected a reduction in surrenders by EUR 5.6 bn in 2023.

Figure T1.9: Life business cash flows by constituents (EUR bn)

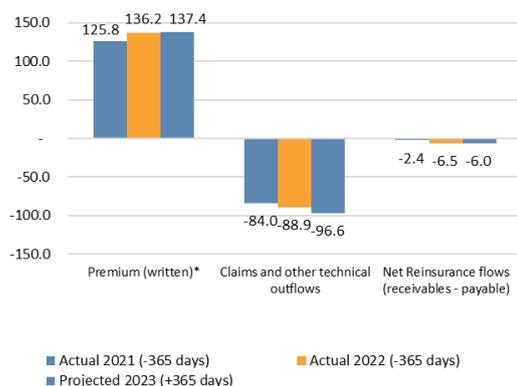


Source: EIOPA Liquidity monitoring exercise, June 2023

The technical cash flows of the UL/IL business were positive in 2021 and 2022 and were predicted to increase further in 2023. The performance of the underlying investments may have a substantial impact on new business and surrenders. Policyholders can choose between various investments like mutual funds for their unit-linked policies. The impact of inflation depends on these choices. An equity-heavy portfolio can, for instance, benefit during periods of high inflation and growth but suffers when growth is low and inflation high. The performance of fixed income investments depends on interest rates. Rising rates result in losses while falling rates can help to offset losses on equity investments. High inflation and high interest rates can tempt policyholders to surrender their policies to cover shortfalls or invest in other products. All these factors make predictions of future cash flows inherently difficult. Figure T1.9 b) shows that the increase in the projected net cash-flows for UL/IL business in 2023 is driven by an increase in written premiums (+7.1%), lower claims payments (-4.8%) and lower surrender payments (-0.8%) compared with 2022.

## NON-LIFE BUSINESS

Figure T1.10: Constituents of the non-life business cash flows (EUR bn)



Source: EIOPA Liquidity monitoring exercise, June 2023

**The non-life business made a quite material positive contribution to the total cash-flows in 2022.**

Figure T1.10 provides a break-down of the cash in- and outflows. Insurers project an increase in non-life written premiums and claims payments. The forecasted +8.7% increase in claims payments in 2023 is considerably higher than for written premiums (+0.9%). With the information available, it is not possible to infer whether this is due to the “normal” evolution of the claims settlement or an expected increase in the cost of claims due to inflation. If insurers underestimate the future increase in claims and expenses due to inflation, they might be exposed to liquidity risks in the short-term and to solvency risks in the medium to long term.

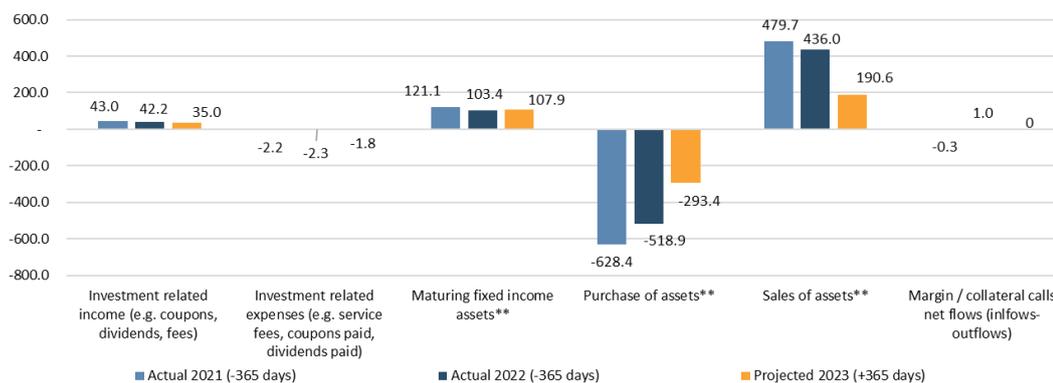
#### 4. HOW SIGNIFICANT WERE THE DIFFERENT COMPONENTS OF THE INVESTMENT CASH FLOW OF LIFE INSURERS?

Another important component of total net cash flows are the net cash flows from investments with the sales and purchases of assets as the most important contributors. Figures T1.11 a) and b) break down the cash in- and outflows for life and UL/IL contracts.

Despite the material reduction in trading activities, life insurers remained net buyers of assets in 2022 and this was projected to continue in 2023. Cash flows from maturing assets were significant contributors to the positive cash flows from investments. Cash flows from investment income were less significant and dropped in 2022 compared to 2021 with a further reduction expected for 2023. The purchases of assets exceeded the sales while the trading activity decreased (Figure T1.11 a)).

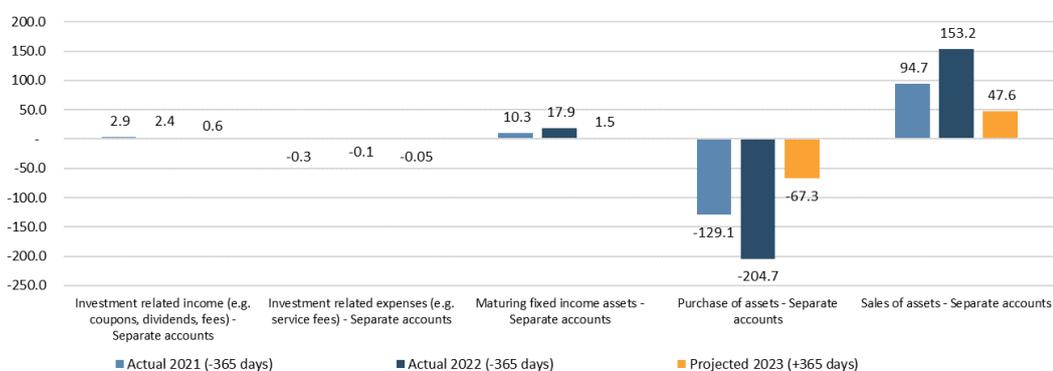
Figure T1.11: Investment flows by constituent (EUR bn)

a) Investments (w/o UL/IL)



Source: EIOPA Liquidity monitoring exercise, June 2023

b) Investments for UL/IL



Source: EIOPA Liquidity monitoring exercise, June 2023

The primary reason for the lower net cash flows for UL/IL business in 2022 compared to 2021 were the reduced total net cash flows from investments. Figure T1.11 b) shows the composition of net cash flow from investments backing UL/IL contracts and points to a slightly different picture. Also here, the net cash flows from the purchases and sales of assets (i.e., the units sold to pay out the benefits for UL/IL contracts) are the dominant components but purchases exceed sales. The lower total net cash flows from investments related to the separate accounts were the main driver for the overall drop in net cash-flows of UL/IL business in 2022 compared to 2021.

5. DID HEDGING WITH DERIVATIVES RESULT IN NEGATIVE NET CASH FLOWS?

Insurers, particularly in the life sector, often employ interest rate swaps to mitigate interest rate risks. In these swaps they normally pay floating rates and receive fixed rates which helps them to align their asset and liability durations. But these transactions can put a strain on the liquidity position of insurers when interest rates increase and they must post additional variation margin. These margin calls necessitate daily settlements, typically in cash or equivalents.

The resulting liquidity needs depend on the extent to which insurers utilize derivatives. Some markets rely more heavily on derivatives to manage asset-liability mismatch risks, while others predominantly use bonds. Only 25 insurers in the sample reported margin calls on derivatives. On aggregate, the exchange of collateral with derivatives counterparties made a positive contribution to the investment cash flows (+ EUR 1 bn) in 2022. No projections are made for 2023 as companies

cannot foresee the future volatility of interest rates. Despite the positive contribution in aggregate, 15 insurers had cash outflows due to margin calls. In these cases, hedging with derivatives did indeed result in negative net cash flows.

**Most insurers could cover cash outflows with their existing cash holdings at the end of 2021.**

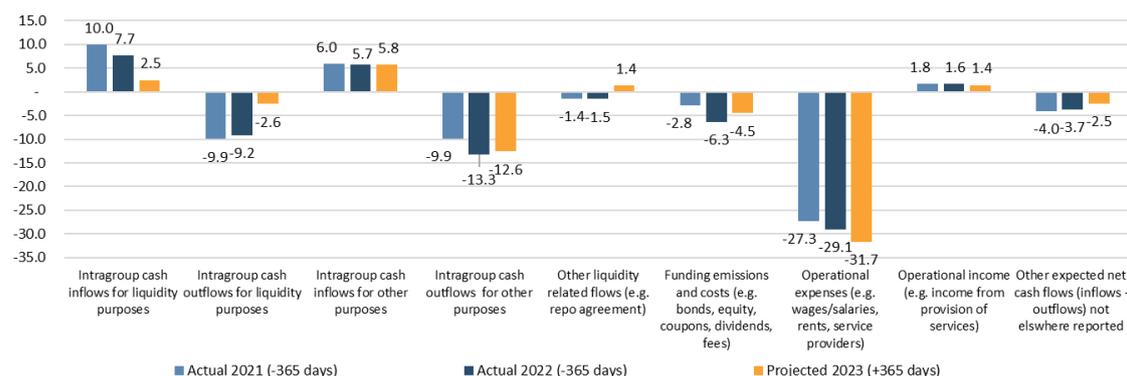
The 3 out of the 15 insurers where this was not the case had to sell liquid assets to cover the margin payments, i.e., their trading activities must have been influenced by their liquidity needs. When interest rates are increasing (as has been the case in the last two years) the value of liquid assets like bonds drops. In case insurers have to sell them to cover margin calls they realize losses which – depending on the accounting rules – reduces the level of their equity. Consequently, insurers must carefully manage these liquidity dynamics to maintain their stability.

**In summary, for the insurers in the sample using derivatives, the net cash flows related to margin calls were in aggregate negligible but positive.** Hedging with derivatives did therefore not result in negative cash flows for the aggregated sample. Nevertheless, 15 individual insurers recorded net negative cashflows due to margin payments. These findings are however based on a sample of 100 solo undertakings and cannot be generalised to the whole insurance industry where large hedging positions are managed at group level.

**6. IS THE HEADLINE INFLATION INCREASING LIQUIDITY NEEDS?**

**Operational expenses are the largest component in the “other” cash flows category.** Looking at the constituents of the aggregates of the “Other” category from the sample, Figure T1.12 shows that the already considerable payments for operational expenses increased in 2022 with a further rise by EUR 2.6 bn projected for 2023. It is not possible to infer whether this increase is due to an expansion of operations or to higher prices for inputs driven by inflation. Intragroup transactions are captured by the intragroup cash in- and outflows for liquidity purposes and intragroup cash in- and outflows for other purposes.

Figure T1.12: “Other” flows by constituent (EUR bn)



Source: EIOPA Liquidity monitoring exercise, June 2023

**Headline inflation affects insurers in their operational expenses and the cost of claims with claims inflation for non-life insurance usually being a multiple of the headline inflation.** Based on the information collected, claims outflows are expected to increase by EUR 7.9 bn for all types of business in 2023, while the expected rise of the operational expenses is projected to be EUR 2.6 bn.

## 7. CAN INSURERS SUSTAIN POTENTIAL NET-OUTFLOWS?

It is crucial whether insurers have enough cash or other liquid assets to cover the net outstanding amount in the event of net outflows over a 12-month period. Based on the collected information, a sustainability indicator was calculated for each undertaking in the sample. It is computed as the sum of the total net cash flows plus the cash and cash equivalents. A positive value indicates that an undertaking can meet its payment obligations out of cash inflows or its cash holdings.

The sustainability indicator is calculated using stock data (cash and cash equivalents) and flow data (total net cash flows). As the undertakings have successfully managed any cash out flows in the preceding years, the focus in the following is on the forecast for 2023. Figure T1.13 sets out how many insurers reported positive and negative net cash flows for each of the periods considered.

44 companies had negative total net cash flows in 2022, 2 more than in the previous year. The number of life and non-life insurers with negative net total cashflows decreased while there was an increase for reinsurers (+4) and composites (+2). For 2023 considerably fewer insurers (29) project negative total net cash flows.

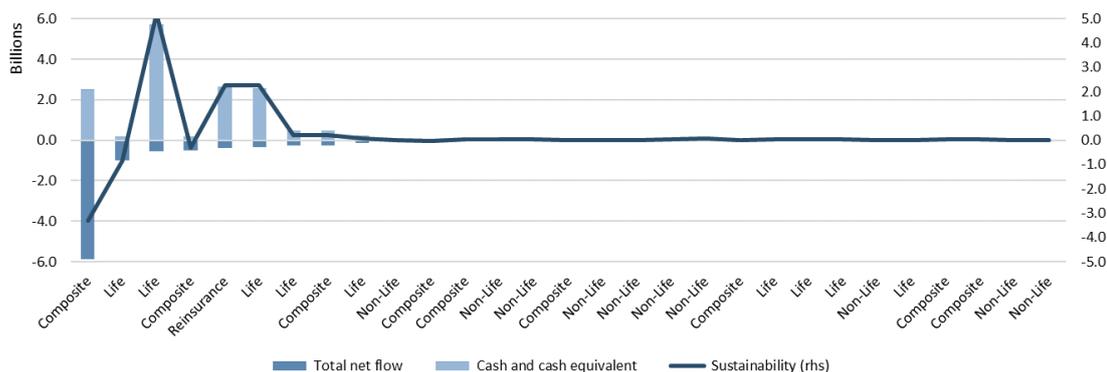
Figure T1.13: Undertakings reporting positive/negative total net cash-flows (number)

2021 Actual (-365 days)	Composite	Life	Non-Life	Reinsurance	Total
No. of insurers with <b>negative</b> cash-flows	10	16	15	1	42
No. of insurers with <b>positive</b> cash-flows	21	15	15	7	58
2022 Actual (-365 days)	Composite	Life	Non-Life	Reinsurance	Total
No. of insurers with <b>negative</b> cash-flows	12	14	13	5	44
No. of insurers with <b>positive</b> cash-flows	19	17	17	3	56
2023 Projected (+365 days)	Composite	Life	Non-Life	Reinsurance	Total
No. of insurers with <b>negative</b> cash-flows	9	9	10	1	29
No. of insurers with <b>positive</b> cash-flows	22	22	20	7	71

Source: EIOPA Liquidity monitoring exercise, June 2023

Out of the 29 undertakings projecting negative total net cash flows for 2023 (Figure T1.14), only 8 (5 composite, 1 life, 2 non-life) would not be able to make the payments by drawing down their holdings in cash and equivalent. Their holdings of liquid assets are however sufficient to cover the gap. Solvency II data as well as previous analysis have shown that insurers tend to keep their cash buffer at a stable level and use the sale of other assets to cover potential liquidity gaps. This means that both margin calls on derivatives and liquidity needs arising from variations in technical flows can trigger the sale of assets.

Figure T1.14: Sustainability of net cash flows (EUR bn)

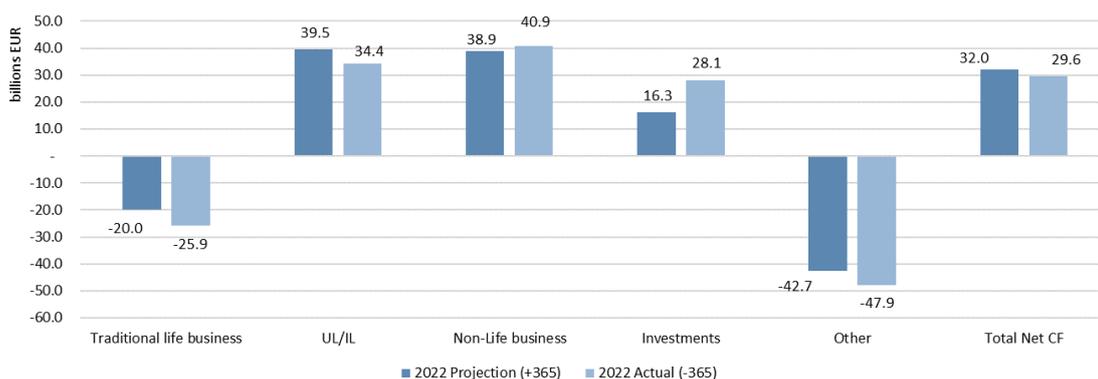


Source: EIOPA Liquidity monitoring exercise, June 2023

### 8. HOW ACCURATELY DID INSURERS ESTIMATE THEIR LIQUIDITY NEEDS IN THE CURRENT DYNAMIC ECONOMIC AND MARKET CONTEXT?

The availability of projected (reported in May 2022) and actual cash flows for 2022 allow to analyse, how accurate the projections of insurers in this period of substantial changes in the economic and market environment were. Figure T1.15 compares the projected and actual components of net total cash flows. Total net cash flows were 7.4% lower than projected. Net cash outflows for traditional life business were EUR 5.9 bn higher than forecasted (-29.5%), the net cash flows for the “other” category were EUR 5.1 bn (-12%) below expectations mainly driven by higher expenses and net cash flows for UL/IL business were EUR 5.1 bn (-13%) lower than expected due to lower premiums and higher claims. On the other hand, the net cash flows from investments exceeded the forecast by EUR 11.8 bn (+73%) due to reduced selling activity. But also, the net cash flows from non-life business were higher than expected (+5%) due to higher premiums and lower claims than initially estimated.

