

# 2025 IORP Stress Test

## Report

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## EXECUTIVE SUMMARY

The EIOPA 2025 IORP stress test assessed the ability of European Institutions for Occupational Retirement Provision (IORPs) to sustain liquidity strains stemming from an episode of instantaneous market turmoil with shocks to asset prices and potential margin calls. For that purpose, EIOPA developed, in cooperation with the European Systemic Risk Board (ESRB), two severe, but plausible stress scenarios based on the prevailing sources of systemic risks identified for the EU financial system as of March 2025. The scenarios are based on a Yield Curve Up (YCU) and a Yield Curve Down (YCD) shift of swap rates (+/- 100 bp) and include a consistent set of market shocks to all relevant asset classes, including a set of shocks to currency exchange rates.

**The stress test is not a “pass or fail” exercise.** The objective is primarily micro-prudential, but the structure of the exercise contains macro-prudential elements which allow to identify potential spillover from the IORP sector to other sectors as a result of the prescribed shocks.

**The exercise covers a representative sample of 156 IORPs from 18 countries covering around 60% of the European Economic Area (EEA) IORP market in terms of total assets. IORPs are identified according to their size, exposures to liquidity risk, and to ensure a meaningful representation of Defined Benefit (DB) and Defined Contribution (DC) schemes.** Quality of the data submitted by IORPs was assured through local validation by NCAs and central validation by EIOPA, the latter focusing on European wide consistency.

**The results proved that within the depicted scenarios and within the limitation of the focused nature of the exercise which targets only the asset side of the participants, the liquidity position of IORPs is mainly challenged by margin calls generated by their hedging positions against interest rate decrease and the depreciation of Euro.**

**The YCU scenario was more demanding for IORPs than the YCD scenario, as the combined effects of rising interest rates and a depreciation of the Euro triggered substantial margin calls and additional liquidity strains from market shocks.** The shocks led to a negative liquidity position of - 60 bn Euro with 68 IORPs ending up with a liquidity strain in terms of cash within the time horizon of the assessment. When management actions (MAs) are applied, the aggregate liquidity position returns in positive territory to +15 bn Euro and the number of IORPs with negative position reduces to 29. Considering the available liquid assets as in the sustainability indicator, the aggregate post stress position remains positive with 1,138 bn Euro and improves to 1,202 bn Euro if MAs are applied. No IORP reported negative sustainability indicator.

**YCU Scenario - Liquidity position and sustainability**

	Baseline	Stressed		Stressed with MA	
	Value (EUR bn)	Value (EUR bn)	$\Delta$ (Baseline)	Value (EUR bn)	$\Delta$ (Baseline)
Liquidity position (Net-flows + Cash and equivalent) <sub>BOP</sub>	74	-60	-181%	15	-80%
Sustainability (Net-flows + Cash and equivalent) <sub>BOP</sub> + Other liquid Assets w/Haircut <sub>EUR</sub> )	1,444	1,138	-21%	1,202	-17%
Number of IORPs with negative liquidity position	-	68	-	29	-

In the YCD scenario, the liquidity position decreases due to the shocks. However, the simultaneous decrease of interest rates and Euro depreciation generated margin calls of opposite signs leading to an aggregate positive post stress liquidity position of 56 bn Euro. With MAs, the liquidity position improves to +70 bn Euro and the sustainability indicator to 1,353 bn Euro. Still, 62 IORPs reported liquidity strain in terms of cash. The number reduces to 29 when MAs are applied. The sustainability indicator, which accounts also for available liquid assets, shows a minor reduction in the post stress position (-4%).

**YCD Scenario - Liquidity position and sustainability**

	Baseline	Stressed		Stressed with MA	
	Value (EUR bn)	Value (EUR bn)	$\Delta$ (Baseline)	Value (EUR bn)	$\Delta$ (Baseline)
Liquidity position (Net-flows + Cash and equivalent) <sub>BOP</sub>	74	56	-25%	70	-5%
Sustainability (Net-flows + Cash and equivalent) <sub>BOP</sub> + Other liquid Assets w/Haircut <sub>EUR</sub> )	1,444	1,381	-4%	1,353	-6%
Number of IORPs with negative liquidity position	-	62	-	29	-

Overall, the scenarios confirmed the sensitivity of the sector to a combination of increasing interest rate and depreciation of EURO amid its hedging positions. The liquidity position of the sector proved to be adequate to withstand the shocks also thanks to the activation of management actions. The enforced actions mainly consist of adjustments to the investment strategy in form of sales of assets or reduction in trading activities. Nevertheless, IORPs remained, in aggregate, net-buyers of most of the asset classes and therefore not acting as shocks amplifiers.

The stress test shows the picture of an overall resilient sector but also provides a valuable basis for a follow-up dialogue between NCAs and participating IORPs on identified vulnerabilities. EIOPA will further analyse the results obtained to get a deeper understanding of the liquidity risks and vulnerabilities of IORPs.

# 1 INTRODUCTION

## 1.1 FRAMEWORK AND MOTIVATION

Recent and past events of financial stress, such as the gilt crisis, the regional banks crisis in US and its spillover, reflect the transition from a low-interest rate environment to a period of higher rates. These events highlight the potential fragility of the economic environment when rates increase sharply, and liquidity needs arise. Concerns on whether liquidity crises can also occur in Institutions for Occupational Retirement Provisions (IORPs) in the European Economic Area (EEA) naturally trigger the need for liquidity monitoring actions also in the EEA. A stress test exercise can support understanding if and where IORPs in the EEA are vulnerable in this context.

Amongst the mentioned episodes, fluctuations in UK gilt markets and interest rates have triggered substantial margin calls in the British pension fund sector in 2022. Reportedly, pension funds in the UK applied to a significant extent liability-driven investing strategies (LDI) which make extensive use of synthetic leverage obtained through use of interest rate derivatives, repos and LDI funds. These exposures generated daily margin calls and triggered the liquidation of investments such as long-term gilts, which proved to be rather illiquid during a crisis. Based on the experience gained in former exercises and based on the mentioned episodes of financial stress, the EIOPA BoS has agreed to run a focused exercise targeting the assessment of liquidity risk<sup>1</sup> for IORPs under two distinct stress scenarios: Yield Curve Up (YCU) and Yield Curve Down (YCD).

Similarly to past EIOPA's IORP Stress Tests, the 2025 stress test exercise is not intended as a "pass-or-fail" assessment.

## 1.2 IORPS SPECIFICITIES

IORPs are long-term investors with generally low liquidity risks. Contributions precede cash outflows to members and beneficiaries, typically creating a stable source of cash in-flows for IORPs for most of the IORP's lifetime. The potential for unforeseen liquidity requirements is limited given the general predictability and stability of IORP liabilities. In particular, long-term pension obligations

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<sup>1</sup> In accordance with Article 47(2) of the IORP II Directive, «Liquidity risk is defined as the risk that IORPs are unable to realise investments and other assets in order to settle their financial obligations when they fall due.»

allow IORPs to sustain short-term volatility and market downturns for longer periods than other financial institutions.

However, the exposure towards liquidity risk is changing as IORPs mature and face new potential negative net cash flows. Main sources of liquidity risk for IORPs that can develop in a short period include, amongst others:

- Unpredictable cash flows, in relation to flexible withdrawal options.
- Trend towards increasing allocations in illiquid assets. While IORPs have typically invested largely in liquid investments such as high-quality government and corporate bonds, the long low yield environment has prompted a transition to illiquid investments such as private equity, infrastructure projects and property investments as IORPs search for higher yields.<sup>2</sup>
- Use of derivatives. IORPs using derivatives are in general more directly exposed to liquidity risk than IORPs not using derivatives, because margin calls (especially for variation margin) can make the demand for liquidity less predictable and require a more advanced approach to risk management<sup>3</sup>. Furthermore, IORPs not using derivatives directly can be indirectly exposed to liquidity risk if they invest in Collective Investment Undertakings (CIUs)<sup>4</sup>.