Figure T1.15: Accuracy of the projected cash flow components (EUR bn)



Source: EIOPA Liquidity monitoring exercise, June 2023

There are several possible explanations for the significant deviations between projected and actual cash flows, in particular the high market volatility and the rise in inflation. This introduces uncertainty and challenges into insurance cash flow projections for several reasons. When projecting the cash flows on investments, the asset valuation plays an important role for EEA insurers. A significant proportion of the cash flows from investments arises from the sales of assets

which are affected by declining asset prices. Income from investments other than coupons can fluctuate in times of high uncertainty. At the same time, insurers need to reinvest the proceeds from maturing investments. Given the volatile markets, the actual returns for new investments might have been substantially different from the projections. The volatile environment might also have resulted in unexpected cash outflows for managing and mitigating risks associated with market volatility. An example would be the purchase of derivatives. The rising inflation had an impact on claims payments and affected together with higher interest rates the setting of premiums and the product mix which in turn had an impact on cash flows. A last reason for deviations could have been the behaviour of policyholders which might have decided to surrender policies or to buy no or less insurance than initially planned with an impact on technical cash flows.

**The complexity and multitude of these factors illustrate the inherent difficulties for an accurate projection of cash flows.** Insurers must therefore carefully manage and monitor their investment portfolios, liabilities, and risk exposure to mitigate the potential adverse effects of market volatility on their cash flows.

## CONCLUSIONS

**Based on a measure that adjusts asset and liability positions in the balance sheet of insurers according to their liquidity, the aggregate liquidity positions of the insurers in the sample deteriorated in 2022.** This was in large part due to lower values as the result of higher interest rates for low risk highly liquid bonds.

**The main positive contributors to total net cash flows were technical cash flows from non-life and UL/IL business as well as cash flows from investments.** The main detractors were the category “Other” which includes cash flows for operational expenses and the technical cash flows for traditional life business.

**For all undertakings in the sample the cash inflows in 2022 were higher or equal to the outflows while maintaining a stable buffer of cash and cash equivalents in their balance sheet.** The sustainability of the liquidity positions in 2023 was assessed based on projections and the assets held at the end of 2022. Out of the 29 insurers that forecasted negative net cash flows for 2023, 21 held enough cash to make up for the shortfall. The remaining 8 undertakings had enough liquid assets to raise sufficient cash.

**With approximately one billion Euro the net cash flows resulting from derivatives transactions were in aggregate negligible but positive.** 15 undertakings had negative outflows due to margin calls on derivatives. When comparing the amounts paid on margin calls of these insurers with their holdings of cash at the end of 2021, the results show that 3 insurers were not holding enough cash to cover the losses on their derivative positions and had to sell liquid assets to cover the margin payments. The results show that at least in some cases sales of assets were motivated by the need to cover liquidity needs.

**The available data does not allow to decide whether headline inflation increased the liquidity needs.** Cash outflows for operational expenses increased by about 6.6% in 2022. But there is no

possibility to disentangle possible changes in the scope of operations from the effect of higher costs for inputs resulting from inflation.

**The comparison of actual and forecasted values for 2022 shows that insurers had considerable difficulties in projecting cash flows.** Possible reasons were the considerable volatility in markets and the sudden increase in inflation.

**In conclusion, the aggregate liquidity position of the insurer in the sample does not give reasons for concern.** While still limited in terms of entities and size, the slight increase in the number of undertakings that had to take actions (e.g., sales of assets) to meet their cash outflows requires further monitoring. Given the considerable economic uncertainty and the limited accuracy of the predictions for 2022, the improvement of net cash flows for 2023 forecasted by the insurers should be interpreted with some scepticism.

**Forward-looking, there could be potential reasons for a future deterioration in net cash flows of insurers.** These could be driven by an increase in surrender rates as policyholders might need to raise funds or want to shift to other investments, higher expenses and claims costs due to inflation and lower sales proceeds for investments due to price drops. It seems also not unplausible that the technical cash flows from traditional life business will remain negative in the next years.

## 2. EVOLUTION OF THE ASSET ALLOCATION OF INSURERS IN AN ENVIRONMENT OF RISING INTEREST RATES

*This topical focus examines how the recent increase in interest rates has affected the asset allocations of EEA insurers. Now that rates are no longer close to zero “search for yield” behaviour might be less pronounced. Insurers might be rebalancing their portfolios moving back to more traditional investments such as government and corporate bonds and relying less on alternative asset classes which tend to be riskier and more illiquid. The results presented here show however for the moment a continuing trend to alternative investments. Despite the rising yields life insurers have become net sellers of government and corporate bonds while non-life insurers and reinsurers have continued to buy them. A possible explanation is that life insurers will resume buying bonds once they are convinced that rates have peaked thus locking-in more attractive yields.*

### INTRODUCTION

**Central banks in major economies have been increasing interest rates after a long period of accommodative monetary policy.** The “normalization”<sup>18</sup> of monetary policy has been motivated by the need to tackle the sharpest inflation increase in decades. The rapid transition from a low yield to an inflationary environment with high interest rates has led to large declines in the prices of outstanding bonds and volatility in the valuation of assets.

**Insurers as institutional investors play a vital role for asset markets.** They manage large investment portfolios to back-up policyholder claims and to generate investment returns for their policyholders. But, at the same time, there is the need to manage the regulatory capital volatility. In Q2 2023, the total investments of EEA insurers amounted to EUR 8.6 tr, out of which life insurers held EUR 3.5 tr, non-life insurers EUR 1.1 tr, composite insurers EUR 3.3 tr and re-insurers EUR 0.7 tr. Unit-linked assets amounted to EUR 2.1 tr and non-unit-linked assets to EUR 6.5 tr.

**Until 2021, the macro-financial environment was shaped by the exceptionally ultra-low/negative level of interest rates.** This environment posed significant challenges to insurers in terms of asset allocations. During this time, insurers adapted their portfolios.<sup>19</sup> Even though they were net purchasers of government and corporate bonds, the share of bonds in the total portfolio decreased with a moderate reallocation to alternative assets as one driver. The IAIS is currently investigating potential risks stemming from alternative investments by insurers.<sup>20</sup> Recently, the total value of investments has significantly decreased mainly due to lower asset prices as a result of rising yields.

<sup>18</sup> See link to a speech by Fabio Panetta, Member of the Executive Board of the ECB, in May 2022 [here](#).

<sup>19</sup> This paragraph is based on EIOPA (2020): Impact of ultra-low yields on the insurance sector, including first effects of COVID-19. 17 July 2020.

<sup>20</sup> More specifically, the IAIS is focussing on the following four aspects: 1) What can be classified as alternative investment? 2) the potential risks associated with alternative investments such as model/valuation risk. 3) The potential supervisory measures and responses to the observed trend and 4) the potential financial stability implications.

**One hypothesis about the possible response of insurers to rising yield is that “search for yield”-behaviour would be less pronounced than it was when rates were near zero.** Insurers could rebalance portfolios back to more traditional investments such as government and corporate bonds and rely less on alternative asset classes which tend to be riskier. The underlying rationale is that after the normalization of monetary policy government bonds and corporate bonds provide sufficient yields to generate significant investment income and yields are above the rates contractually guaranteed to life insurance policyholders. Basically, rising yields are forecasted to lead to de-risking, by encouraging more investments in bonds and less in riskier and less liquid asset classes. This view is also reflected in ECB (2022)<sup>21</sup> which projected shifts in the asset holdings of Euro Area insurers with rising yields.

As set out in the following sections, this is not what has happened so far.

### INSURERS INVESTMENT ACTIVITY IN GOVERNMENT AND CORPORATE BONDS

**Are insurers moving back to more traditional investments such as government and corporate bonds?** To address this question, net buying activity is calculated on the basis of notional amounts for matured bonds and bonds bought or sold in each quarter. This allows to disentangle the quantity effect of changing portfolio compositions from the price effect. The price effect reduced the share of fixed income securities in total assets when interest rates increased due to the higher interest sensitivity of bond prices relative to other asset classes. Bonds are often traded in liquid markets which results in immediate valuation changes in response to changing rates. This effect was especially pronounced for life insurers which hold bonds with longer durations, while the duration tends to be very short for reinsurers and medium for non-life insurers. In the first three quarters of 2022 the government bonds held by life insurers lost 35% of their value (17% for non-life insurers).

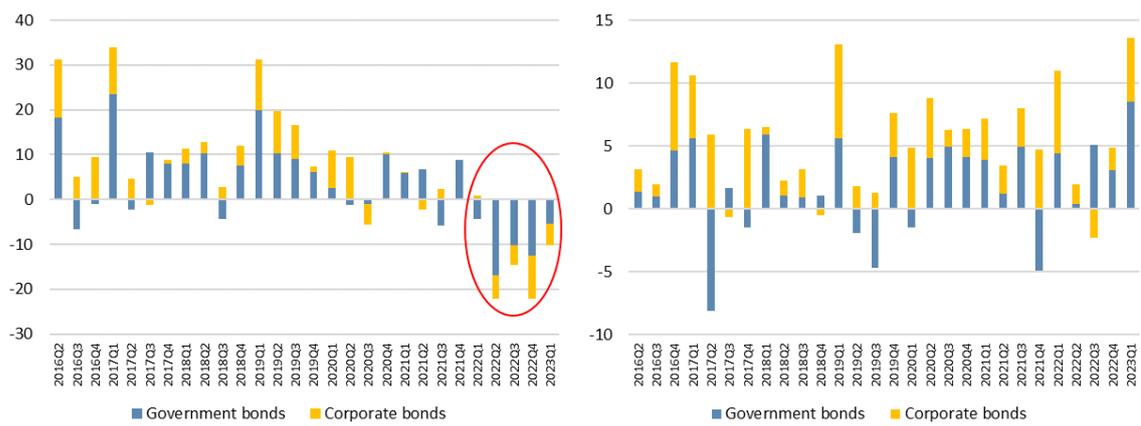
**The analysis distinguishes three different periods:** the low yield environment (Q4 2017 – Q4 2019), the Covid-19 environment (Q1 2020 – Q3 2021) and the period of rising yields (Q4 2021 – Q2 2023). Non-life insurers and reinsurers have liabilities with shorter duration than life insurers and invest therefore in bonds with shorter maturities. For this reason, the analysis combines non-life insurers and reinsurers while looking separately at life insurers.

**The results show that insurers in aggregate have recently refrained from investing in government and corporate bonds.** For life insurers significant net sales of government and corporate bonds could be observed during the period of rising yields. In some countries (FR, NL and DK) they slightly reduced holdings and, in some others, net purchases of government and corporate bonds were nearly zero during the phase in which interest rates increased. In contrast to this, non-life and reinsurers have not changed their behaviour. Indeed, during Covid and the period of rising yields they kept buying short term government and corporate bonds on a net basis.

Figure T2.1: Life insurers: net by quarter activity (EUR bn)

Figure T2.2: Non-Life and Reinsurers: net by quarter activity (EUR bn)

<sup>21</sup> ECB (2022): Insurers’ balance sheets amid rising interest rates: transmission and risk-taking. Financial Stability Review November 2022. Available here: [Link](#). The projection is based on an impulse-response function with a deduction of monetary policy shocks during the low yield environment to the new regime with rising yields.



Source: EIOPA Quarterly Solo and EIOPA calculations. Net activity is in EUR Billion and defined as the aggregate par value of the bought minus the sold minus the matured bonds within each quarter.

In summary, contrary to the hypothesis set out above, life insurers have not yet increased their purchases of traditional fixed income in response to the higher rates. Why is this the case?

**Increasing rates require a careful management of the associated risks when investing in fixed income.** When yields are rising it could be more profitable to wait and hold shorter duration assets instead. This provides the option to invest in longer-term fixed income instruments at higher rates in the future. Alternatively, the insurer could implement a bond ladder (diversify across maturities) to reduce its exposure to climbing rates.

**Figures T2.3 and T2.4 provide a break-down of the net selling of government bonds across maturity buckets for the different types of insurers.** There is no corresponding description for corporate bonds for the following reason: Government bonds have a much wider range of maturities from very short to very long. In contrast, the durations of corporate bonds are more concentrated in the medium-term.

Figure T2.3: Life insurers: average quarterly net activity (EUR bn) by maturity buckets

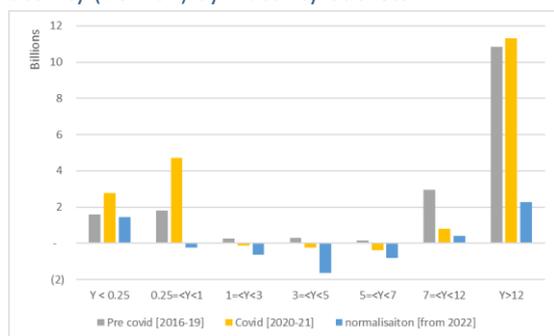
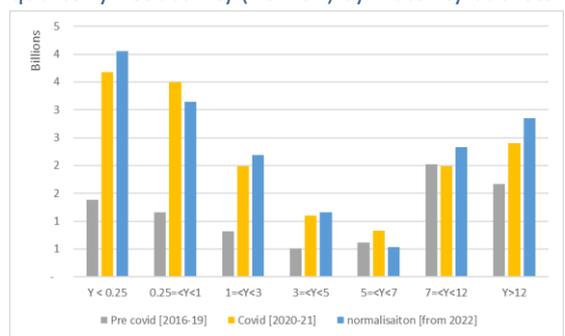


Figure T2.4: Non-Life and Reinsurers: average quarterly net activity (EUR bn) by maturity buckets.



Source: EIOPA Quarterly Solo and EIOPA calculations. Net activity is in EUR Billion and is defined as described for figures T2.1 and T2.2.

**Figure T2.3 shows that the amount of government bonds that life insurers bought on a net basis dropped during the period of rising interest rates and most acquisitions continued to be concentrated in bonds with durations exceeding seven years.** During the Covid period, life insurers started to buy relatively more short-term government bonds on a net basis. This changed during the phase in which interest rates increased. Net activity was very low and there was net

selling of bonds with short and medium maturities. These bonds had lost less of their value due to the rate increase and had been liquidated by insurers using derivatives to pay margins (as documented in the December 2022 EIOPA Financial Stability Report). Figure T2.4 shows that the maturity of government bonds that non-life insurers bought on a net basis dropped during the period of covid and of rising interest rates.

**Bonds with shorter maturities have become even more attractive for non-life and reinsurers.**

Due to their different (from life) business model, highly liquid bonds with short durations are particularly attractive for non-life and re-insurers. Their bond portfolios are consequently tilted towards shorter durations and during the phase of rising interest rates their focus has shifted even more to short maturities. Bonds with maturities below 7 years represented pre-Covid 55% of the total government bond purchases on a net basis but the average for the following two periods rose to 70%. Since the term structure of interest rates inverted, short duration bonds are offering attractive yields and are less sensitive to potential further increases in interest rates.