#### **Box 1: Dutch pension system transition and its impact on interest rate hedging**

*The pension system in the Netherlands is currently in transition. The purpose of the reform is to create a pension system that better corresponds to societal demands - such as greater transparency and more tailored risk-sharing - and to a more flexible labour market. The reform being implemented through the Future of Pensions Act (Wet Toekomst Pensioenen, WTP), adopted in 2023. Among other things, the law stipulates that by no later than 2028, all new pension accruals within IORPs must take place on a defined contribution (DC) basis, where there is a choice between two contracts (the so-called solidary collective DC scheme and the flexible collective DC scheme). The WTP encourages the conversion (also known as sailing-in or "invaren" in Dutch) of the pension entitlements and rights that were accrued in the defined benefit (DB) system, into one of these two new DC schemes and indeed (in terms of market share) the far majority opts*

<sup>2</sup> See [Methodological framework for stress-testing IORPs](#) and [Potential undue short-term pressure from financial markets](#)

<sup>3</sup> According to the IORP II Directive, IORPs are allowed to invest in derivative instruments to mitigate risks and to facilitate efficient portfolio management, but not for speculative purposes. Many IORPs use interest rate derivatives to manage interest rate risk, as this risk affects usually both the value of liabilities (especially in defined benefit schemes, falling interest rates increase the present value of future pension liabilities) and the performance of fixed-income investments. Exchange rate derivatives are often used for exposure to primary currencies since IORPs invest in assets denominated in foreign currencies. These instruments help hedge against currency fluctuations that could reduce the value of foreign currency investments when converted back to the domestic currency. Although such use of derivatives for hedging purposes reduces solvency risk in defined benefit (DB) schemes and investment risk for members and beneficiaries in defined contribution (DC) schemes, at the same time, it can introduce liquidity risk resulting from the daily exchange of variation margin to cover any market losses on derivatives.

<sup>4</sup> If under market stress, for instance, the CIU cannot meet its margin calls, it may need to liquidate assets quickly, potentially at a loss—thereby posing liquidity risk to the IORP. It should be noted that this possible indirect liquidity exposure has not been part of the current stress test.



for 'invaren'. For pension entitlements and rights that are not converted, the current Financial Assessment Framework (Financieel Toetsingskader or FTK in Dutch) remains applicable.

The transition towards this new pension system is taking place gradually. Six IORPs made the conversion in 2025 and already operate under the WTP. Approximately 50 IORPs are expected to do the conversion in 2026 (of which some 30 in the first half of the year), some 60 IORPs are aiming for 2027 (with a large majority aiming for Q1-Q2) and some 20 for 2028.

The pension system transition affects the use of interest rates derivatives by Dutch IORPs, both in the short run (transition effect) and the long run (structural effect). The short-term transition effect – which we currently observe – consists of Dutch IORPs raising their interest rate hedge rate in the period before their conversion date. Without adequate interest rate hedging, a severe decline in the interest rate – and consequent drop in the funding ratio – could jeopardize the aim of a “fair and balanced” transition. With lower starting capital it may be impossible to adequately compensate the groups that are negatively affected by the transition (e.g. mid-career workers losing out due to the end of the average accrual system) and to form a solidarity or risk-sharing reserve, raising the risk of uneven outcomes. Dutch IORPs therefore typically raise their interest rate hedge gradually before their conversion. In Q1 2025 – when this stress test was performed - the average hedge ratio of Dutch IORPs was 69%, compared to just 58% in Q1 2023. Over Q2 2025 the average hedge ratio increased to over 70% (source: internal reports DNB).

For the longer term, after the transition, the use of interest rate derivatives by Dutch IORPs is expected to settle at a structurally lower level than it was under the DB-system, but the use of interest rate derivatives will remain significant. In their transition plans DNB observes that IORPs opt for a lower hedging ratio for younger cohorts, due to lifecycle investing principles where returns (and risk) can be more specifically attributed to age cohorts. This reduces the overall demand for interest rate hedging and also shortens the durations for which hedges are made (shifting from 30+ year swaps to 10–20 year maturities). Estimates by market participants indicate that the average hedge ratio could move to 40%-45% after the reform.

These changes in hedging behaviour – first an increase to prepare for conversion, then a bigger decrease to get to the appropriate hedge ratio for the new contract – are likely to affect interest swap markets because some Dutch IORPs are big players on that market. However, this impact will be spread out over several years. First, IORPs have different conversion dates and do not raise their interest rate hedge at the same time. Moreover, after conversion IORPs are allowed to take up to twelve months to bring down their interest rate hedge to their strategic level under the WTP.

The current stress test exercise conducted by EIOPA captures a snapshot during the ongoing transition with elevated levels of exposure to interest rate derivatives. Therefore, the results have to be read together with the outlined path towards a new pension regime in mind that will significantly reduce the exposure to liquidity risk.

### 1.3 RISK OUTLOOK

**The environment is still characterised by significant uncertainty in the geopolitical and economic outlook.** The uncertainty over the EU-US tariff rates has reduced after a deal has been announced with details still pending, however the impact on the economy might materialise with a lag with expected drag in growth and a net disinflationary effect for Europe. As the level of the tariffs is now set at a high level compared to historical standard, the risks are no more stemming from uncertainty

but rather from the tariffs' footprint on the real economy. An unexpected or underappreciated impact can result in abrupt permanent repricing in financial markets.

**Financial markets have been relatively calm during the chaotic period of negotiation on tariffs and delivered overall positive performance in the past year but remain sensitive to political/fiscal risks and to the recent credit risk related events.** Regarding the first, the main concern remains about political instability and not (yet) debt sustainability. On the second, the discussion on the idiosyncratic or more systemic nature of the recent defaults observed in the US, showed the potential impacts of disconnection between benign valuations (tight spreads) and economic fundamentals, and the overall economic uncertainty.

**Liquidity risks are on a rising trend given current market conditions and developments in IORPs' derivative positions.** Indicators published in the EIOPA IORP Risk Dashboard suggest a comfortable liquidity position at the end of 2024 for IORPs. However, should geopolitical or macro-financial risks materialise, vulnerabilities could emerge across sectors, including balance sheet stress, market corrections, pressures in real estate and renewed sovereign financing concerns.

**The narrative of the stress test exercise therefore remains highly relevant.** The adverse scenarios build on the uncertainty stemming from divergent evolution of the markets amid materialisation of the geopolitical and/or macro-financial risks, preserving the plausibility of the exercise in the current and foreseeable risk landscape.

## 1.4 METHODOLOGY

**The EIOPA 2025 IORP Stress Test framework includes two distinct stress scenarios designed to assess the liquidity vulnerabilities of IORPs under a shift up and a shift down of swap rates and a consistent set of market shocks.** The prescribed market shocks are to be applied as one-off shocks to all assets on the balance sheet at a specific reference date.

**The reference date is 31 December 2024.** The baseline is the financial situation of the participant at the reference date. The post-stress valuations are applied as of the reference date according to the Technical Specifications<sup>5</sup>.

**The methodological approach to the assessment of the baseline and post stress liquidity position is based on a hybrid stocks / flows assessment of the liquidity sources and liquidity needs.** The calculation of the liquidity position of the participants will account for the full stack of the liquidity sources and compared to the liquidity needs stemming from cash outflows. The liquidity position is

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<sup>5</sup> Please see [here](#).

shocked in the adverse scenarios through the reduction of the market consistent values of the assets against the prescribed market shocks and potential corresponding changes of cash flows.

**Liquid assets have been estimated by participants in both baseline and post-stress position via liquidity haircuts.** These haircuts (weights) are automatically applied to the different asset classes considered as potential sources of liquidity in this stress test. These haircuts capture the “penalties” IORPs face when forced to sell assets under liquidity stress conditions<sup>6</sup>. It reflects both the likelihood of selling an asset within a given time frame and the potential decline in its market price before liquidation. In this exercise, this adjustment affects the price rather than the volume of assets sold.

### Box 2: HAIRCUTS

*Haircuts (or weights) are introduced in the stress test to account for the inherent uncertainty about whether a market value as observed or calculated can be realised once financial markets have experienced stress. Therefore, the different asset classes are grouped – taking their characteristics into account – in different buckets and assigned a specific haircut, e.g. highly rated government bonds are considered less vulnerable to additional market value stress when liquidated (deep and liquid markets) under stress compared to corporate bonds just above investment grade. It is acknowledged that the haircuts assigned might give rise to discussion about calibration and appropriateness. However, this additional conservatism is built into the methodology and follows general practice (see for example IAIS). The haircuts are applied to a) the assets on stock to calculate ‘liquid assets’ in order to know what potential liquidity could be generated if sold and b) any sales under the stressed scenarios in order to account for the potential lower cash generated from these transactions. While justified in the context of a targeted liquidity stress test exercise, EIOPA acknowledges that the latter introduces an artificial imbalance between sales and purchases enlarging de facto the bid-ask spread of less liquid securities and might therefore overstate the liquidity needs of IORPs.*

#### 1.4.1 Structure

**The structure of the 2025 IORP stress test is based on a single component: the assessment of the liquidity position of the participants by a hybrid stocks / flows analysis of the liquidity sources and liquidity needs.** The exercise focuses on the asset side of the balance sheet. Furthermore, the post-stress liquidity positions have been calculated by participants under two different assumptions: i) stressed balance sheet; and ii) stressed balance sheet with application of (realistic) MAs.