### ALTERNATIVE INVESTMENTS

**Insurers hold a significant share of their portfolios in alternative assets.** There is no commonly accepted definition. In the context of this analysis the amount of investments in alternative assets is defined as the sum of the allocations to several asset classes (property, real estate funds, private equity funds, infrastructure funds, alternative funds, loans except mortgages, mortgages, collateralised securities and structured notes). This definition builds on previous work such as ECB (2019) and ECB (2023).<sup>22</sup>

**Alternative assets have some specific properties.** Common features of these asset classes are limited access for retail investors, illiquidity (which should in theory be compensated with an illiquidity premium) and diversification benefits due to a lower correlation with bond and equity prices. Some of these investments like office buildings and infrastructure could offer insurers long duration and stable cashflows. Others do not provide regular payments such as coupons for bonds or dividends for equity. Instead, capital is locked-in for several years and the insurer receives only payments when the investments are sold (like investments in private equity funds). During the low-yield environment it was often said that these asset classes were becoming more and more attractive for insurers in their search for yield.

**As Figure T2.5 below shows the investment of insurers in alternative assets (left hand scale), if mortgages are excluded, has been growing both in absolute terms and relative to total investments without interruption since Q4 2016.** Investments (right hand scale) declined from Q4 2021 onwards. Total alternative investments reached a peak in Q4 2021 with an amount of EUR 1,177 bn and then stabilized, but total alternative investments without mortgages kept increasing from 970 in Q4 2021 to EUR 993 bn in Q2 2023.

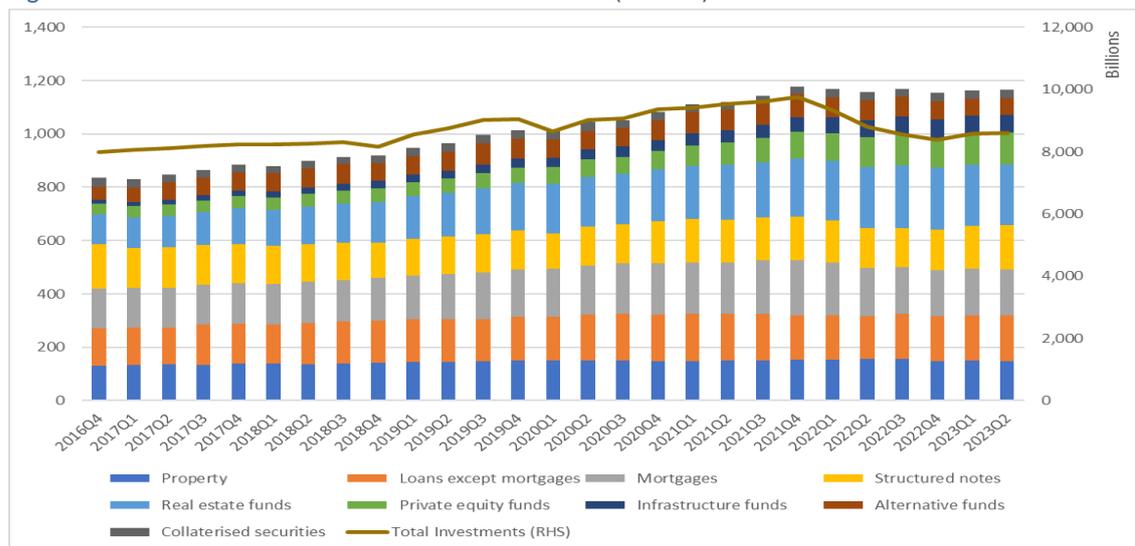
**There is no consensus on the definition of alternative assets and there can be different views whether mortgages should be included.** Even though mortgages are illiquid, they are relatively standardized and their valuation is more straightforward than for other more complex asset classes. As a result, changes in their values (which are due to the high durations closely linked to

<sup>22</sup> ECB (2023): Financial Stability Review May 2023. Chart 4.8. ECB (2019): Financial Stability Review May 2019. Box 9.

interest rates) are more promptly reflected in the balance sheets of insurers while there is a time lag for other, more complex alternative investments.

**The amount of alternative investments excluding mortgages has been constantly increasing.** The continued trend might be explained not only by their attractiveness to insurers but also by that fact that in some alternative asset categories there are pre-commitments to phase-in investments gradually over time.

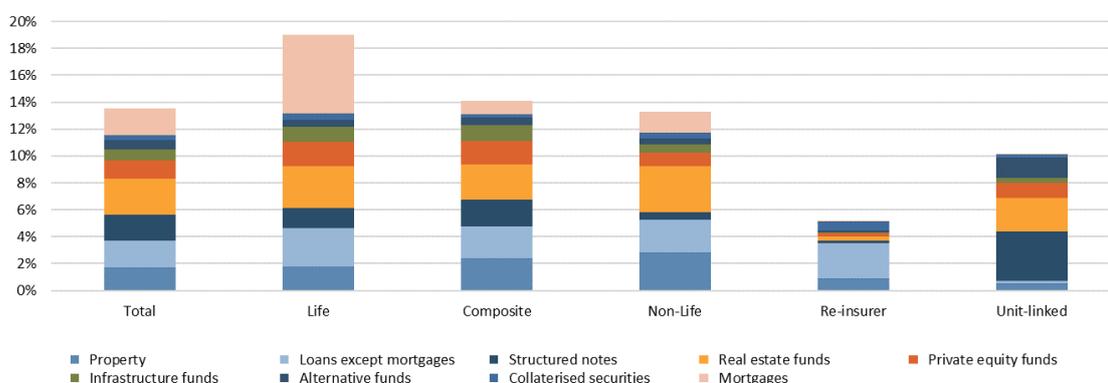
Figure T2.5: Investment of insurers in alternative assets (EUR bn).



Source: EIOPA Quarterly Solo Reporting, list of assets S.06.02.

**The share of alternative asset to total assets differs across types of insurers** (Figure T2.6). The largest share is held by life and composite insurers with around 19% and 14% in Q2 2022. The share is slightly lower for non-life insurers (13%) and considerably smaller for reinsurers (5%). Loans and mortgages represent the largest share of alternative assets held by insurers (together 30%), followed by real estate funds (19%) and structured notes (14%). Property represented 15%. In relative terms, non-life insurers invest more in real estate funds and property than other types of insurers. Life insurers have a higher allocation to mortgages and loans.

Figure T2.6: Breakdown of investments in alternative assets by type of Insurer.



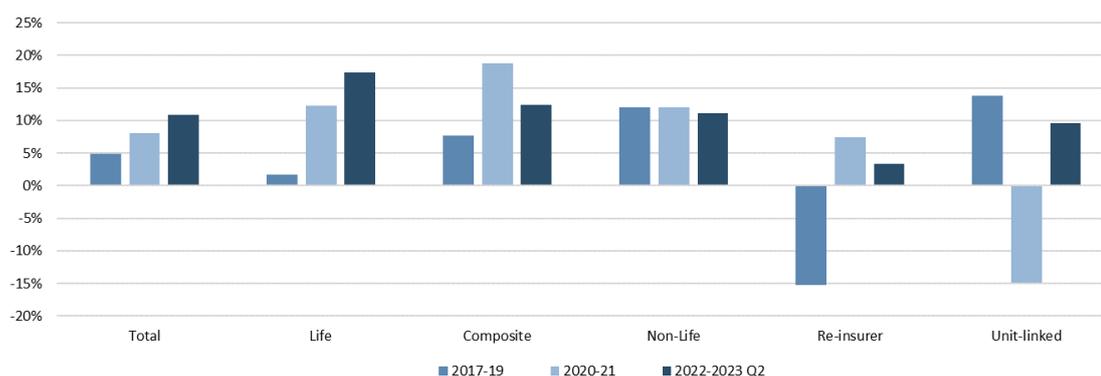
Source: EIOPA Quarterly Solo Reporting, list of assets S.06.02.

**The following analysis looks at the difference in the growth rate of alternative investments and total investments.** The sample is broken down into the three periods mentioned before. When

trying to make inferences about the trends in new investments, one has to be careful not to read too much into the differences. They are highly affected by the development of interest rates as the value of bonds responds quicker than the valuation of alternative assets to rising rates. But the differences provide insights into the shift in asset allocation over time. Moreover, the increase in the absolute value of investments in alternative assets during 2022, when rates rose considerably, suggests that the higher proportion of alternative investments might in part be due to additional investments rather than valuation effects.

**The share of aggregate alternative investments in total investments increased in all three periods. This suggests a continued longer-term trend.** In non-unit-linked life portfolios, the growth in alternative investments did not exceed the rise in overall investments during the low yield period. There was however significant growth during the Covid-19 period and when yields rose. In contrast the share of alternative assets in the investment portfolios of non-life and composite insurers grew in each period. For re-insurers one can see a significant reduction during the low yield environment while for unit-linked portfolios there was a significant decrease in the Covid-19 period.

Figure T2.7: Growth of alternative investments in excess of growth of total investments by period and insurer type.



Source: EIOPA Quarterly Solo Reporting, list of assets S.06.02 and EIOPA calculations.

**Within the alternative asset class, most growth occurred in infrastructure and private equity funds, both however from a small base.** Real estate funds grew also significantly faster than total investments.<sup>23</sup> For unit-linked business, all sub-categories of alternative assets grew in all periods, but in some cases less quickly than total assets. The growth of investment in alternative investments via funds by insurers coincided with the overall strong growth in the size of the EU Alternative Investment Funds market.<sup>24</sup>

**To sum up, based on the regulatory reporting there is so far no indication that the trend of increased investment in alternative investment has been reversed by the rising yields.** Such a reversal has been forecasted once the low yield environment with the resulting search for yield-behaviour comes to an end. One caveat is that the reporting information does not allow to disentangle price and volume effects. There could also be a lag in the response to higher yields as

<sup>23</sup> Specifically on the increased investment in private equity funds, see EIOPA (2023): Financial Stability Report June 2023. Box 5.2: Investment of Insurers Into Alternative Assets and Private Equity.

<sup>24</sup> ESMA (2022): EU Alternative Investment Funds. ESMA Annual Statistical Report 2022.

insurers may have entered previously into commitments to invest in alternative investments (i.e. there is less flexibility to change the allocation to alternative assets than to more conventional investments like government bonds).

**There might however be several reasons why insurers decide for a continued high allocation to alternative assets despite higher rates also in the medium- to long term:** Improved Solvency II ratios, due to higher interest rates, enable insurers to increase investment risk, to diversify or to invest without being constrained by target levels for regulatory capital. This may lead to increased investment in capital-intensive asset classes. In addition, there are other benefits of alternative investments: Illiquidity with (arguably) higher yields and benefits for diversification with a lower correlation with bond and equity prices. In a time when the valuation of bonds is extremely volatile, there is an incentive to move to illiquid asset classes which shield balance sheets against short-term value fluctuations.

## CONCLUSIONS

**From a financial stability perspective, insurers have an important role as a long-term investor.** Their stable financing condition provide the potential to act counter-cyclically during market shocks.<sup>25</sup>

**Evidence presented above suggests that insurer continued** to increase their exposures to alternative assets.

**Non-life insurers and reinsurers continued to buy short term bonds on a net basis benefitting from higher rates. While rates were rising, life insurers paused their purchases of bonds.** Once they believe that interest rates have peaked, life insurers might resume to buy long dated government bonds locking in better yields.

**The trend to alternative investments may continue.** As they offer several desirable properties it remains to be seen whether continued higher yields in the future will reverse the trend away from fixed income investments to alternative assets.

---

<sup>25</sup> E.g., Timmer, Yannick (2018): Cyclical investment behavior across financial institutions. *Journal of Financial Economics* 129.2. Pages 268-286. Chodorow-Reich, Gabriel, Andra Ghent, and Valentin Haddad (2021): Asset insulators. *The Review of Financial Studies* 34.3. Pages 1509-1539.

### 3. INCREASES IN INTEREST RATES AND THE LIQUIDITY NEEDS OF IORPS ON INTEREST RATE DERIVATIVES

*During 2022 interest rates increased dramatically. This improved the funding ratios of defined benefits IORPs as higher discount rates reduced the value of their long-term liabilities substantially. For IORPs that use derivatives to hedge their interest rate risk the rise in rates created however potential liquidity risks: The value of their derivative positions declined and triggered variation margin calls that had to be met in cash. This topical focus shows that the amounts were substantial (approximately 5.6% of total investments for derivatives users). The analysis suggests that IORPs sold large amounts of equity and bond funds, directly held equities and – to a lesser extent - highly liquid short-term government bonds to raise the cash necessary for the margins. They remained though net buyers of government and corporate bonds. While bond prices declined in 2022, equities had gained substantially in value in the previous year. Large equity disinvestments allowed IORPs not only to pay margins on their derivatives but also to be net buyers of governments bonds bringing the share of equities and bonds in their portfolios back closer in line with the targets from their strategic asset allocation.*

#### INTRODUCTION

**During 2022 interest rates increased dramatically.** After a long period of low interest rates, central banks started to tighten monetary policy and increased interest rates with the aim to contain inflation.

**The prices of government and corporate bonds dropped significantly.** As a result, the value of government bonds held by IORPS dropped by 21.3%, while the value of their corporate bond portfolios declined by only 16.7% helped by their shorter duration and stable credit spreads.

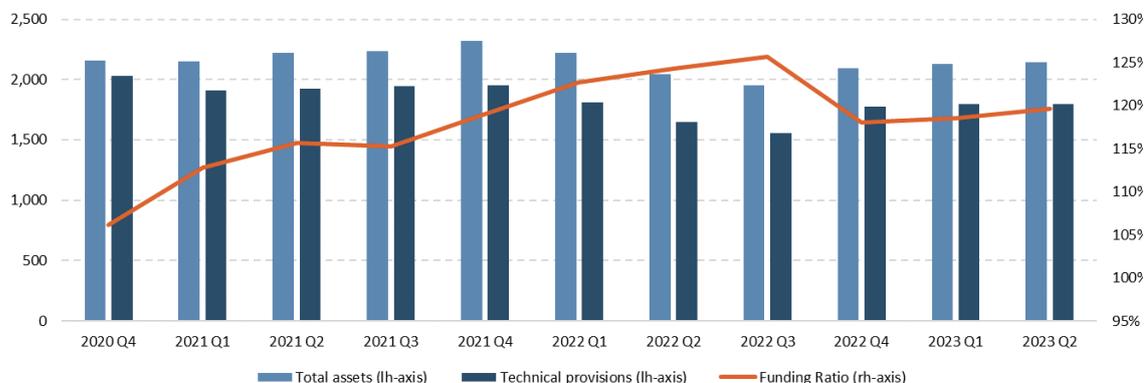
**The liabilities of EEA defined benefit (DB) IORPs arise from obligations for future pension payments that are mostly due far into the future and their valuations are in most cases<sup>26</sup> highly dependent on interest rates.** Falling (rising) interest rates increase (decrease) their present value, i.e., the amount that would have to be set aside now to settle the future claims based on current interest rates. IORPs can hedge interest rate risk fully or partially to stabilise their funding ratio. They can do this by investing in fixed income instruments such as long-term government bonds, covered bonds, corporate bonds, mortgages and loans. They can also use derivatives to augment synthetically the interest rate sensitivity of their assets to match the duration of their liabilities more closely.

---

<sup>26</sup> The liabilities of IORPs are not carried in all EEA countries at market values.

The funding ratio of DB IORPS improved in the first two quarters of 2023 (Figure T3.1) mainly because profitable developments in financial markets. The decline in 2022 Q4 was due to inflation compensation commitments made possible by the strong financial position of IORPs.

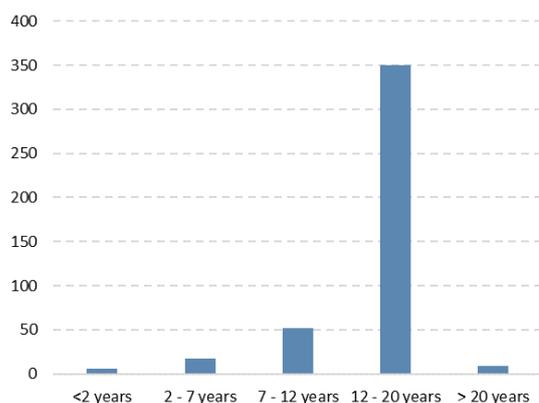
Figure T3.1: Aggregate Funding Ratio of EEA DB Pension Schemes (in %, RHS axis), assets and technical provisions (in EUR bn, LHS axis).