#### 1.4.2 Narrative and Scenario

**The exercise focuses on testing the liquidity position of IORPs against two adverse scenarios, YCU and YCD, that could trigger margin call requirements and other negative cash flows.** The time

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<sup>6</sup> The widening of bid-ask spreads represents one of the main market effects that the applied haircuts are intended to reflect. It indicates a deterioration of secondary market liquidity, as fewer participants are willing to transact and those who remain require a higher premium to bear liquidity and market risk. This results in a greater divergence between the prices buyers are willing to pay and sellers are willing to accept.

horizon of the assessment is set to 3 months (i.e. 90 days) with shocks frontloaded, making margin calls on derivatives and repo agreements the primary sources of liquidity risk. Cash flows from transfers, contributions and benefits are also considered. Assessing the severity of potentially lowered cash-inflows and the dependence on additional funding can illustrate the impact on the financial stability and risks to the continuity of activities of an IORP.

In the YCU scenario, EU interest rates rise sharply as markets anticipate escalating geopolitical tensions, higher commodity prices, and upward revisions of inflation expectations. Trade restrictions amplify the impact, leading to euro depreciation. In the YCD scenario, interest rates fall abruptly as markets internalise a prolonged period of geopolitical tensions and weaker confidence. Persistent low investment and productivity weigh on GDP growth and inflation expectations, global risk-free rates decline, and the euro depreciates markedly.

**Under both scenarios, deteriorating economic conditions trigger disorderly asset price adjustments, particularly in stretched markets such as equities, with higher volatility and wider risk premia.** Fiscal concerns linked to increased defence spending and weaker growth drive sharp rises in sovereign spreads, with larger effects in the YCD scenario due to its more severe and persistent downturn. Corporate credit spreads also widen as debt sustainability worries grow, and credit standards tighten.

Tighter financial conditions reduce real estate prices across the board, with stronger falls in commercial real estate given tighter credit and structurally weaker post-pandemic demand. Overall, the YCD scenario entails deeper financial stress, larger declines in equities and real estate, and stronger sovereign risk shocks than the YCU scenario. Moreover, the depreciation of the euro is larger in the YCD scenario

**The prescribed market shocks are economically and market consistent by construction.** Their calibration was conducted in cooperation with the European Systemic Risk Board (ESRB) to generate a severe but plausible scenario.<sup>7</sup> IORPs may use simplifications and approximations, if these are proportionate and ensure a fair representation of the expected results. Such approaches should be applied consistently and supported by appropriate justifications. However, as additional liquidity needs are expected to materialise primarily under the YCU scenario, the use of simplifications may be more acceptable in the YCD scenario, where liquidity strains are assumed to be less pronounced.

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<sup>7</sup> For a comprehensive description of the scenario and its likelihood please refer to: “Adverse scenarios for the 2025 European Insurance and Occupational Pensions Authority’s EU-wide pension fund stress test exercise”, available [here](#).

### 1.4.3 Scope

The 2025 IORP stress test is a European-wide exercise, including all EEA countries with material IORP sectors and covering all types of IORPs and schemes<sup>8</sup>. EEA Member States with material IORP sectors were determined as those with assets of IORPs in the respective Member State exceeding EUR 600 million by year-end 2023. Consequently, the 2025 stress test exercise involved 18 Member States: AT, BE, CY, DE, DK, ES, FI, FR, IE, IT, LI, LU, NL, NO, PT, SE, SI and SK.

EIOPA requested NCAs to reach a coverage rate of at least 60% of assets for the joint market share of all types of schemes by year-end 2023. A lower coverage than 60%, yet not lower than 50%, was deemed acceptable if, after including the largest IORPs, IORPs with less than EUR 25 million balance sheet total or less than 100 members and beneficiaries would need to be included in the exercise. In addition, a lower coverage than 60% could be acceptable in case of exceptional national circumstances or extraordinary national specificities. An example of the latter is the very high number of very small DC IORPs in IE. Equally, besides the four largest IORPs, the IORP with the highest exposure to derivatives among the remaining entities was chosen in FR. Figure 1 presents the market coverage and the number of entities in scope at national level.

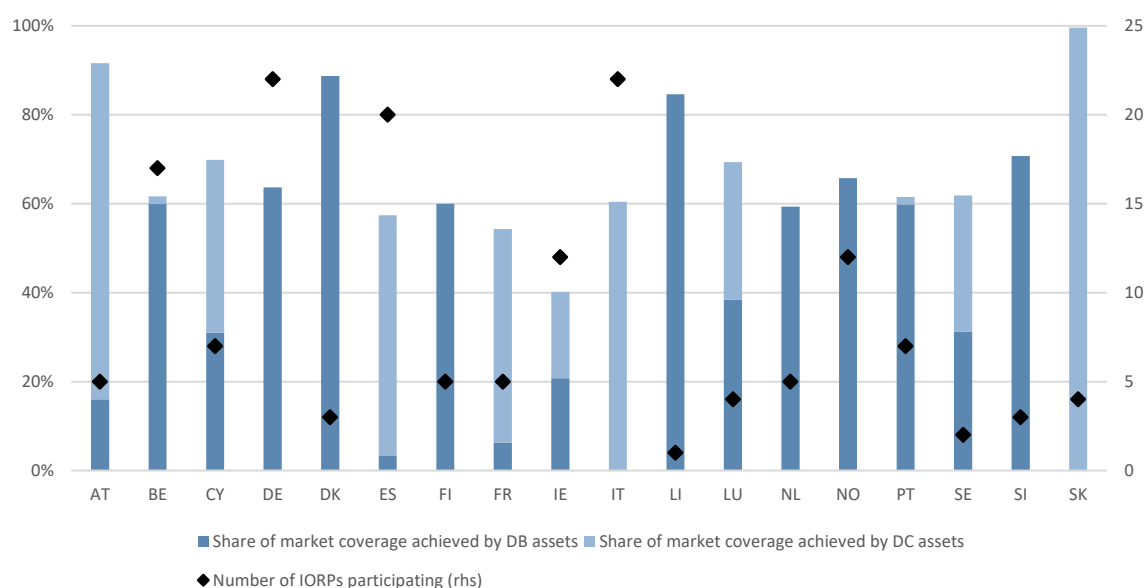
The sample for this exercise was initially defined using data as of year-end 2023. However, the baseline assessment was carried out with updated information as of year-end 2024. Comparing the two points shows an uneven pattern across markets, with both increases and decreases shaping the year-on-year change. Nevertheless, the variation remains very limited. Overall, the sample of participants included in the exercise remains relevant.

In addition to the quantitative criteria described above, NCAs ensured that IORPs with material derivative exposures were captured within the target sample.

Figure 1 – Local market coverage and number of IORPs in scope

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<sup>8</sup> All types of schemes, simplified to Defined Benefit (DB) and Defined Contribution (DC) schemes, are within the scope of the stress test. The definition of DB and DC schemes is the same as for the reporting to EIOPA according to the [BoS decision](#).



*Note: Figure 1 is the result of a combination of data from EIOPA's occupational pension statistics and data from the stress test exercise. Given the unavailability of YE figures for IE and CY at the point in time where the sample has been identified, the total figures for these Member States are based on 2023 figures received by the respective NCAs.*

A total of 156 IORPs from 18 countries participated in the stress test. Out of this total, 80 IORPs from 13 countries reported only DB assets, 50 IORPs from 7 countries reported only DC assets, and 26 IORPs from 7 countries reported both (i.e. so-called "mixed" IORPs). Participation at national level ranged from one to 22 IORPs. As some markets included less than three entities for a certain scheme type, results cannot be presented on an aggregate country basis, to safeguard the confidentiality of individual IORPs' data.

The total assets of the 156 participants at year-end 2024 amounted to EUR 1,796 bn. The DB assets included in the stress test (EUR 1,409 bn) continue to outweigh the DC assets (EUR 387 bn). As a result, the relative weight of DC over DB assets in the total sample remains broadly unchanged (around 21%) compared to the sample defined based on 2023 YE data, confirming the stability of the overall weights of the schemes. Further information on the characteristics of the sample is provided in Section 2, while the Annex contains the list of participating IORPs.

#### 1.4.4 Data quality assurance

**The quality assurance process breaks down in 2 main building blocks: a) the local validation and b) the central validation.** The local validation by NCAs has been based on (common) data checks and analysis expected by the central validation and allowed the supervisors to leverage on their knowledge and specify additional checks on the data and approaches applied by their participants. The central validation, carried out by a pool of EIOPA staff and experts from NCAs, was built upon a certain level of data quality following the first two phases and focused more on the cross-sectional

perspective, trying to identify additional data quality considerations; the activities involved cross-sectional comparisons, detection of outliers, and economic interpretation of the results, complementing the micro-level work done nationally. Issues identified were communicated back to NCAs, who often addressed them directly or, if needed, involved participants. This two-layered approach ensures a robust process, balancing national expertise with European-wide consistency.

**The validation process allowed to clarify all the remarks identified in the different rounds of validation based on submissions and resubmissions.** Most of the feedback that emerged during the different phases of the validation process have been clarified through:

- a) clarifications provided by NCAs and participants
- b) additional information provided by NCAs and participants
- c) amendments of the figures contained in the templates by the participants

The analyses conducted allowed to consider the information contained in the database of sufficient quality to support the analyses. Only one case of partial application of shocks in a Danish IORP was identified, although with negligible implications to the overall results.

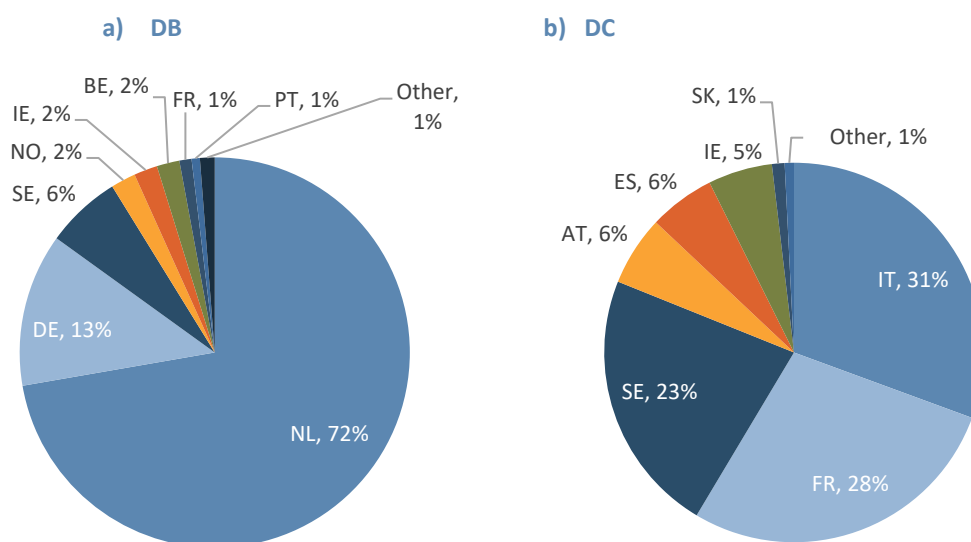
## 2 CHARACTERISTICS OF THE SAMPLE

This section presents key features of the sample of participating IORPs, namely of the sample composition and asset allocation, which are important for interpreting the outcomes of the stress test and assessing the robustness of the results across different segments of the market.

### 2.1 COMPOSITION IN TERMS OF DB AND DC SPLIT

**DB schemes are highly concentrated, while DC schemes are more evenly distributed across Member States.** As shown in Figure 2.a, DB assets are highly concentrated, with NL alone accounting for more than 70% of total DB assets. DE follows at a distance with around 13%, while SE represents about 6%. All remaining countries each contribute only marginal shares. Unlike the DB segment, DC assets (Figure 2.b) are more evenly spread, with IT, FR, and SE holding each between 23% and 31% of the total. AT, ES and IE contribute moderate shares, while SK and the residual “Other” category remain very small.

**Figure 2 – Member States’ relative weights in terms of DB and DC assets**



**The concentration of DB assets in a single country increases the sensitivity of the overall results to national-specific features and potential shocks.** In contrast, the DC market is more evenly distributed, with three countries jointly accounting for most assets. This comparison highlights the



structural differences between DB and DC markets in Europe, where the DB segment is dominated by NL IORPs, while the DC segment is shaped by some large jurisdictions. Recognising these differences is important to interpret the aggregate results of the stress test accurately.

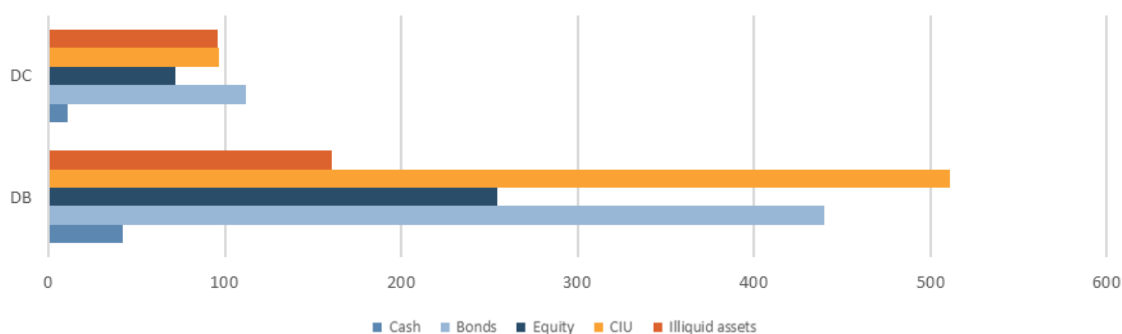
## 2.2 ASSET ALLOCATION

**The overall distribution of assets (Figure 3) is broadly similar across both DB and DC schemes at an aggregated level.**

The exposures towards bonds, equity and cash in relative terms have a comparable size for DB and DC schemes. The remaining assets are split between CIUs and illiquid assets such as illiquid equity, bonds and CIUs as well as derivative holdings, mortgages and loans and reinsurances.

Overall, the graph highlights that while the broad structure of investment allocation is comparable, DC schemes appear slightly more diversified outside of the traditional asset classes compared to DB schemes.

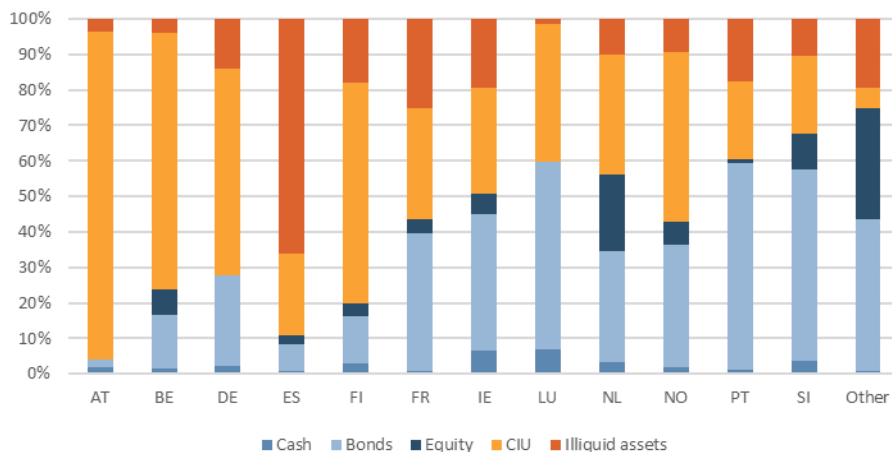
**Figure 3 – Asset allocation of DB and DC schemes**



*Note: Values in EUR billion.*

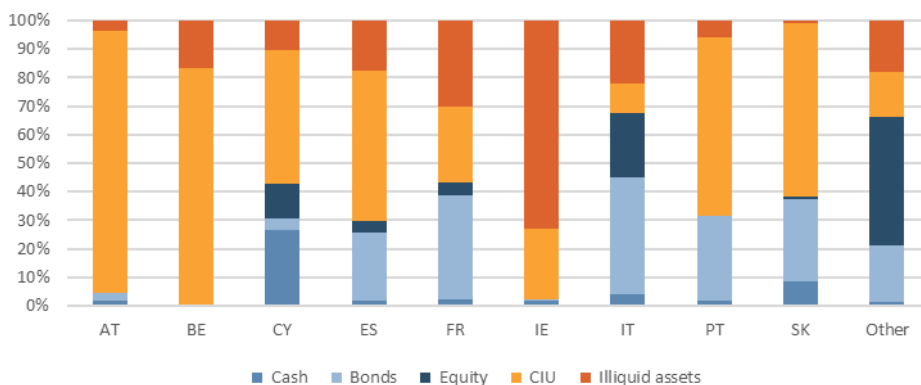
**However, the similarity at aggregate level masks large country-level divergences both for DB and DC schemes.** As shown in Figure 4, in some countries, such as IE, LU, PT, and SI, DB schemes invest heavily in liquid bonds, with allocations close to half of the total assets. By contrast, in countries such as AT, BE, DE and FI, liquid CIUs account for at least half of the investments. In ES a significant share is placed in illiquid assets. Liquid equities tend to play a smaller role in most countries, though they remain important in a few cases such as NL and those included in the 'other' category (the latter includes CY, DK, LI and SE).