Source: Own calculations based on Occupational Pension Statistics, Balance sheet.

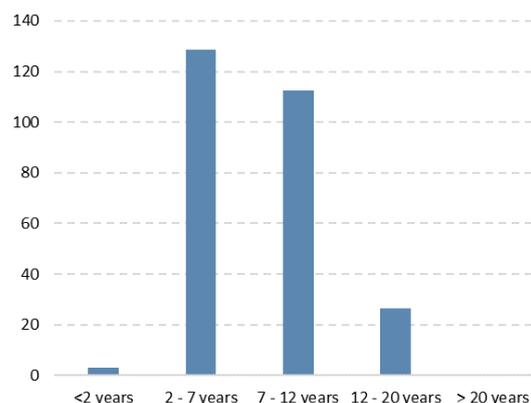
Long-term sovereign bonds dominate the bond portfolios of DB IORPs. They hold mostly government bonds with maturities between 12 and 20 years and an average residual maturity of approximately 14.1 years (Figure T3.2). Their corporate bond holdings have mainly maturities between 2 and 12 years with an average residual maturity of approximately 7.6 years (Figure T3.3). The allocation to domestic government and corporate bonds differs substantially across Member States, the EEA average is 17% for government bonds and 25% for corporate bonds (Figures T3.4 and T3.5).

Figure T3.2: Value of government bonds per maturity bucket (EUR bn)



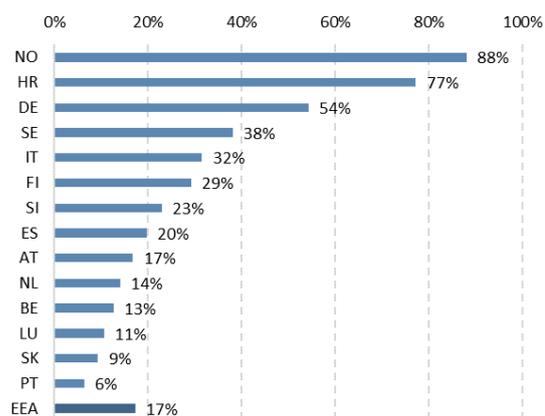
Source: IORP PF.06.02.

Figure T3.3: Value of corporate bonds per maturity bucket (EUR bn)



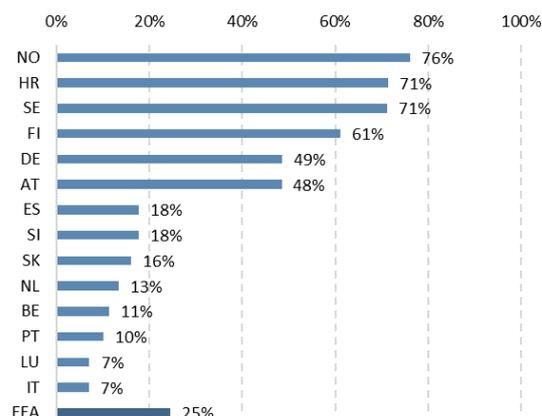
Source: IORP PF.06.02.

Figure T3.4: Allocation to domestic government bonds per Member State (in %)



Source: Occupational Pension Statistics

Figure T3.5: Allocation to domestic corporate bonds per Member State (in %)



Source: Occupational Pension Statistics

Table T3.1: Distribution of residual maturity of government bonds (in years)

Percentile	Residual Maturity
10th	2.7
25th	5
50th (median)	7.8
75th	14.4
90th	19.8
Average (weighted)	14.1

Source: IORP PF.06.02. As of Q4 2022.

Table T3.2: Distribution of residual maturity of corporate bonds (in years)

Percentile	Residual Maturity
10th	1.9
25th	3.2
50th (median)	5.2
75th	8.2
90th	12.7
Average (weighted)	7.6

Source: IORP PF.06.02. As of Q4 2022.

**The risks resulting from cash margin calls to long-term investors hedging interest rate risk have come into the spotlight in the UK.** At the end of September 2022, the announcement of tax cuts and borrowing plans with limited details on accompanying spending cuts by the UK government sparked turmoil in the Gilts market. The Bank of England had to take emergency actions launching a 65 bn. GBP bond-buying programme to prevent a crisis in government debt markets and to protect pension funds in the UK. This stopped a vicious circle in which pension funds had to sell Gilts on short notice to meet cash margin calls triggered by increased yields thus suffering substantial losses and putting further upward pressure on yields. The price of 30-year UK government bonds dropped by 24% in one day but recovered quickly after the BOE announced the intervention to a more moderate 6% loss.

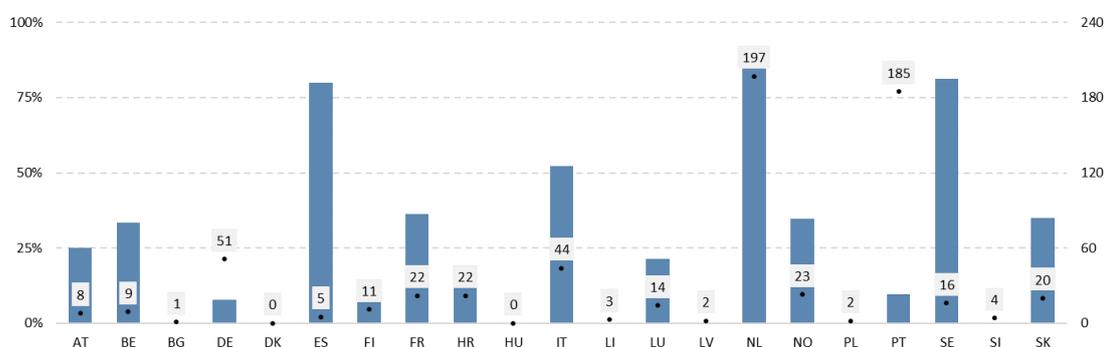
### THE USE OF INTEREST RATE DERIVATIVES BY IORPS

**Derivatives differ from other assets such as bonds, stocks or real estate.** They are financial instruments whose value changes in response to changes in the underlying asset or index. The required initial net investment is normally zero or at least smaller (often significantly so) than for other types of financial contracts with similar risk exposure.

**IORPs can hedge the interest rate risk of their liabilities by investing in fixed income instruments like long-term government bonds but also by entering into derivatives contracts.** They allow to augment synthetically the interest rate sensitivity of assets so that they match the duration of their liabilities more closely. For this purpose, IORPs enter into Interest Rate Swap (IRS) contracts where they pay the floating rate and get the fixed rate. They are then required to make cash variation margin payments when risk-free rates increase. For IORPs it has become mandatory to clear IRSs contracts centrally only since June 2023 and margins are received or paid in cash by regulation. In any case anecdotal evidence suggests that the counterparties in bilateral IRSs transactions already required in most cases margin payments in the form of cash in a ring-fenced bank account. So irrespective of central clearing or bilateral transactions rising interest rates reduced the value of IRSs contracts and triggered payments of variation margin in cash. Liquidity risk arises therefore from the fact that interest rate derivatives positions are unfunded positions on interest rate risk (as opposed to the purchase of a bond which would be a funded position on interest rate risk) and not from the fact that these have to be centrally cleared.

**Out of 625 EEA IORPs, 275 were using derivatives at the end of 2022.** Figure T3.6 shows the number of IORPs and the share of derivative users per country. IORPs do not provide detailed reporting on derivatives to EIOPA, but anecdotal evidence suggests that the most frequently used instruments are interest rate derivatives to manage their duration mismatch and currency derivatives (FX) as they invest in foreign currencies while liabilities are denominated in their local one.

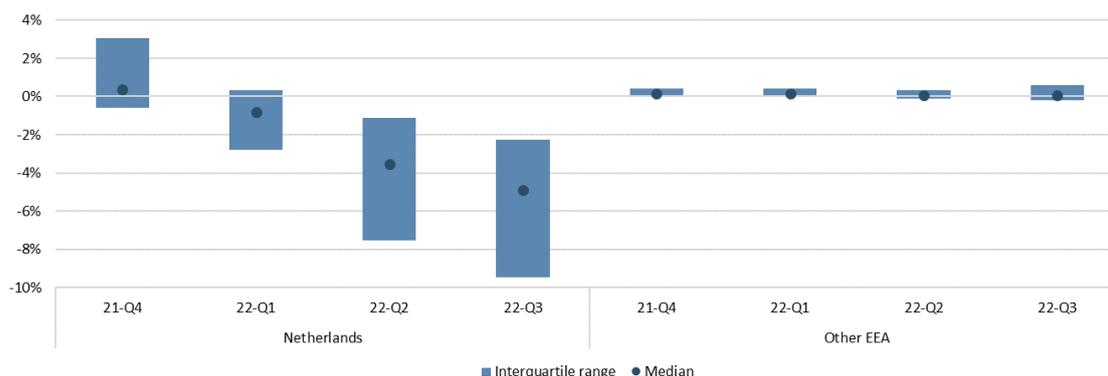
Figure T3.6: Number of IORPs and percentage of derivative users per country



Source: IORP individual reporting PF.02.01. Note: Data as of Q4 2022. Not all IORPs are submitting individual data.

**Changes in the market values of the derivatives on IORP balance sheets are to a very large extent driven by interest rate changes.** Figure T3.7 shows that the value of the derivative positions of Dutch IORPs dropped significantly into negative territory when interest rates increased from Q1 to Q3 2022, while there were no significant changes for other countries. The low sensitivity to interest rate changes in these countries suggests that interest rates derivatives are predominantly used by Dutch IORPs.

Figure T3.7: Market value of derivative positions held by IORPs in the Netherlands and other EEA countries (% of total assets: cross-sectional distribution)



Source: IORP individual reporting PF.02.01. Note: Not all IORPs are submitting individual data.

## DEVELOPMENT OF INTEREST RATES AND VARIATION MARGINS POSTED AND COLLECTED BY IORPS

**2022 saw not only a sharp increase in interest rates, but they were also highly volatile.** Rates did not rise smoothly with for example an 80 basis points drop in the yield on 10-year German Bunds in August 2022. Even if they expected interest rates to increase further the potential for a sudden significant drop created incentives for IOPRs to remain hedged at any time to keep their funding ratios stable.

**The market value of interest derivatives varies with interest rate changes which triggers margin calls.** The variation margin to be paid or received corresponds to the change in the market value of the derivative (i.e. a mark-to-market profit or loss)<sup>27</sup>. The IORPs reporting provides only the balance sheet positions at the end of the quarter. When the risk-free interest rate increases in a quarter, IORPs suffer losses on derivative positions that they entered into to protect against lower rates and they have to pay variation margins. Margins have to be posted on a daily basis and margin payments accumulate over time. The opposite happens when the risk-free interest rate decreases over a longer period and IORPs accumulate margins in cash; This was for example the case in the first three quarters of 2019 when interest rates reached their lowest levels. Variation margins are typically exchanged in the form of cash in a ring-fenced bank account. For this reason, there is no possibility to determine whether an increase in the cash deposits on the balance sheet of an IORP is due to receiving or paying variation margins.

**During the first three quarters of 2022 the market value of derivatives held by IORPs dropped by EUR 146 bn<sup>28</sup>.** This corresponded to approximately 5.6% of their total investments. For some IORPs this percentage was considerably larger with the 75<sup>th</sup> and 90<sup>th</sup> percentiles corresponding to

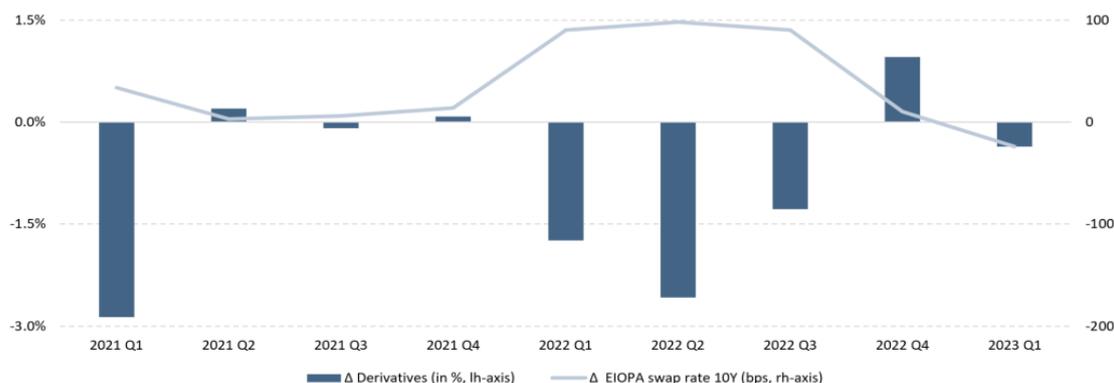
<sup>27</sup> When an IRS contract is originated its initial value is zero. In case the market value subsequently becomes negative (i.e., mkt-to-mkt loss on the IRS) the IORPS has an obligation to its counterparty. The contract will be settled at maturity, but the counterparty or the clearing house that centrally clears the OTC derivative transaction collects on a daily basis the variation margin corresponding to the change in market value. The IORPs reporting provides only the evolution of positions from quarter to quarter, but margins paid daily cumulate and make up the total quarterly variations.

<sup>28</sup> This study investigates the hedging behaviour of IORPs against interest rates movements and potential liquidity issues stemming from margin calls on derivatives. In absence of a detailed reporting on derivatives positions in the IORP framework, the analysis has to rely on balance sheet data focusing on historical trends in the net derivative position and asset allocation of IORPs and how they relate to interest rate movements. The absence of specific derivative reporting requires some assumptions/approximations on the type of derivatives held by IORPs based on empirical studies conducted in academia on specific markets.

8.8% and 13.1% respectively while the median was 3.1 %. As cash levels at the beginning of 2022 were approximately zero, the variation margin calls must have triggered sales of investments.

Figure T3.8 shows that the large increase in interest rates during the first three quarters of 2022 coincided with substantial losses in the derivative positions of IORPs.

Figure T3.8: Change in the market value of derivative positions (in % of total assets, LHS axis) and change in interest rate (in bps, RHS axis)



Source: Own calculations based on EIOPA Occupational pensions statistics and EIOPA risk-free interest rate.

The analysis does only take into account direct exposures to derivatives.<sup>29</sup> Moreover, national specificities mean that results do not apply to German IORPs.

## INVESTMENT ACTIVITY OF IORPS DURING 2022

**This section explores how IORPs raised the liquidity needed to pay variation margins on derivatives during the sharp increase in interest rates in 2022.**

**IORPs sold large amounts of equity, equity and bond funds, money market funds (MMFs) and to a lesser extent highly liquid short-term government bonds.** Derivative users sold on a net basis equity worth EUR 7.5 bn, EUR 25.6 bn and EUR 3.7 bn in Q1 to Q3 2022 (in aggregate EUR 37 bn) while non-derivative users were net buyers of equity over that period (+ EUR 350 m). Derivative users were also net sellers of equity and bond funds (in aggregate EUR 94 bn with sales representing 3% to 5% of initial holdings each quarter) while non-users were net buyers (+ EUR 3.6 bn). Both categories were net sellers of MMF with total amounts of EUR 5.7 bn, EUR 4.4 bn and EUR 3.1 bn respectively in Q1 to Q3.

**IORPs also sold ca. EUR 8bn. in highly liquid short-term government bonds.** Selling was concentrated in highly rated bonds issued by DE, NL and the Nordic countries (NO, SE, DK), while purchases were concentrated in bonds of non-European issuers with US bonds representing the largest share.

**The volume of net selling was substantial.** The estimated EUR 151 bn in net sales represented approximately 6% of the total investments by IORPs. They did not start to report this type of data

<sup>29</sup> In some cases indirect exposures through funds can be material. This results in a potential underestimation of the liquidity risk.

to EIOPA before 2020 but according to the Dutch Central Bank Dutch IORPs did never before sell such a large proportion of their assets over a nine-month period.<sup>30</sup>

**IORPs remained net buyers of government and corporate bonds.** Exposures to government and corporate bonds on aggregate increased, even though highly liquid short-term bonds have been sold. Proceeds from matured bonds were reinvested, largely into long-term bonds with maturities above 10 years.

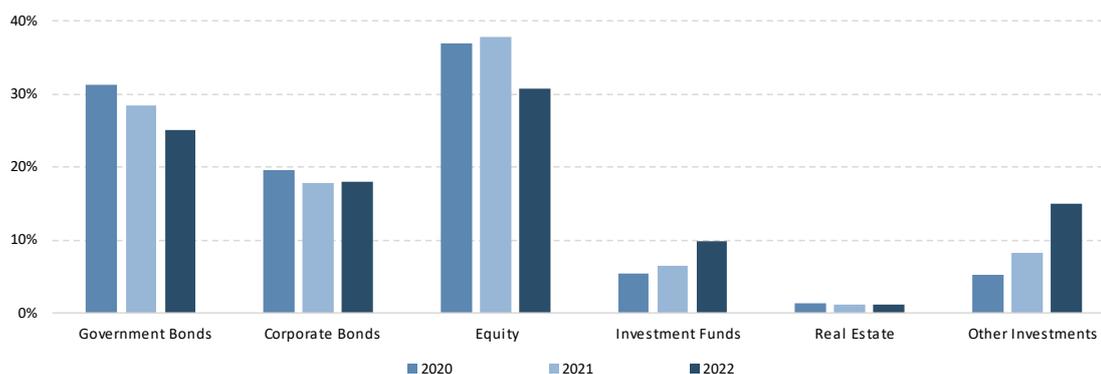
### REBALANCING FROM EQUITIES TO BONDS

**The analysis in this section provides a complement based on look-through data.** While the information outlined in the previous section did not allow to differentiate between the net sales of bonds and equity funds, the look-through makes it possible to compare the direct and indirect holdings of government and corporate bonds as well as equities at the end of each year.

**Based on portfolio and market parameters it is possible to estimate the market value losses.** At the beginning of 2022, the government and corporate bonds portfolios of IORPs had maturities of approximately 14 and 7 years while the risk-free rate (approximated by the 10-year bund yield) increased by ca. 270 bps in the first three quarters of 2022. This implies drops in the prices of government and corporate bonds held by IORPs of more than 30 and 15% respectively<sup>31</sup>. In the same period, the major equity indexes (S&P 500 and STOXX Europe 600) declined by approximately 20%.

**This can then be compared with the reported losses.** Figure T3.9 shows that the actual share of government bonds in the total investments declined much less in 2022 (from 28% to 25 %) than implied by these estimates while the share of corporate bonds actually increased (as well as the proportion of all other assets).

Figure T3.9: Asset allocation of IORPs (% of total investments, including look-through)



Source: IORP reporting PF.06.02 and PF06.03.

**This supports the previous findings that IORPs rebalanced from equities to bonds during 2022.** While bond prices declined in 2022 equities had gained substantially in value in the previous year

<sup>30</sup> [Dutch pension funds sell record amount in assets \(dnb.nl\)](https://www.dnb.nl/en/newsroom/news/2022/12/08/dutch-pension-funds-sell-record-amount-in-assets)

<sup>31</sup> Maturities of 14 and 7 years for bonds with coupons between 2 and 3 % translate into durations of approximately 12 and 5 respectively. An increase of 270 bps with such durations implies a drop of bonds prices of approximately 30 and 15% respectively (Price percentage decline = -Macaulay duration times 0.027).

2021. Large equity disinvestments allowed IORPs not only to pay margins on their derivatives but also to be net buyers of governments bonds bringing the share of equities and bonds in their portfolios back closer in line with the targets from their strategic asset allocation.

**A noteworthy change is the increase in cash positions to more than 5% of the total investments.**

These are most likely paid variation margins in the form of deposits in a ring-fenced bank account that the IORPs cannot use for their day-to-day liquidity management. In the past IORPs had hold only negligible amounts of cash.

## FINAL REMARKS

**Quickly rising interest rates in the first three quarter of 2022 resulted in considerable losses on the interest rate derivate positions that IORPs had entered to protect against lower interest rates.** The same result was found in a similar exercise for insurers that was published in the December 2022 EIOPA Financial Stability Report.

**As their cash balances were small IORPS had to liquidate investments to meet the resulting variation margin calls.**

**IORPs raised cash by selling bond and equity funds, direct investments in equities and short-term governments bonds.** This coincided with a rebalancing from equities to bonds during 2022.

**There are considerable differences to the situation in the UK.** The 2022 market turmoil in the UK forced UK pension funds to sell Gilts into a falling market which exacerbated the crisis. While EEA IORPs had also to sell investments to raise cash in the first three quarters of 2022 there were otherwise significant differences: They hold large positions in equity and their fixed income positions are much more diversified both in terms of maturities and borrowers. EEA sovereign bond markets are also larger and deeper than in the UK. The sales of investments to raise cash had consequently no disruptive impact on markets.

**There is a need for further analysis.** As a next step it seems useful to learn more about the liquidity management by IORPs and about the potential risks and vulnerabilities. IORPs that use derivatives are most likely increasing their activities in repo and security lending markets to borrow cash collateralised with liquid bonds which can then be used to post cash collateral. A potential direction could be an analysis of data collected in accordance with the Securities Financing Transaction Regulation Requirements (SFTR).

## 4. PAST RECESSIONS AND INSURANCE BUSINESS

*With slowing growth and an environment of increasing interest rates and high inflation, a recession in the next months in the EEA cannot be ruled out. Against this background, it seems useful to analyse how past recessions impacted financial markets, the profitability of insurers and their valuation in equity markets. This might allow, in a second step, to draw lessons on the possible effects of a future recession. One distinctive feature compared to previous recessions could be a high and persistent inflation. This might prevent central banks from lowering interest rates and thus prolong and deepen the slump. Another adverse effect of rising prices could be lower or negative underwriting results. For many years, insurance stocks have offered above market dividend yields. Rising rates have already reduced the premium over risk free investments. The high dividend yields might have attracted income investors which would make the decision to reduce or cut dividends in the next recession even more difficult than usual.*

### INTRODUCTION

**Recessions affect the capital, profitability, and liquidity position of insurers.** They impact their investments but also their underwriting (e.g., less new business, inflated claims, loss of expected profits due to surrenders etc.). The actual impact depends on the positioning of insurers and in particular the duration, severity, and the causes of the recession. In the current environment with rising interest rates and considerable uncertainty about the future path of the economy in the EEA, it seems useful to analyse how past recessions impacted financial markets, the profitability of insurers and their valuation in equity markets. This might allow, in a second step, to draw lessons on the possible effects of a future recession.

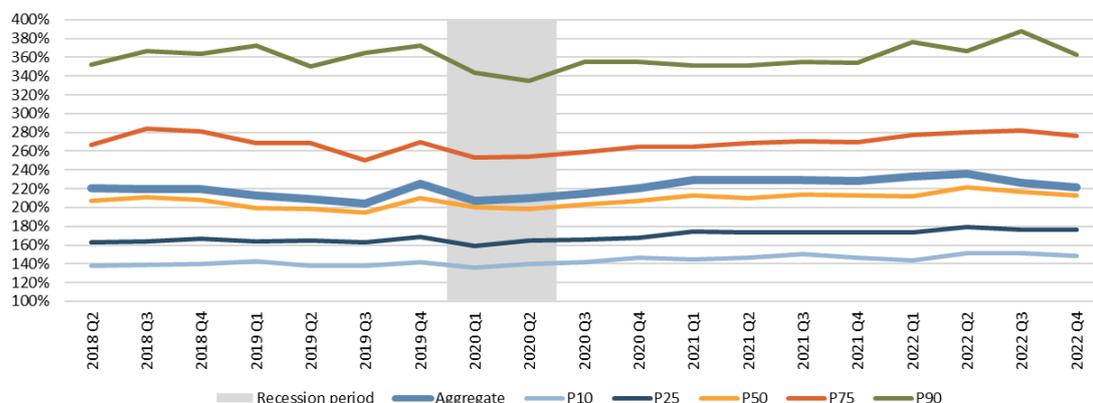
**This analysis focuses on the last three recessions.** The Euro Area Business Cycle Network provides a list of past recessions since 1974. The focus of this chapter is on the most recent recessions, namely the global financial crisis (2008-2009), the European sovereign debt crisis (2011-2012) and the Covid-19 crisis (2020-2021).

**The analysis is mainly based on financial market data and data from accounting.** One reason is that comprehensive and comparable solvency data is only available since 2016. Market data has also the advantage to reflect expectations about the future (i.e., in contrast to at least some elements of financial accounting it is forward-looking). Another argument is that negative market perceptions of the prospects for the insurance sector and the associated low equity valuations make it costlier or even impossible to raise capital in a crisis. Data on equity prices is only available for listed insurers. The analysis uses the STOXX Europe 600 Insurance Index.

**The development of solvency positions in a recession is an important element but out of the scope of this analysis.** The data limitations would restrict the analysis to the most recent crisis. As shown in Figure T4.1, solvency ratios for groups fell across the board during the first phase of the

Covid-19 crisis. Liquidity is also a concern, with scarce data not allowing a more detailed discussion.

Figure T4.1: Solvency Ratios for groups (aggregate and across key percentiles (P))



Source: EIOPA public statistics.

### OBSERVATIONS FROM PAST CRISES

The following section elaborates on the patterns observed in financial market indicators, profitability and premium measures for insurers, and equity valuations for insurers around recession periods.

**One common element in the last three recessions was the decrease in the interest rate on bonds that were perceived as risk-free.** The last three periods of recession had very different triggers, ranging from a credit crunch to sovereign risk and a pandemic. However, in all cases interest rates at the end of the recession were (in part substantially) lower than at its outset (Figure T4.2). During these episodes the lower interest rates set by central banks were complemented by wider support and liquidity measures. Combined they resulted in expectations for lower yields for longer.

Figure T4.2: Development of long-term interest rates

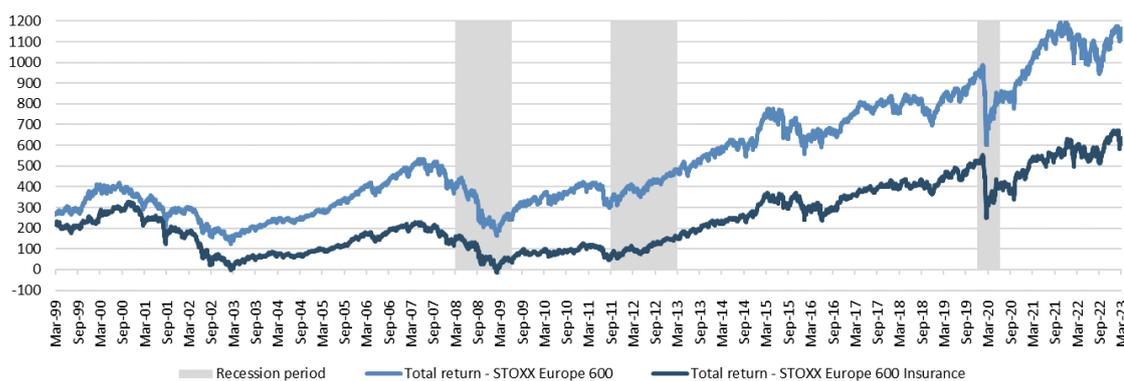


Source: Bloomberg

**Lower equity prices and higher spreads hit investment portfolios.** Equity prices dropped substantially in 2008-2009 and 2020. In 2011-2012 the decline anticipated the “official” start of the recession (Figure T4.3). Besides this, all three recessionary periods saw a substantial increase in both sovereign and corporate spreads (Figure T4.4). Insurers have substantial holdings in

sovereign and corporate bonds. How their prices behaved during the recessionary periods depended on the borrower. The prices of German government bonds rose for example while the increase in spreads resulted for some issuer countries in lower sovereign bond prices. The net effect of the market movements on the capital position of the insurers depended crucially on the changes in the value of their liabilities. With lower interest rates the present value of future claims payments increases (in particular for traditional life insurance products with high guaranteed rates). The knock-on effects of the accommodative environment on the demand side should not be ignored. Although these effects are not evident during the recession, financial markets price in their effects on future business growth.

Figure T4.3: Total return of equity indices for the broad market and for the insurance sector



Source: Bloomberg

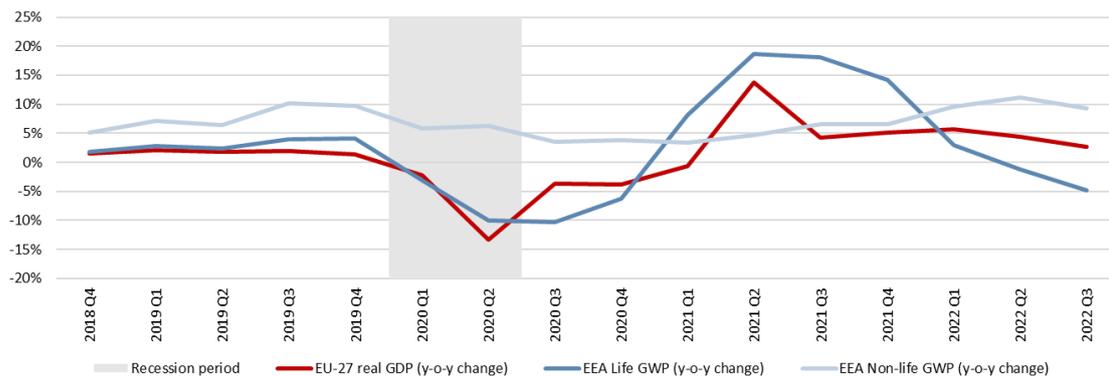
Figure T4.4: Development of spreads on corporate and government bonds



Source: Bloomberg.

**Premiums dropped during the last recession, with the life segment or non-mandatory coverages potentially more sensitive to a weaker demand side.** The demand for non-life insurance products that are mandatory (either by regulation or *de facto* due to business practices) can be thought of as less elastic. In contrast, demand for additional features or other coverages (e.g., life or add-on features of non-life) may drop due to the worsening financial position of households and corporates (in particular, in case of persistently high inflation). During the last recession, total EEA gross written premiums dropped in sync with GDP with a larger decrease for life business (Figure T4.5).

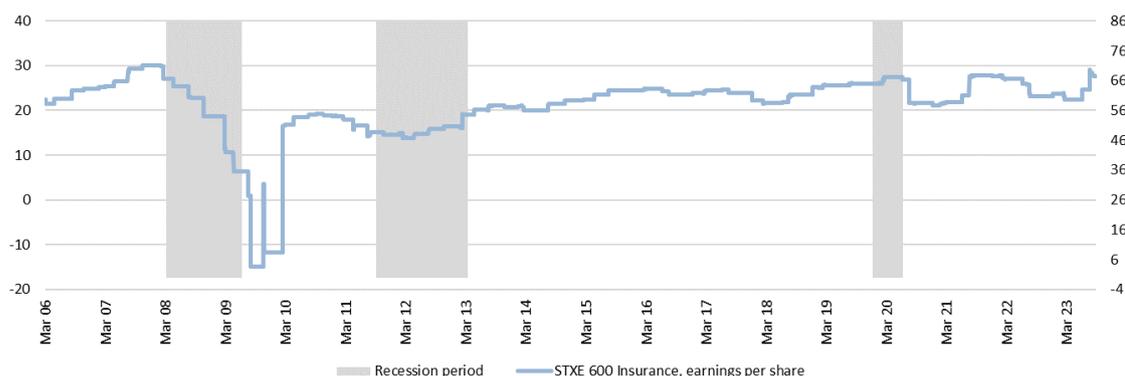
Figure T4.5: Development of Gross Written Premiums (GWP) from 2018 to 2022



Source: EIOPA public statistics.