**Figure 4 – Asset allocation of DB schemes by country**



Compared to DB schemes, DC schemes in certain Member States display even more concentration in asset categories (Figure 5). In AT, BE, PT and SK, more than 60 percent of assets are invested via liquid CIUs. Liquid bonds are the main component only in a few countries, such as FR and IT. Finally, in IE, but also in the group of 'other' countries, which includes SE and LU, the share of 'other' illiquid assets is relatively large. This is mainly driven by LU and IE IORPs, which transfer their pension liabilities to insurance companies and therefore classify the corresponding holdings as reinsurance recoverables. By contrast, SE DC schemes tend to invest more directly in liquid equities.

Figure 5 – Asset allocation of DC schemes by Member State



Overall, asset allocation varies widely not only across Member States, but also across participating IORPs.

### 3 MANAGEMENT ACTIONS

**One of the objectives of the stress test is to assess how IORPs respond to shocks, including through the application of management actions.** These represent actions that would be taken by a participating IORP in direct response to the stress scenario and that are not assumed to be applied in the baseline scenario. These actions typically include but are not limited to (additional) sales of assets and the activation of repo lines or credit facilities and can also be employed in combination where appropriate.

The analysis of IORPs' submissions showed that the interpretation of the term "MAs" by participants may not have been completely homogeneous. Despite EIOPA provided guidance in that respect<sup>9</sup> the novelty brought by introduction of the MAs into the stress test framework for IORPs generated grey areas in the interpretation. In several cases, it was not completely clear whether certain actions of IORPs in response to shocks could be considered in the "stressed" data, but not qualified as MA, or should be qualified as MA and therefore only considered in "stressed with MAs". Regarding the interpretation of results, it is important to be aware that the results in "stressed with MAs" include all actions applied by the IORPs in response to shocks. Analysis showed that the actions applied by IORPs and not qualified as MA seem to be quite similar to MA. In particular "selling of assets" plays an important role. This chapter only analyses actions qualified as MAs by participants – and thereby understates the MAs applied by participants –, in particular because that way a relationship can be established between the answers of IORPs in the questionnaire which was part of the template, and the data reported in "stressed with MAs".

**The analysis of MAs undertaken in response to the YCU scenario reveals a diverse range of practices,** including the following main categories: selling of assets, reduction of trading activities, high-quality bonds used as collateral to cover margin calls and use of repo agreements.

**Out of the 156 IORPs in the sample, 54 applied at least one MA in the YCU scenario. These are predominantly the largest IORPs, representing around 70% of total assets.** Among the IORPs that implemented MAs, several employed more than one type.

**The most prevalent MA in the YCU scenario is the selling of assets, followed by a general reduction of trading activities.** However, a more nuanced analysis reveals that DC IORPs exhibit a distinct preference for selling assets, with 13 IORPs only providing DC schemes employing this MA, followed by a general reduction of trading activities (2 IORPs) and less purchasing of assets (3 IORPs). In

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<sup>9</sup> For more detail, see for instance answers to Questions 4, 12 and 18 of Q&A published on the EIOPA website.

contrast, DB and mixed IORPs (providing DB and DC) exhibit a more diverse range of MAs, including REPO, high-quality bonds as collateral to cover margin calls, rebalancing of the portfolio, and implementing change of the contributions. Figure 6 presents the full set of MAs reported and their frequency of application.

**Figure 6 – YCU - Types of management actions among different types of IORPs**

Type of management Action	DB	DC	Mixed
Selling of assets	12	14	8
Reduction of trading activities	6	2	4
Less purchasing of assets	1	3	1
Rebalancing of the portfolio	1	1	1
REPO	4		2
Change of contributions	2		
High-quality bonds as collateral to cover margin calls	2		
Other	2		1
Grand Total	30	20	17

**In the YCD scenario, 49 IORPs implemented MAs.** The distribution between DB and DC (Figure 7) follows similar trends as for the YCU with IORPs only providing DB schemes being less prone to sell assets compared to IORPs providing only DC schemes.

**Figure 7 – YCD - Types of management actions among different types of IORPs**

Type of management Action	DB	DC	Mixed
Selling of assets	6	13	8
Reduction of trading activities	4	3	4
Less purchasing of assets	2	3	1
Rebalancing of the portfolio	3	1	
REPO	1		
Change of contributions			1
Other			2
Grand Total	16	20	16

## 4 MAIN FINDINGS

### 4.1 LIQUIDITY POSITION AND SUSTAINABILITY

The analyses presented in this section are based on a set of 2 metrics: *a) the liquidity position and b) the sustainability indicator (in absolute value or ratio – when scaled on total liquid assets)*<sup>10</sup>.

The liquidity position is calculated as the sum of the cash and cash equivalents end of December 2024 plus the total net cash flows reported in the first quarter of 2025 by participants. It shows (positive value) whether the total net cash flows that occurred within the 3-month time horizon can be paid with the cash holdings available at the beginning of the period (end of December 2024). The sustainability indicator is calculated starting from the liquidity position but adding into the picture all other liquid assets after shocks. It is adjusted for asset purchase and sale and takes into account the effects generated by the application of the haircuts. Along the same lines, the sustainability indicator scaled by liquid assets (December 2024) indicates the fraction of liquid assets as of March 2025 remaining after paying the stressed net cash flows adjusted for the purchase and sale of assets over the liquid asset available in December 2024, in the baseline, stressed scenarios and stressed scenarios with MAs.

With regards to the interpretation of the sustainability indicator scaled by liquid assets, it is important to note that this metric reflects how the allocation of liquid assets in March 2025 change compared to liquid assets in December 2024 based on the adverse scenarios applied in the stress test exercise. It shows whether, in case of net outflows, the participants hold enough liquid assets to cover the net outstanding amounts between December 2024 and March 2025, given the prescribed shocks. On a general note, a ratio above 100% implies that the liquid assets have improved in March 2025 compared to December 2024, while a ratio between 0% and 100% means that the liquid assets in March 2025 are lower than the ones in the previous quarter and gives an indication of the magnitude of the decrease. On the contrary, if this ratio would have been negative then liquid assets would have not been enough to cover the cash outflows.

Finally, it should be noted that the sustainability indicator scaled is specifically designed to assess the liquidity position of IORPs and is not part of any regulatory framework.

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<sup>10</sup> The sustainability ratio is defined as net cash flows plus liquid assets at end-March 2025 (with haircuts) over total liquid assets at December 2024 (without haircuts).

#### 4.1.1 Yield Curve Up Scenario (YCU)

The YCU scenario generated liquidity strains mainly driven by 2 elements: *a)* the negative impact of margin calls<sup>11</sup> and *b)* the change in the cash flows related to sales and purchases of assets amid market shocks and haircuts, which the participants had to manage and counterbalance by taking actions through adjustments in their investment strategy. The cash holdings in December 2024 alone are not enough to cover the outflows expected in the first quarter of 2025 in the YCU scenario, causing a material reduction in the liquidity position from EUR 74 bn to EUR -60 bn in the stressed context (before the application of MAs).

In the baseline, the liquidity position is positive and equal to EUR 74 bn for the aggregate of DB and DC schemes. While the liquidity position for DB schemes amounts to EUR 59 bn, the DC sector shows a lower but still positive value of EUR 15 bn. All IORPs reported a positive liquidity position (Figure 8).

The development of the sustainability indicator indicates that liquid asset recalculated after stress in March 2025 are positive, offering an available source of liquidity. The sustainability indicator, which measures the liquid asset end of March 2025 is steadily positive also in the stressed scenario, accounting to EUR 1.1 tn, despite the EUR 306 bn decrease with respect to the baseline (equal to -21%). In the stressed scenario with MAs, the sustainability indicator improved by EUR 64 bn (reducing the loss to -17% compared to the baseline) amounting to EUR 1.2 tn, as reported in Figure 8. It should be noted that the impact of the MAs might lead to some restriction in the availability of liquid assets (e.g., collateralisation) of other implications to the balance sheet (e.g., increased liabilities amid activation of credit lines) which are not captured in the context of this exercise.