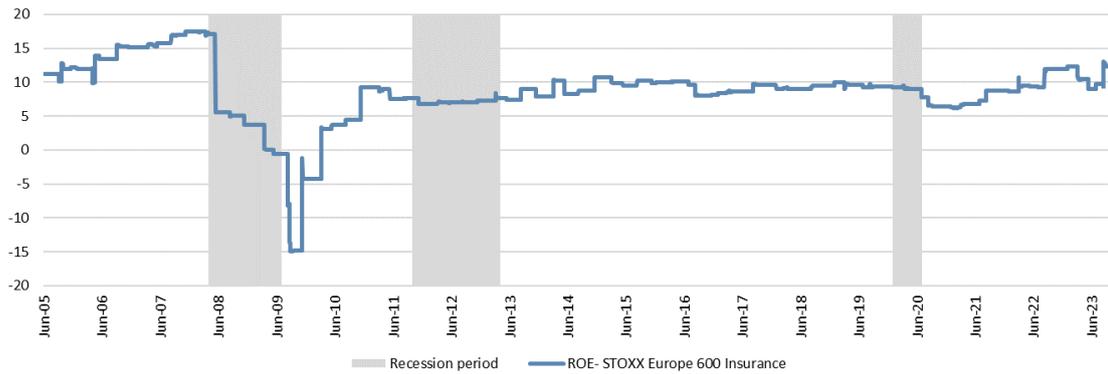
**Profitability measures behaved differently during the three crises (Figures T4.6 and T4.7).** This heterogeneity and in some cases the weak link between economic environment and profitability can have several reasons. Statutory accounting does not require the use of market values for all investments. Underwriting results are also not (or at least not immediately) affected by a recession. Existing and new policyholders need for example protection against risks, and, in some cases, insurance is even mandatory (e.g., third party motor liability). This means that surrender rates and the volume of new business responded only slowly during these recessions. Finally, as financial statements are only drawn up every three months, they are not necessarily affected by the inter-quarter volatility. The three examples illustrate that recessions do not necessarily have an immediate effect on the profitability of insurers, and it matters a lot whether the recession is caused by events in the financial market or the real economy.

Figure T4.6: Development of earnings per share for insurers included in the STOXX Europe 600 Insurance Equity Index



Source: Bloomberg

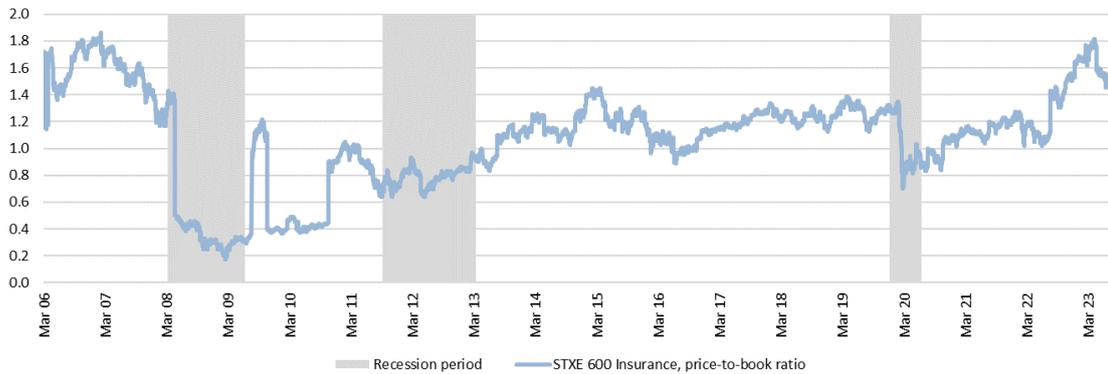
Figure T4.7: Development of the return on equity for insurers included in the STOXX Europe 600 Insurance Equity Index



Source: Bloomberg

**In contrast to balance sheet-based profitability measures, forward-looking indicators dropped immediately shortly before or at the outset of the considered recessions.** An example are the price-to-book ratios (Figure T4.8). It also took some time before they reached their level before the recession. This reflects the lower expectations for future value creation over and above the cost of capital. Markets priced in higher risks and/or lower expectations for future cash flows.

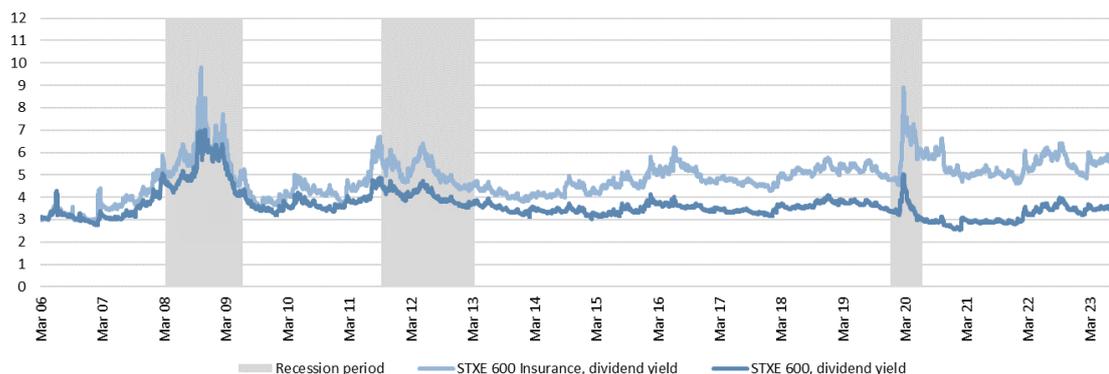
Figure T4.8: Development of the price-to-book ratios for insurers included in the STOXX Europe 600 Insurance Equity Index



Source: Bloomberg

**Dividend yields for the sector peaked during the past recessions as dividends were kept constant or reduced slower than share prices.** The premium over the market (Figure T4.9) which has persisted for more than a decade suggests that the dividend yield is an important element for investors in the sector.

Figure T4.9: Development of dividends yields for the broad market and insurers included in the STOXX Europe 600 Insurance Equity Index



Source: Bloomberg

## POSSIBLE LESSONS FOR THE NEXT RECESSION

**The next recession could originate in the real economy, but financial market volatility could also be a significant element.** Inflation has reduced the real purchasing power of consumers. Higher interest rates increase the “hurdle rate” for new investments by companies and make refinancing costlier. Uncertainty about the future path of interest rates adds to the already elevated level of uncertainty which, along with the already weaker credit flows, is not conducive for investments. At the outset of the last three recessions, the rise in prices was moderate compared with the current levels and the potential need to fight inflation within a negative growth environment might prevent medium and long-term interest rates to drop as much as they did in previous recessions. This would exacerbate the deterioration in the creditworthiness of borrowers and the increase in default rates. The rise in the levels of sovereign debt might reduce the flexibility of governments to take countercyclical fiscal measures, which might reinforce the above-mentioned dynamics.<sup>32</sup> The fees earned on unit-linked policies which have become more and more important in the past years would drop in response to losses on the underlying assets.

**Several factors mitigate the immediate effect of a recession on insurers.** The exposures of insurers to listed equity in non-unit-linked portfolios is quite limited and policyholders might bear part of the risk in with-profit business. The increased exposure to non-listed equities over the past years means that write-downs in the value of equity positions would in many cases occur only with a delay. The countercyclical mechanisms in Solvency II also mitigate the effect of temporary elevated risk premia. Another aspect to consider is that the negative effects of the Sovereign Debt Crisis were concentrated in a limited number of countries and the COVID recession was relatively brief. If there was instead a wide-spread and protracted recession with a resulting surge in corporate default rates, the whole EEA insurance sector would suffer substantial losses on its investment portfolios.

<sup>32</sup> On the other hand, it is not implausible that the next recession will again see a flight to quality with lower rates for sovereign bonds perceived as risk-free and an increase in risk-premia with drops in the prices of corporate bonds and equities. Lower discount rates would increase the value of technical provisions.

**The real economy origination and inflation might affect the underwriting business of insurers differently than observed in the past.** High inflation rates and the resulting higher actual and expected payments for claims and operations would reduce the current underwriting profitability of insurers. Lower real incomes and profits might also add to the “normal” reaction of consumers and businesses to curtail spending in a recession and further reduce the volume of new business and the flexibility for insurers to increase premiums on existing contracts. Surrenders of traditional life products might increase if policyholders need the funds or shift into investments that they perceive to provide better protection against inflation.

**Finally, insurers might be more reluctant to cut or cancel dividends.** The reduced ability to generate capital will make it more difficult to maintain or increase dividends. At the same time, risk free rates may remain high lowering the attractiveness of insurer stocks. Since the aftermath of the global financial crisis the stocks of the insurers included in the STOXX Europe 600 Insurance Index have had a higher dividend yield than the broad market. While the rising risk-free rates have already lowered the attractiveness of the relatively high and stable dividend yield that the sector offers, they may have attracted “income” investors. These investors might sell their shares quickly in case dividends are cancelled or cut thus exacerbating the “normal” drops in share prices during a recession. Lower equity valuations impair the ability to raise additional capital while market-based risk indicators deteriorate. Specifically, the stylized analysis in Box 4.1 provides a “back-on-the-envelope” intuition how maintaining the current dividends in a recession would impact the solvency ratios of insurers.

---

#### **Box 4.1: Stylized analysis of the ability of the insurance sector to maintain its dividends during a recession**

---

The purpose here is only to gain an intuition about the effect (in terms of order of magnitude) that maintaining the level of dividends would have on solvency ratios.

The analysis assumes an insurance sector with a pre-recession solvency ratio<sup>33</sup> of 200 %. In the following scenario no market variance is assumed, not because it will not happen during a recession but because it moves both own funds and solvency capital requirement. Whatever the net effect of this movement would be, the capital generation process and the dividend payout can be thought of as subsequent steps, hence it is in this sense irrelevant for the point of focus of the analysis.

Taking the most polar case under which there is a full depletion of the capital generation, every 1% of dividend yield (which is assumed that it will be still distributed e.g., signalling optimism and above target solvency ratios, acknowledging that dividends are important for the sector etc.) translates to 2% in terms of capital requirement (given the assumed 200% solvency ratio).

---

<sup>33</sup> It is assumed that foreseeable dividends are added back to own funds.

To assess the severity of such an impact, the standard deviation of the annual (quarterly) aggregate solvency ratios for groups is 5 p.p. (9 p.p.).

The above considerations show that maintaining the dividend yield in a recession when the insurers generate no or even negative value would have a meaningful impact on their regulatory capital, especially if additionally, some adverse market shocks are accounted for. But also, it indicates the strong capitalization of insurers which could withstand even such an extreme situation. Considering the heterogeneity of the sector, parts of the markets could run under higher risk depending on the specific fundamentals of its business model.

---

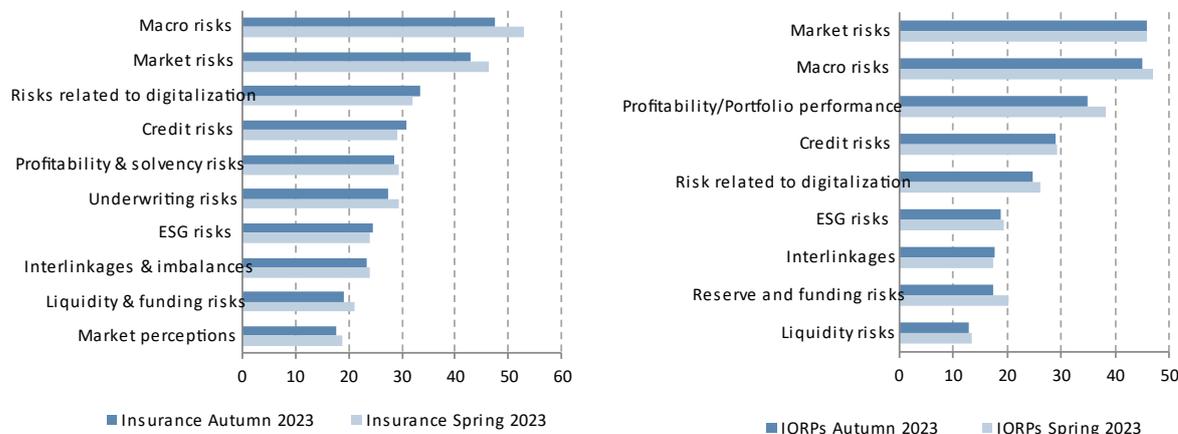
## A.1. RESULTS OF THE QUESTIONNAIRE TO NATIONAL COMPETENT AUTHORITIES

In order to assess the key risks and vulnerabilities for the insurance and IORP sectors, EIOPA conducted its regular Autumn qualitative survey among National Competent Authorities (NCAs).

According to the respondents the macroeconomic outlook for insurers and IORPs improved since Spring 2023 with macro and market risks remaining the main concerns in Autumn 2023 (Figures A.1.1 and A.1.2). Inflation is below the 2022 levels, however, is still expected to remain above 2%<sup>34</sup> and continuing to be a challenge for the insurance and IORP sectors. A macroeconomic scenario with persistent high inflation could lead to a further deterioration in the economic situation of households and lower their demand for insurance products. Second-round effects such as a drop in aggregate demand and a rise in unemployment could further amplify the economic downturn. This in turn could result in losses in the investment portfolios of insurers and IORPs. Some EEA Members have already experienced a drop in their aggregate demand.

**The geopolitical instability, which NCAs identified as the main driver for macro risks for insurers and IORPs, introduces greater uncertainty around the outlook for inflation and growth.**

Figure A.1.1: Materiality of risks for the insurance sector. Figure A.1.2: Materiality of risks for the IORP sector.



Source: EIOPA Insurance Bottom-Up Surveys Autumn 2023 and Spring 2023.

Note: The ranking is based on the responses received. Risks are ranked according to the probability of their materialisation (from 1 indicating low probability to 4 indicating high probability) and their impact (1 indicating low impact and 4 indicating high impact). The figures show the aggregation (i.e., the product probability times impact) of the average scores assigned to each risk. The results were subsequently normalised on a scale from 0 to 100.

**Higher inflation rates can impact the financial situation of IORPs, especially where pension entitlements are linked to inflation or wage growth.** In pension schemes with no or conditional

<sup>34</sup> See ECB: Two per cent inflation target. Available at: [www.ecb.europa.eu/mopo/strategy/pricestab/html/index.en.html](http://www.ecb.europa.eu/mopo/strategy/pricestab/html/index.en.html).

indexation, current and future beneficiaries may lose purchasing power if the increase in inflation is not fully compensated.

**Market risks remain a key risk for the insurance and IORP sectors.** For insurers, interest rate risk was identified in the survey as the main driver for market risks reflecting their high exposure to fixed-income assets and the interest rate guarantees they have provided in several EEA Member States. Insurers already incurred losses on their fixed income assets as a result of the increase in interest rates. Against this background, non-life insurers are reviewing their investment strategies in order to maintain the level of the investment returns.

**Life insurers continuously reduce the guaranteed rates for new products and shift new business from traditional products providing the policyholders with a guaranteed return to capital market-linked products and biometric products.** This transfers part of the risk to policyholders. Notwithstanding the expectations of high volatility in financial markets going forward, the expected increase in the materiality of market risks in the coming 12 months for EEA insurers is lower than in spring (Figures A.1.3).

**Market volatility creates liquidity risks for the portfolios of insurers.** A potential stagflation could reduce the purchasing power of policyholders and therefore result in lower premiums and higher lapses in the long term. One source of liquidity risk are the variation margins on derivatives and repurchase agreements, especially when market volatility spikes. Notwithstanding the solid liquidity positions of EEA insurers in Autumn 2023, the materiality of liquidity risks for the next 12 months is expected to increase.

**Higher costs due to inflation weakened the underwriting margins, in particular for non-life business, while the solvency position of insurers remains solid.** The negative effects of inflation were partially compensated by premiums increases. Solvency ratios in the EEA are generally still solid, but lower returns in the financial markets may challenge the profitability and solvency positions of EEA insurers in the future. Furthermore, higher prices for reinsurance due to high claims experienced in the last years could influence the profitability or affordability of insurance.

**According to the respondents portfolio performance remains a key concern for IORPs, ranked third among the top risks (Figure A.1.2).** Investment returns could be negatively impacted by a potential deterioration in economic and financial markets conditions. For Defined Benefits plans this could necessitate additional sponsor support, while for beneficiaries of Defined Contributions plans this translates into lower pension payments. The potential impact depends on the specificities of IORPs across Member States and their asset allocations.

**Overall, the macroeconomic outlook for the insurance sector in the next 12 months improved since Spring 2023, however the materiality of credit risks is expected to increase for insurance and IORPs (Figure A.1.3 and Figure A.1.4).** The macroeconomic situation can also create risks for investment portfolios. A drop in economic activities and aggregate demand could negatively impact NFCs increasing credit downgrades or insolvencies and leading to a severe impact on the investment portfolios of insurers and IORPs.

**Digitalization and cyber risks remain a challenge for both sectors and is expected to increase going forward (Figure A.1.3 and Figure A.1.4).** The number of cyber-incidents continued to

increase and concerns about cyber security issues remain high also due to worries about a hybrid geopolitical conflict.

**For the insurance sector, the materiality of ESG risks is also expected to increase in the next 12 months with climate physical risks as main driver.**

Figure A.1.3: Risks with the highest expected increase in their materiality over the next 12 months for the insurance sector.

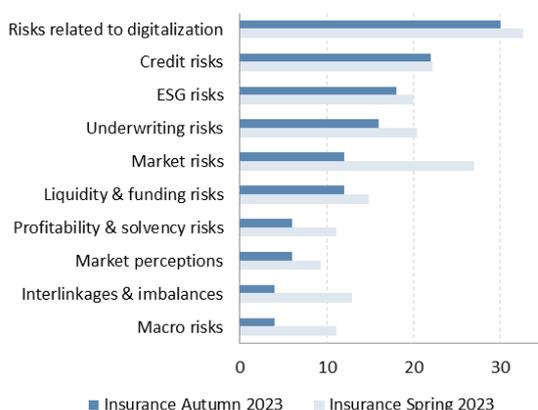
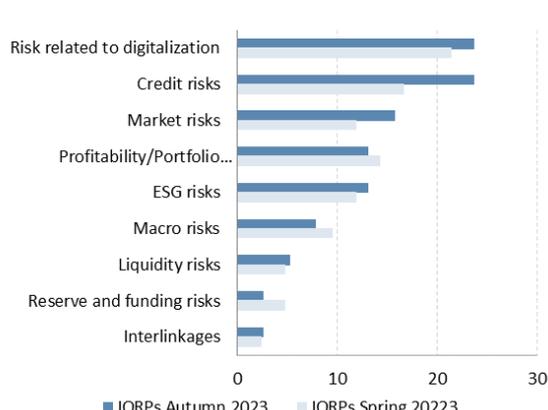


Figure A.1.4: Risks with the highest expected increase in their materiality over the next 12 months for the IORP sector.



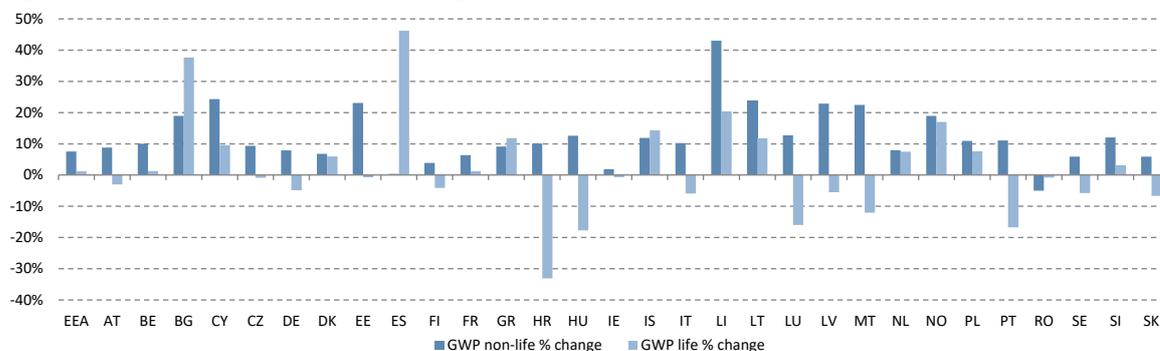
Source: EIOPA Insurance Bottom-Up Surveys Autumn 2023 and Spring 2023.

Note: Ranking based on the responses received. Risks are ranked according to the expectation for the future change in their materiality (from -2 indicating strongly decrease to +2 indicating strongly increase). The figures show the aggregation of the average scores assigned to each risk. The results were subsequently normalised on a scale from -100 to 100.

## A.2. STATISTICAL ANNEX

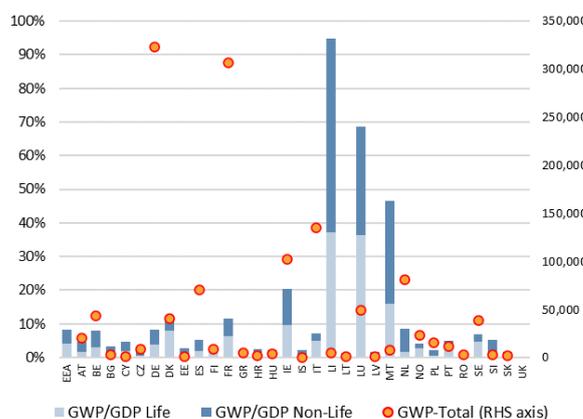
### Insurance sector

Figure A.2.1: Total Life and Non-Life GWP growth from Q2 2022 to Q2 2023 (in %, year-on-year).



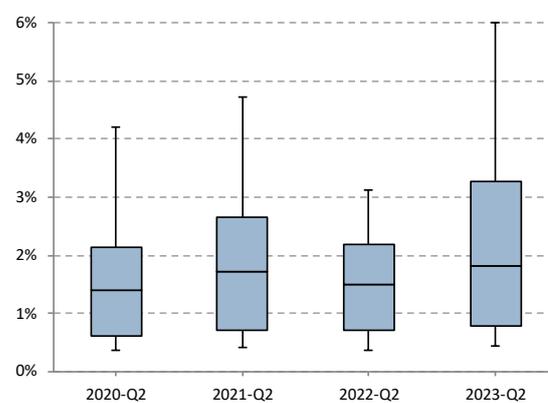
Source: EIOPA Quarterly solo. Note: EEA weighted average. The decline observed for Slovakia for life business is driven by the withdrawal of the licence for one insurance undertaking focused only on life business, while the increase observed for Bulgaria is driven by a change in reporting of the investment and insurance parts of the UL life insurance premiums by an insurance undertaking.

Figure A.2.2: GWP life and non-life as a share of GDP (in %) (LHS) and total GWP (in EUR bn) (RHS) by country in Q4 2022



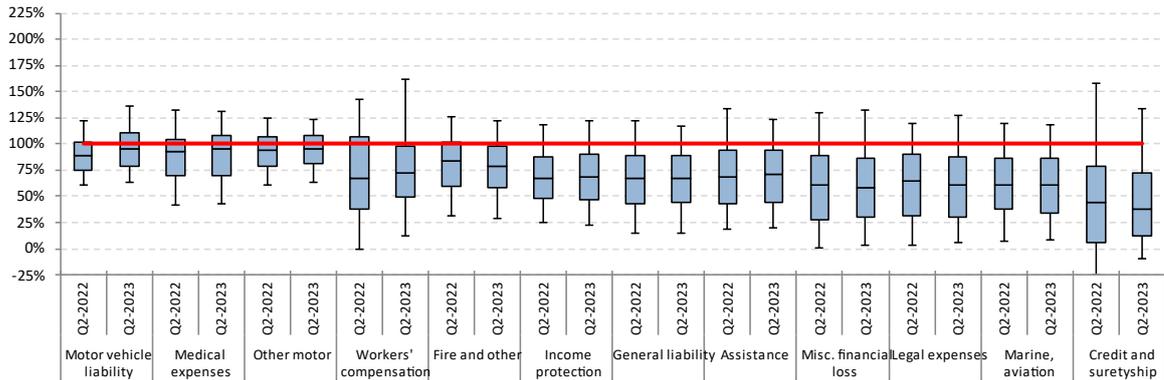
Source: EIOPA Quarterly Solo and Eurostat, Q4 2021 and 2021.

Figure A.2.3: Lapse rates (in %; median, interquartile range and 10th and 90th percentile).



Source: EIOPA Quarterly Solo and Eurostat.

Figure A.2.4: Gross Combined Ratio across lines of business (in %; median, interquartile range and 10th and 90th percentile).



Source: EIOPA Quarterly solo

Figure A.2.5: Investment split in Q2 2023 compared to Q2 2020, Q2 2021 and Q2 2022.

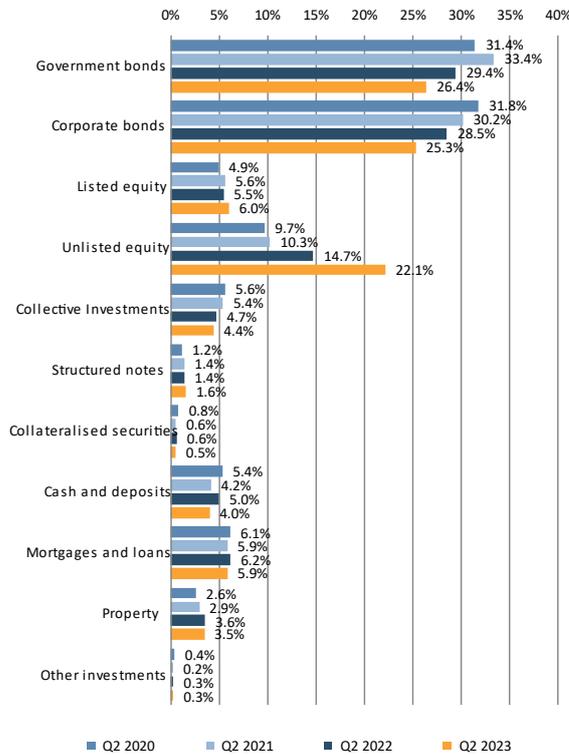
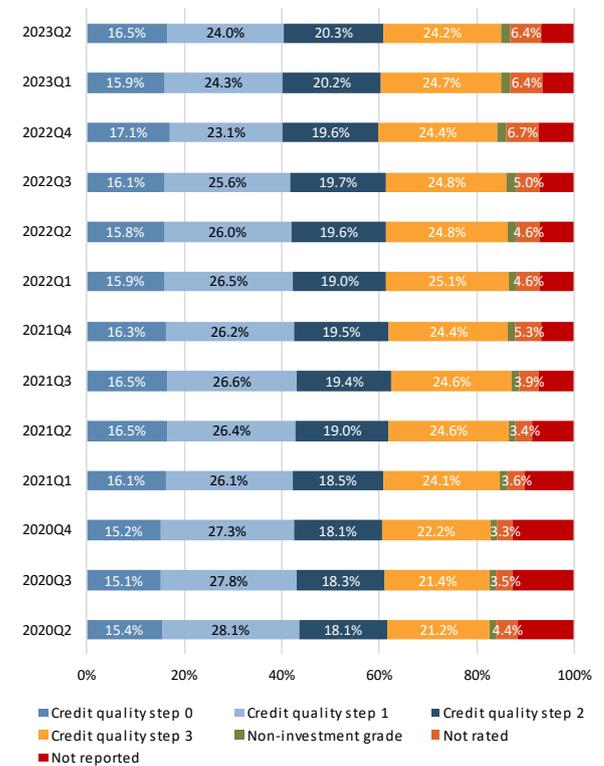


Figure A.2.6: Development in credit quality of bond portfolios for the insurance sector.



Source: EIOPA Quarterly Reporting Solo. Note: For figure A.2.6 government and corporate bond portfolios are combined. Assets held for unit-linked contracts are included.

Figure A.2.7: Holdings of government bonds by issuer country for the insurance sector.

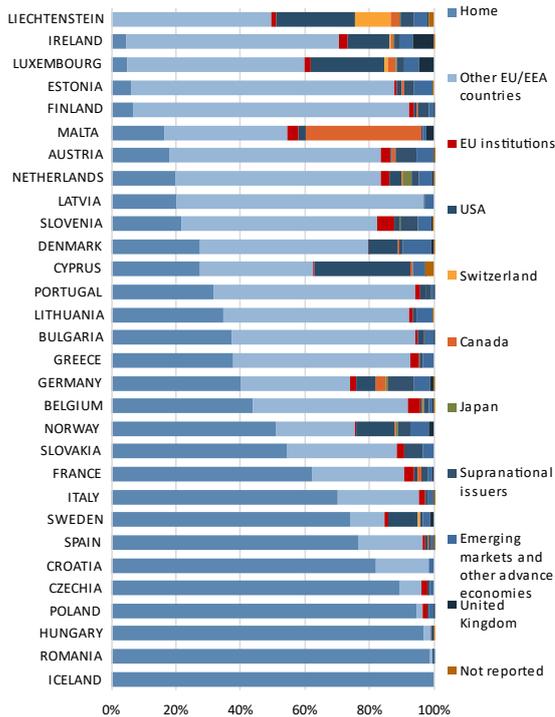
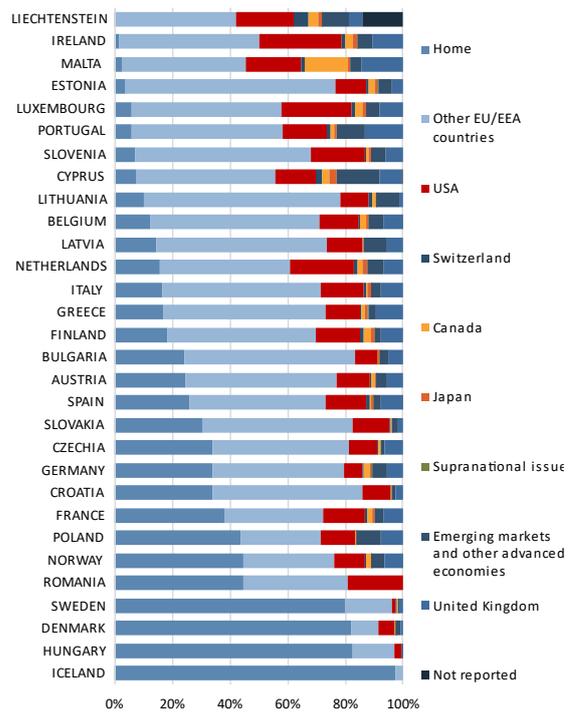


Figure A.2.8: Holdings of corporate bonds by issuer country for the insurance sector.



Source: EIOPA Quarterly Reporting Solo. Reference date: Q2 2023. Note: Look-through approach is not applied. Assets held for unit-linked business are included.

### Reinsurance sector

Figure A.2.9: Gross Written Premiums in the EEA (in EUR bn and %) in Q2 2023.

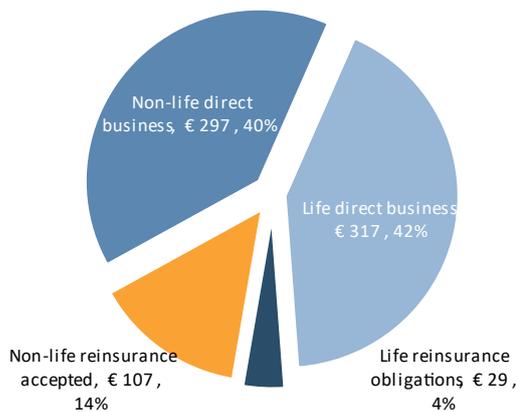
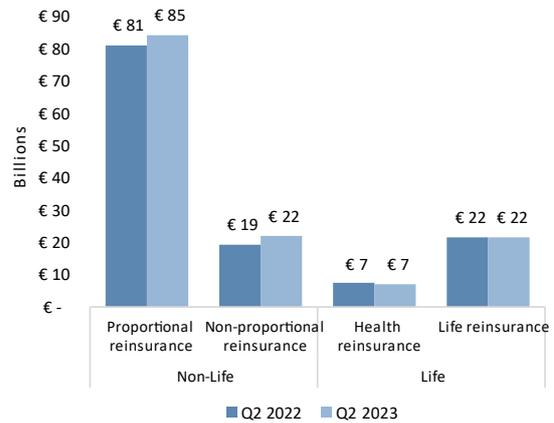
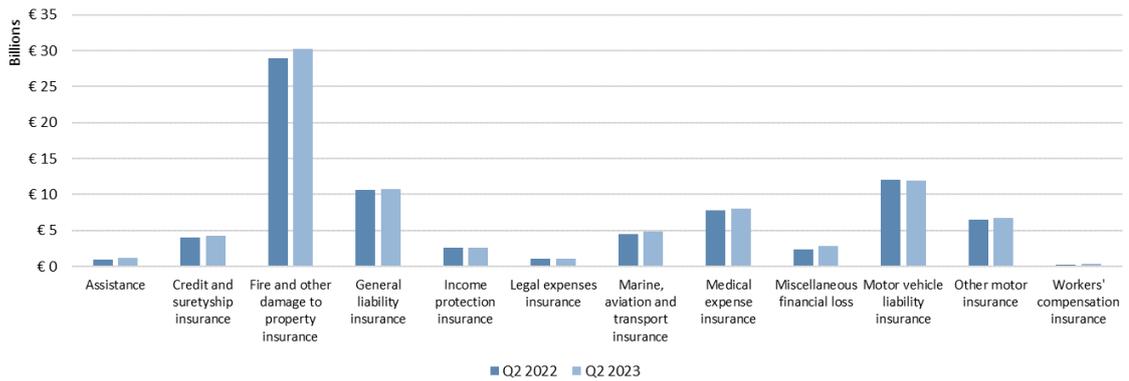


Figure A.2.10: Reinsurance Gross Written Premiums in the EEA (in EUR bn) in Q2 2023.