Looking at the individual positions, 68 IORPs under the “stressed” assumptions and 29 IORPs under “stressed with MAs” assumptions reported negative liquidity position. However, the liquid assets held by those IORPs are sufficient for covering the potential liquidity needs. On aggregate, IORPs hold EUR 1.4 tn to cover the net flows in the baseline. This drops to EUR 1.1 tn in the stressed scenario and increases to EUR 1.2 tn in the stressed with MAs context.

Figure 8 – YCU - Liquidity position and sustainability

	Baseline	Stressed		Stressed with MA	
	Value (EUR bn)	Value (EUR bn)	Δ (Baseline)	Value (EUR bn)	Δ (Baseline)
Liquidity position (Net-flows + Cash and equivalent <sub>top</sub> )	74	-60	-181%	15	-80%
Sustainability (Net-flows + Cash and equivalent <sub>top</sub> + Other liquid Assets w/Haircut <sub>top</sub> )	1,444	1,138	-21%	1,202	-17%
Number of IORPs with negative liquidity position	-	68	-	29	-

<sup>11</sup> Additional details on the derivative positions are provided in section 4.2 Flows.

When looking at the results by type of scheme, the post stress liquidity position of DB sector deteriorates by 197% and the one of the DC schemes by 121%. The large drop in the liquidity positions is also driven by the impact of the haircuts on sales which artificially introduced a large penalty on the sale price justified by the liquidity nature of this exercise (see Box 2 for further insights on designing of application of haircuts). Both sectors equally benefit from the application of MAs which allow IORPs to restore positive liquidity positions at the end of March 2025, halving the loss compared to the baseline by -82% for DB and -67% for DC, reaching respectively EUR 10 bn and EUR 5 bn in the post-stress with application of MAs liquidity positions (Figure 9).

Figure 9 – YCU - Details on liquidity position for DB and DC

	Liquidity position				
	Baseline (EUR bn.)	Stressed (EUR bn.)	Stressed with MA (EUR bn.)	Delta (Stressed – Baseline)	Delta (Stressed with MA – Baseline)
DB	59	-57	10	-197%	-82%
DC	15	-3	5	-121%	-67%
Total	74	-60	15	-181%	-80%

Sustainability ratios are broadly stable for both sectors after applying shocks.<sup>12</sup> For the DB sector it registers a slight reduction of 3 pp to 92% from 95% in the baseline; while for the DC sector it increases by 7 pp from 90% to 97%. This increase is driven by a larger deterioration in the liquid assets at the beginning of the period (denominator) amid market shocks, compared with the change in the net cash flows and liquid assets at the end of the period (numerator). This pattern is not observed for the DB schemes, due to cash-flow dynamics (e.g., sizeable margin inflows for DB funds) and the higher allocation of DB funds to CIUs compared with DC funds. The picture improves slightly more following the application of MAs for DC schemes (see Figure 10).

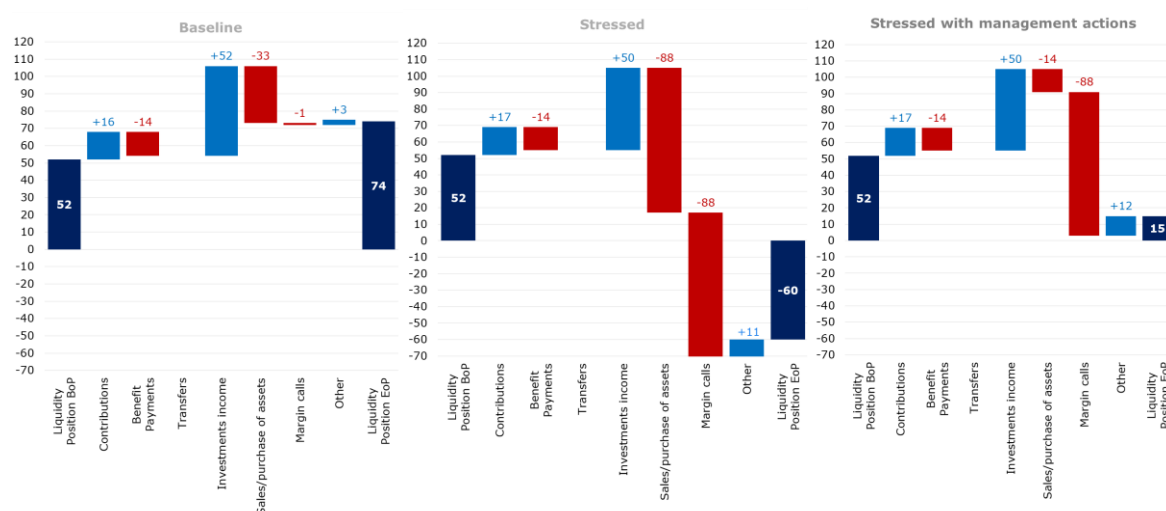
Figure 10 – YCU - Details on sustainability metrics for DB and DC

	Baseline			Stressed			Stressed with MA	
	Liquid assets (without haircuts) 31/12/24 (EUR bn.)  (1)	Net CFs + Liquid assets (with haircuts) 31/03/25 (EUR bn.)  (2)	Sustainability Ratio  (2)/(1)	Liquid assets (without haircuts) 31/12/24 (EUR bn.)  (3)	Net CFs + Liquid assets (with haircuts) 31/03/25 (EUR bn.)  (4)	Sustainability Ratio  (4)/(3)	Net CFs + Liquid assets (with haircuts) 31/03/25 with MA (EUR bn.)  (5)	Sustainability Ratio with MA  (5)/(3)
DB	1,248	1,181	95%	986	909	92%	973	99%
DC	291	263	90%	236	229	97%	229	97%
Total	1,540	1,444	94%	1,222	1,138	93%	1,202	98%

<sup>12</sup> The sustainability ratio is defined as net cash flows plus liquid assets at end-March 2025 (with haircuts) over total liquid assets at December 2024 (without haircuts).

Furthermore, as shown in Figure 11, with the application of MAs the final liquidity position improves thanks to the positive impact on sales/purchases of assets (+75 bn Euro). On the asset trading dynamics, it is worth highlighting the material impact generated by the application of the haircuts in the sales of assets. Around two-thirds of the change in the net position of sales/purchase of assets from EUR – 33 bn of the baseline to EUR -88 bn of the post stress position can be attributed to haircuts.

**Figure 11 – YCU - Liquidity position (Net cash-flows + Cash and cash equivalent as December 2024) in the baseline, stressed and stressed with management actions**

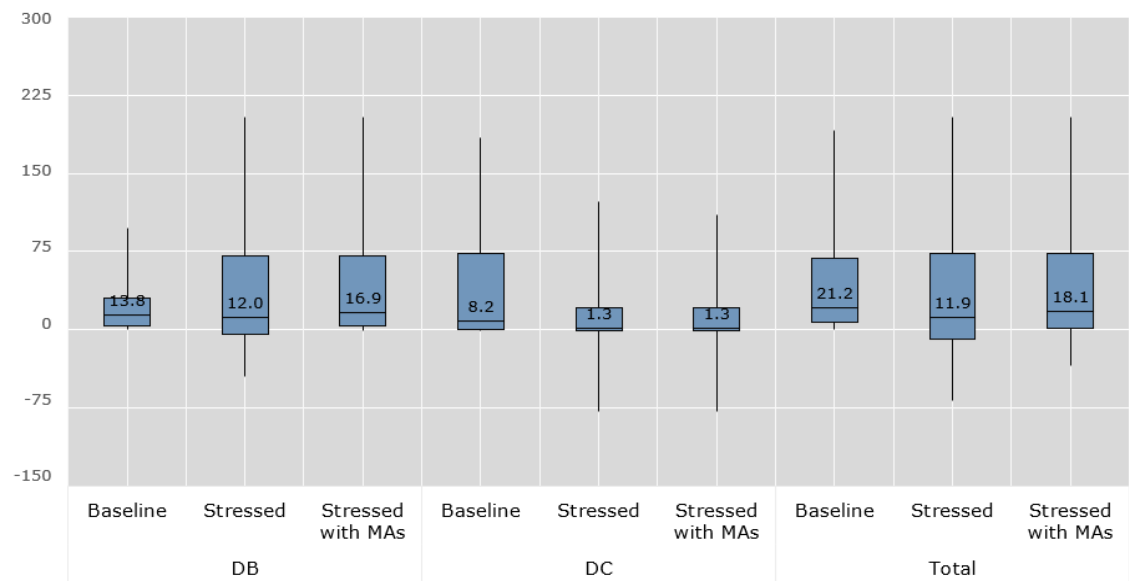


Note: Values in EUR billion.

The median IORP held enough cash to cover the liquidity shortfall under the adverse scenario, both in the stressed and stressed with MAs contexts (see Figure 12). The distributions do not account for size and complexity of the IORPs. It should be considered that the majority of the sample has a relatively small size and do not extensively engage in derivative transactions, making them less sensitive to the set of shocks prescribed in the scenario(s). Based on this, the lower tail of the distributions encompasses most of the large and more complex IORPs.

**Figure 12 – YCU - Distribution of liquidity position (Net cash flows + Cash as of December 2024)**



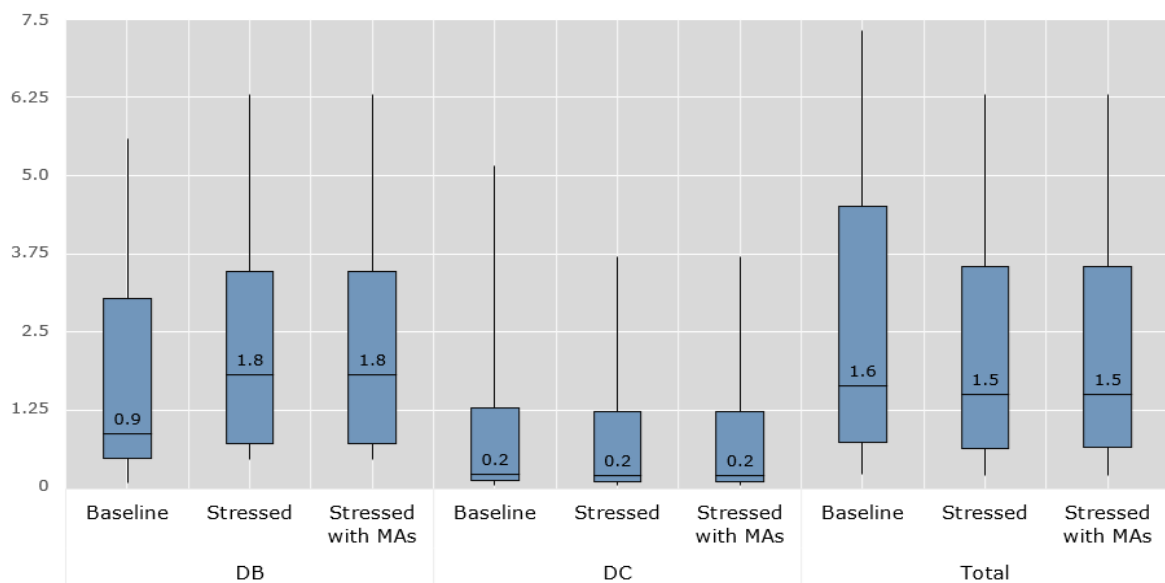


Note: boxplot reports 10th, 25th, 50th, 75th and 90th percentile of the distribution. Values in EUR million.

All participants are able to withstand the liquidity shocks, as shown by the distribution of the liquidity and sustainability metrics (Figure 12 and Figure 13). The sustainability indicator shows whether, in case of net outflows, the participant held a sufficient amount of liquid assets to cover the net outstanding amounts between December 2024 and March 2025 given the prescribed scenarios.

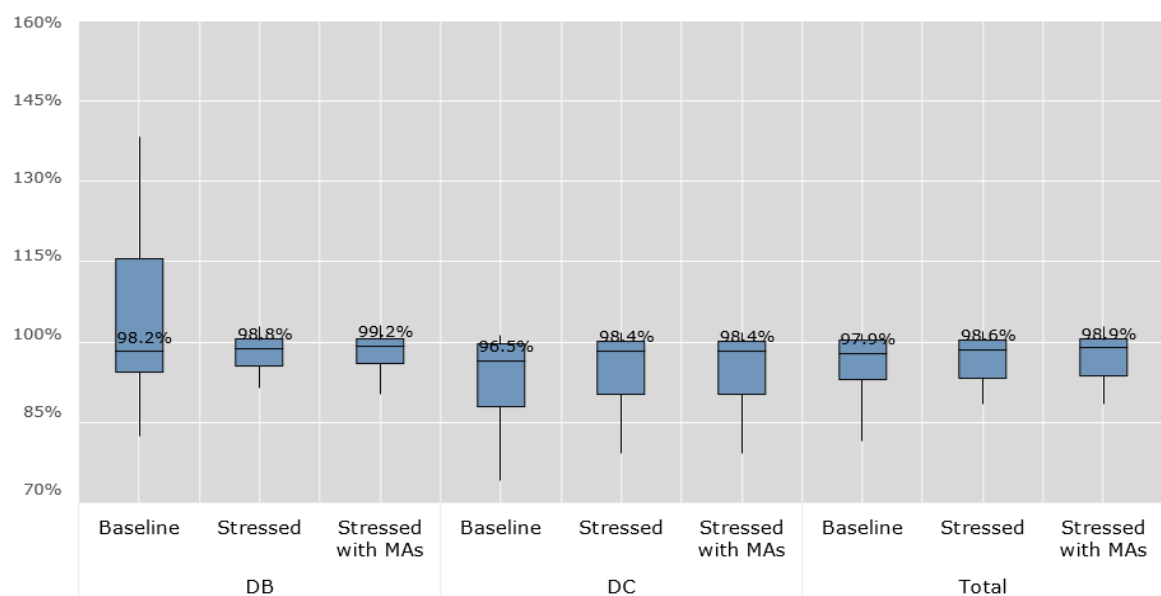
No significant distributional change among the two adverse scenarios is observed. This is the result of the strong position of liquid assets that is able to outweigh the negative net cash flows. Margin calls should be settled, on average (as some exceptions might apply), within 1 day in form of cash; while all participants, including those having negative net cashflows at the end of the timeline covered by the exercise of 90 days, detain sufficient liquid assets to cover negative cash flows, some IORPs would not be able to settle margin calls with cash and equivalent available at December 2024 in a 1 days horizon (see Flows section for further details).

**Figure 13 – YCU - Sustainability indicator (Net cash-flows + cash and equivalent + other liquid assets) as of March 2025, in the Baseline, stressed and stressed with management actions**



Note: boxplot reports 10th, 25th, 50th, 75th and 90th percentile of the distribution. Values in EUR billion.

**Figure 14 – YCU - Sustainability indicator scaled by liquid assets in December 2024**



Note: boxplot reports 10th, 25th, 50th, 75th and 90th percentile of the distribution.

The liquidity outflows generated by the shocks can be covered by the liquid assets held in December 2024 within the stressed and the stressed with MAs context. This is measured by the sustainability indicator scaled by liquid assets at December 2024 (Figure 14). It reflects how liquid assets in March

2025 change compared to liquid assets in December 2024 based on the adverse developments. Also, it shows whether, in case of net outflows, the IORPs hold a sufficient amount of liquid assets to cover the net outstanding amounts between December 2024 and March 2025, given the occurrence of the shocks. As shown in the Figure, the median ratio moves from 97.9% in the baseline to 98.6% and 98.9% in the stressed and stressed with MAs contexts respectively. Overall, the distribution of the sustainability indicator scaled by liquid assets appears stable and close to 100% in all 3 contexts. While the overall distribution of the sustainability indicator remains close to 100% across scenarios, a limited number of entities record values below 90%, which may reflect heightened liquidity sensitivity or specific balance sheet characteristics.

#### 4.1.2 Yield Curve Down Scenario (YCD)

**In the YCD scenario, the aggregate liquidity position at the end of the period decreases but remains still positive (from EUR 74 bn to EUR 56 bn).** This is due to the positive impact from margin calls (margin on FX derivatives remain negative but overcompensated by the positive margin on interest rate derivatives)<sup>13</sup> on interest rates derivatives, which partly offsets the negative impact from sales/purchases of assets (also impacted by the application of haircuts to sales) – Figure 15.