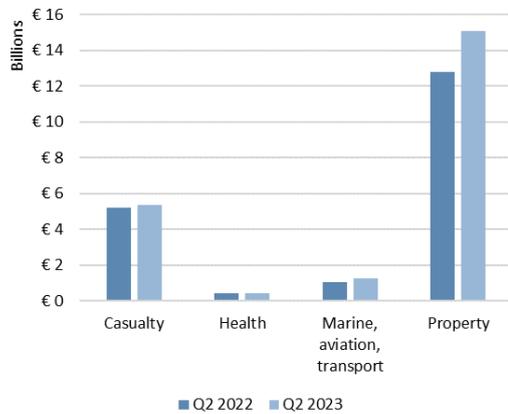
Source: EIOPA Quarterly Solo. Note for figure 2.10: Year-to-date amounts. Non-life reinsurance accepted includes proportional and non-proportional reinsurance. Life reinsurance obligations include life reinsurance and health reinsurance.

Figure A.2.11: Gross written premiums for non-life proportional reinsurance by line of business (EUR bn).



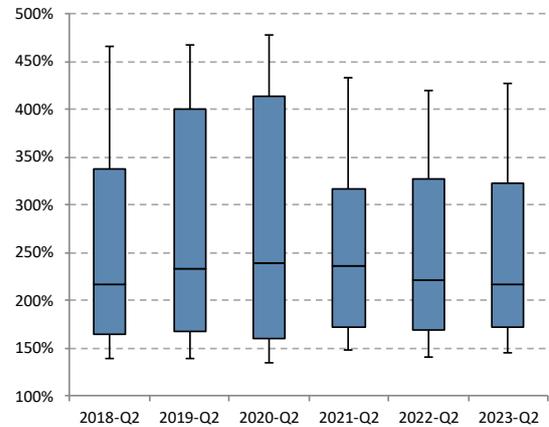
Source: EIOPA Quarterly Solo.

Figure A.2.12: Gross Written Premiums for non-life non-proportional reinsurance by Line of Business (EUR bn).



Source: EIOPA Quarterly Solo

Figure A.2.13: Solvency ratio of EEA reinsurance undertakings (in %; median, interquartile range and 10th and 90th percentile).



**IORP sector<sup>35</sup>**

Figure A.2.14: Total Assets (EUR bn).

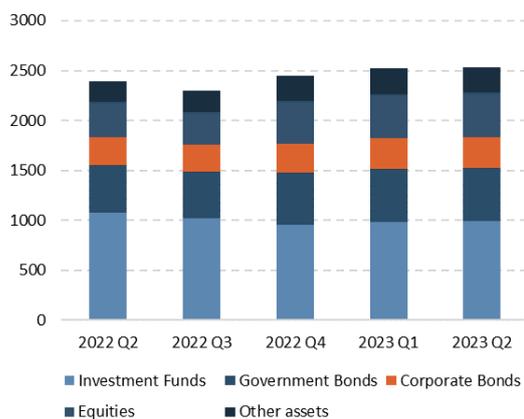
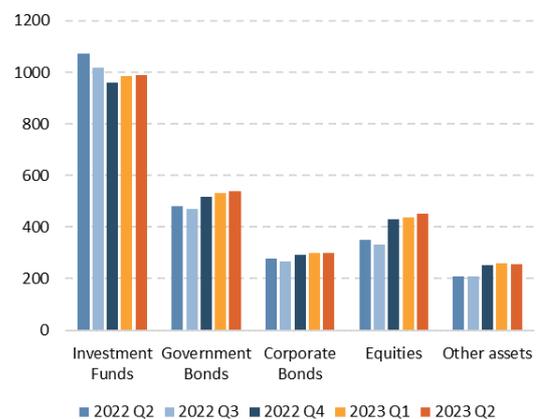


Figure A.2.15: Assets by category (EUR bn).



Source: EIOPA Occupational Pension Statistics.

<sup>35</sup> Figures may be subject to revisions, as they could not cover all Member States due to missing submissions. Information on small IORPs, which are exempted from the full reporting requirements, are excluded, so that for some Member States data may not represent 100% of the total national IORPs sector.

Figure A.2.16: Excess of Assets over Liabilities (EUR bn).

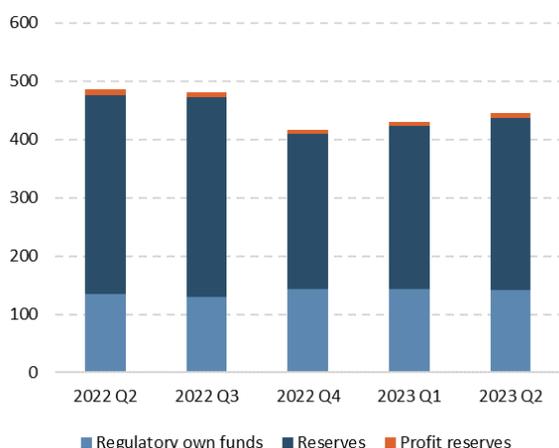
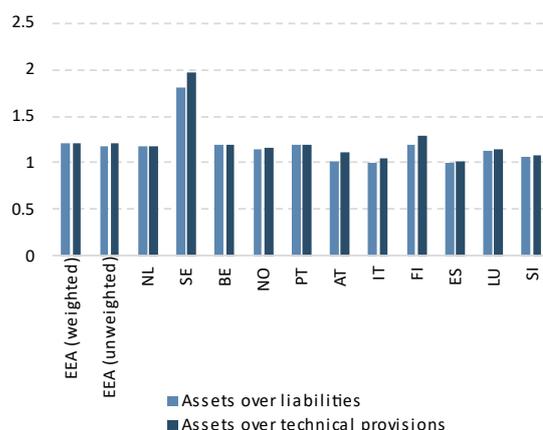
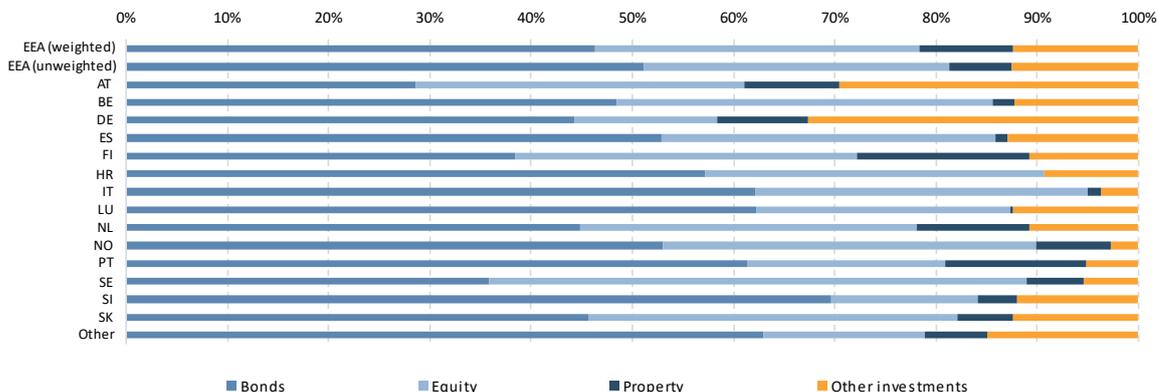


Figure A.2.17: Funding Ratios (DB schemes) by EEA Member State (Q2 2023).



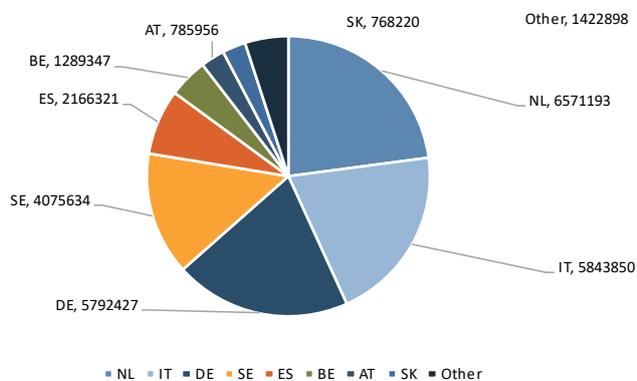
Source: EIOPA IORPs statistics. Note for figure A.2.17: In the case of Italy, due to the discontinuation of many DB schemes, the data on technical provisions that are reported to EIOPA are set as equal to the assets held. Notice that the overall share of DB schemes in Italy is only around 2.6% of total EEA DB assets.

Figure A.2.18: Asset allocation with full look through (in %).



Source: EIOPA Occupational Pension Statistics. Date: Q2 2023. Note: Bonds consist of government bonds, corporate bonds, mortgages and loans, debt funds and money market funds. Equity consists of direct equity, equity funds and private equity funds. Property consists of direct property, real estate funds and infrastructure funds and 'other' investments consist of direct other investments, asset allocation funds, alternative funds and other funds.

Figure A.2.19: Active members (2021)



Source: EIOPA Occupational Pension Statistics.

## A3. ANNEXES FOR THE TOPICAL FOCUS “RECENT DEVELOPMENTS IN THE LIQUIDITY POSITIONS OF INSURERS”

### A.3.1: WEIGHTS FOR ASSET CLASSES

		Weights
<b>S.1</b>	<b>Cash &amp; Bank Deposits &amp; Bank Commercial Paper/Certificates of Deposits</b>	1.00
<b>S.1.1</b>	of which stemming from repo agreements	
<b>Assets (excluding assets held for UL/IL, MA portfolios and Ring Fenced Funds)</b>		
<b>S.2</b>	<b>Government-Related Securities (Central governments &amp; affiliates)</b>	
<b>S.2.1</b>	issued/guaranteed by EU member states (all CQSs) and issued by highly rated non-EU countries (CQS0/1)	1.00
<b>S.2.1</b>	Issued or guaranteed by highly rated non-EU countries (CQS2/3)	0.85
<b>S.3</b>	<b>Exposures to ECB, Central banks, multilateral development banks &amp; international organisations</b>	
<b>S.3.1</b>	issued or guaranteed by ECB, EU central banks, supranational institutions (BIS, IMF, EC,..) or Multilateral Development Banks	1.00
<b>S.3.2</b>	issued or guaranteed by central banks of non-EU countries (CQS0/1)	0.85
<b>S.4</b>	<b>High Quality Covered bonds</b>	
<b>S.4.1</b>	Extremely high quality covered bonds - CQS0/1	0.93
<b>S.4.2</b>	High quality covered bonds - CQS2	0.85
<b>S.5</b>	<b>Corporate bonds not issued by a financial institution or its affiliate</b>	
<b>S.5.1</b>	Corporate debt securities (CQS0/1)	0.85
<b>S.5.2</b>	Corporate debt securities (CQS2/3)	0.50
<b>S.6</b>	<b>Listed Equity not issued by a financial institution or its affiliate</b>	0.50
<b>S.7</b>	<b>Collateralised securities (CQS0/1)</b>	0.65
<b>S.8</b>	<b>Collective Investment Undertakings</b>	0.60

### A.3.2: WEIGHTS FOR LIABILITIES

<b>Liabilities</b>		Weights
<b>Life (excluding UL/IL, MA portfolios and RFF portfolios)</b>		
<b>S.11.1</b>	Without surrender option	0.00
<b>S.11.2</b>	Surrender value equal to or bigger than the 100% of best estimates/statutory reserves	0.50
<b>S.11.3</b>	Surrender value between 100% (exclusively) and 80% of the best estimates/statutory reserves	0.25
<b>S.11.4</b>	Surrender value lower than 80% of the best estimates/statutory reserves	0.05
<b>S.11</b>	<b>Total</b>	
<b>UL/IL</b>		
<b>S.12.1</b>	Without surrender option	0.00
<b>S.12.2</b>	Surrender value equal to or bigger than the 100% of best estimates/statutory reserves	0.75
<b>S.12.3</b>	Surrender value between 100% (exclusively) and 80% of the best estimates/statutory reserves	0.50
<b>S.12.4</b>	Surrender value lower than 80% of the best estimates/statutory reserves	0.10
<b>S.12</b>	<b>Total</b>	

### A.3.3: TEMPLATE FOR THE REPORTING OF FLOWS USED IN THE DATA COLLECTION

		Registered in the past year (-365 days) Volume (/1.000.000)	Expected in the current year (+365 days) Volume (/1.000.000)
<b>Traditional life business</b>			
C.1.1	Premium (written)*		
C.1.2	Claims and other technical outflows (excluding surrender)*		
C.1.3	Surrender		
C.1.4	Net Reinsurance flows (receivables - payable)		
<b>C.1</b>	<b>Net Cash Flows</b>		
<b>UL/IL</b>			
C.2.1	Premium (written)*		
C.2.2	Claims and other technical outflows (excluding surrender)*		
C.2.3	Surrender		
C.2.4	Net Reinsurance flows (receivables - payable)		
<b>C.2</b>	<b>Net Cash Flows</b>		
<b>Non-Life business</b>			
C.3.1	Premium (written)*		
C.3.2	Claims and other technical outflows		
C.3.3	Net Reinsurance flows (receivables - payable)		
<b>C.3</b>	<b>Net Cash Flows</b>		
<b>Investments</b>			
C.4.1	Investment related income (e.g. coupons, dividends, fees)		
C.4.1 UL	Investment related income (e.g. coupons, dividends, fees) - Separate accounts		
C.4.2	Investment related expenses (e.g. service fees, coupons paid, dividends paid)		
C.4.2 UL	Investment related expenses (e.g. service fees) - Separate accounts		
C.4.3	Maturing fixed income assets**		
C.4.3 UL	Maturing fixed income assets - Separate accounts		
C.4.4	Purchase of assets**		
C.4.4 UL	Purchase of assets - Separate accounts		
C.4.5	Sales of assets**		
C.4.5 UL	Sales of assets - Separate accounts		
C.4.6	Margin / collateral calls net flows (inflows-outflows)		
<b>C.4</b>	<b>Net cash flows</b>		
<b>Other</b>			
C.5.1	Intragroup cash inflows for liquidity purposes		
C.5.2	Intragroup cash outflows for liquidity purposes		
C.5.3	Intragroup cash inflows for other purposes		
C.5.4	Intragroup cash outflows for other purposes		
C.5.5	Other liquidity related flows (e.g. repo agreement)		
C.5.6	Funding emissions and costs (e.g. bonds, equity, coupons, dividends, fees)		
C.5.7	Operational expenses (e.g. wages/salaries, rents, service providers)		
C.5.8	Operational income (e.g. income from provision of services)		
C.5.9	Other expected net cash flows (inflows - outflows) not elsewhere reported		
<b>C.5</b>	<b>Net Cash Flows</b>		
<b>C.6</b>	<b>Net cashflow at the end of the preiod</b>		

**EIOPA**

Westhafen Tower, Westhafenplatz 1

60327 Frankfurt – Germany

Tel. + 49 69-951119-20

[info@eiopa.europa.eu](mailto:info@eiopa.europa.eu)

<https://www.eiopa.europa.eu>