**Looking at the individual positions, 62 IORPs under the “stressed” assumptions and 29 IORPs under “stressed with MAs” assumptions reported negative liquidity position. However, the liquid assets held by those IORPs are sufficient for covering the potential liquidity needs.**

Figure 15 – YCD - Liquidity position and sustainability

	Baseline	Stressed		Stressed with MA	
	Value (EUR bn)	Value (EUR bn)	Δ (Baseline)	Value (EUR bn)	Δ (Baseline)
Liquidity position (Net-flows + Cash and equivalent) <sub>BOP</sub>	74	56	-25%	70	-5%
Sustainability (Net-flows + Cash and equivalent <sub>BOP</sub> + Other liquid Assets w/Haircut <sub>FOP</sub> )	1,444	1,381	-4%	1,353	-6%
Number of IORPs with negative liquidity position	-	62	-	29	-

**When looking at the results by type of scheme, the liquidity position of the DC sector deteriorates remarkably more than DB, which remains mostly stable compared to the baseline values (Figure 16).** Such results are mainly explained by the different use of hedging derivatives between DB and DC schemes. In particular, the lower exposure of DC schemes to interest rate hedging derivatives results in smaller gains on derivatives in this scenario, which do not offset the losses from exchange rate movements. It should however be noted that the heterogeneity of the size of the participants in the sample in terms of total assets and their concentration in few jurisdictions does influence the

<sup>13</sup> Additional details on the derivative positions are provided in section 4.2 Flows.

observed overall results. For the same reason and to prevent the identification of specific participants' results, a drill down of the analyses by total assets brackets is not presented.

Nevertheless, from an overall perspective looking at the whole sample, both sectors equally benefit from the application of MAs which allow IORPs to further improve the liquidity positions at the end of March 2025, halving the loss compared to the baseline for DC schemes and improving the liquidity position with an 11% increase in the case of DB schemes.

**Figure 16 – YCD - Details on liquidity position for DB and DC**

	Liquidity position				
	Baseline (EUR bn.)	Stressed (EUR bn.)	Stressed with MA (EUR bn.)	Delta (Stressed – Baseline)	Delta (Stressed with MA – Baseline)
DB	59	60	65	2%	11%
DC	15	-4	5	-126%	-69%
Total	74	56	70	-25%	-5%

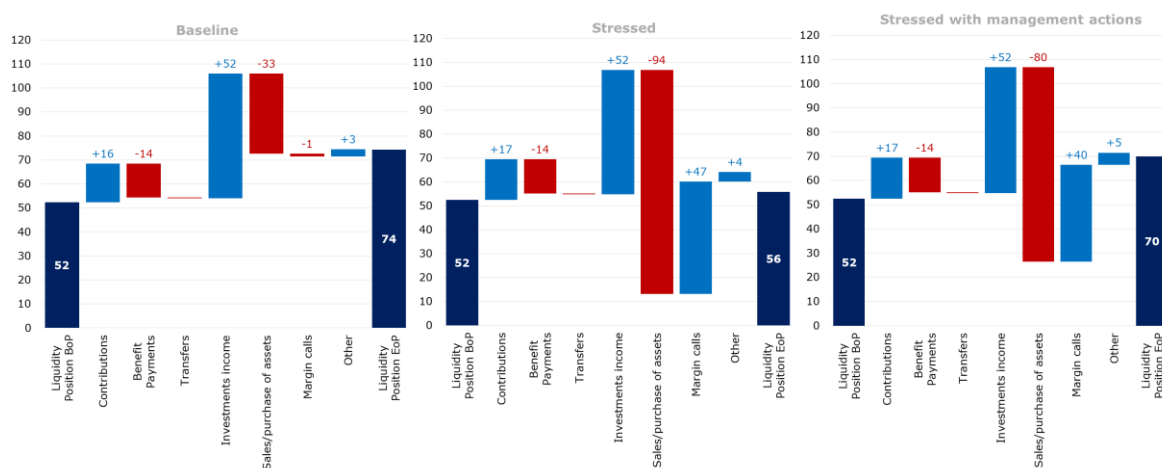
With the application of MAs an improvement is generated, getting closer to the initial baseline value thanks to the less severe impact on sales/purchases (+13 bn Euro). Under stress, the sustainability ratios for both DB and DC improve slightly. When the MAs are applied in the stressed scenario, the sustainability ratios ease back somewhat but remain close to or above 100% for the total system. Overall, the results suggest that both DB and DC schemes appear resilient to short-term liquidity pressures under a YCD scenario, though DC schemes consistently show a comparatively weaker position (Figure 17).

**Figure 17 – YCD - Details on sustainability metrics for DB and DC**

	Baseline			Stressed			Stressed with MA	
	Liquid assets (without haircuts) 31/12/24 (EUR bn.)  (1)	Net CFs + Liquid assets (with haircuts) 31/03/25 (EUR bn.)  (2)	Sustainability Ratio  (2)/(1)	Liquid assets (without haircuts) 31/12/24 (EUR bn.)  (3)	Net CFs + Liquid assets (with haircuts) 31/03/25 (EUR bn.)  (4)	Sustainability Ratio  (4)/(3)	Net CFs + Liquid assets (with haircuts) 31/03/25 with MA (EUR bn.)  (5)	Sustainability Ratio with MA  (5)/(3)
DB	1,248	1,181	95%	1,085	1,125	104%	1,111	102%
DC	291	263	90%	249	256	103%	242	97%
Total	1,540	1,444	94%	1,334	1,381	104%	1,353	101%

Despite the decrease in the liquidity position triggered by the shocks, the simultaneous decrease of interest rates and Euro depreciation generates margin calls of opposite signs leading to an aggregate positive post stress liquidity position (Figure 18). The post stress liquidity position of EUR 56 bn reached in the stressed scenario further improves following the application of MAs reaching EUR 70 bn. The same consideration on the impact of the haircuts on the sales of assets made in the YCU scenario can be extended to the YCD scenario.

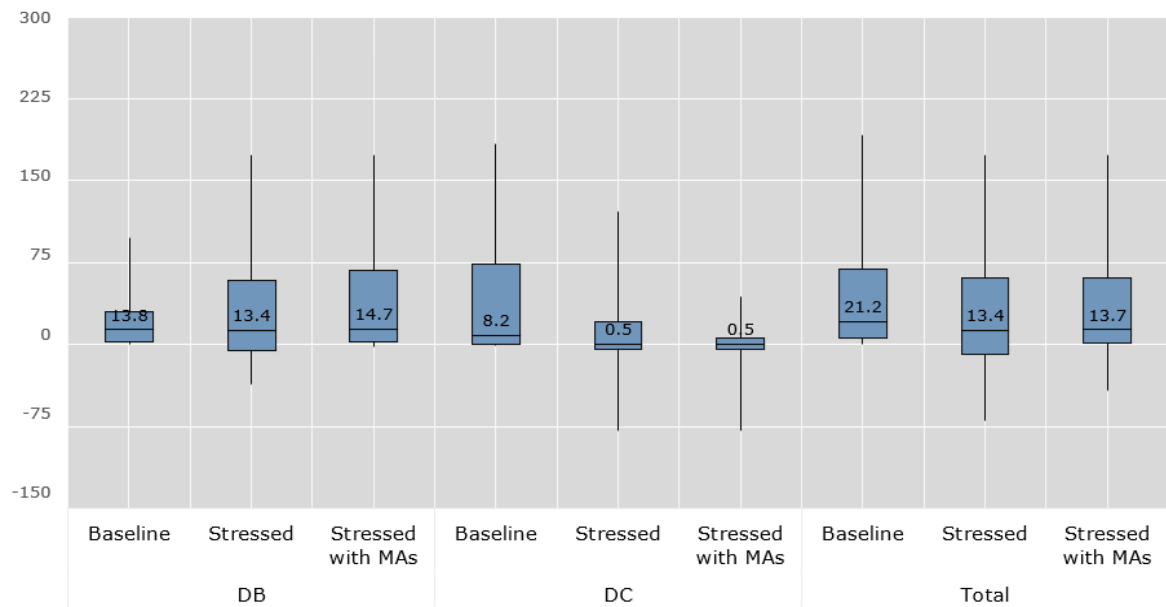
**Figure 18 – YCD - Liquidity position (Net cash-flows + Cash and cash equivalent as December 2024) in the baseline, stressed and stressed with management actions**



*Note: Values in EUR billion.*

The median IORP held enough cash to cover the liquidity shortfall under the adverse scenario, both in the stressed and stressed with MAs contexts (Figure 19). Coherently with the image depicted in Figure 18 above, the distribution of the liquidity positions over the different contexts shows resiliency. The shape of the distribution, when compared to the YCU scenario, shows some visible differences in terms of positivity of the skewness and the width of the interquartile range, which, ultimately, lead to more symmetrical distributions (hinting more stability and reduced volatility) in the YCD scenario. It should be noted that, as for the YCU scenario, the distributions shown do not account for size and complexity of the IORPs.

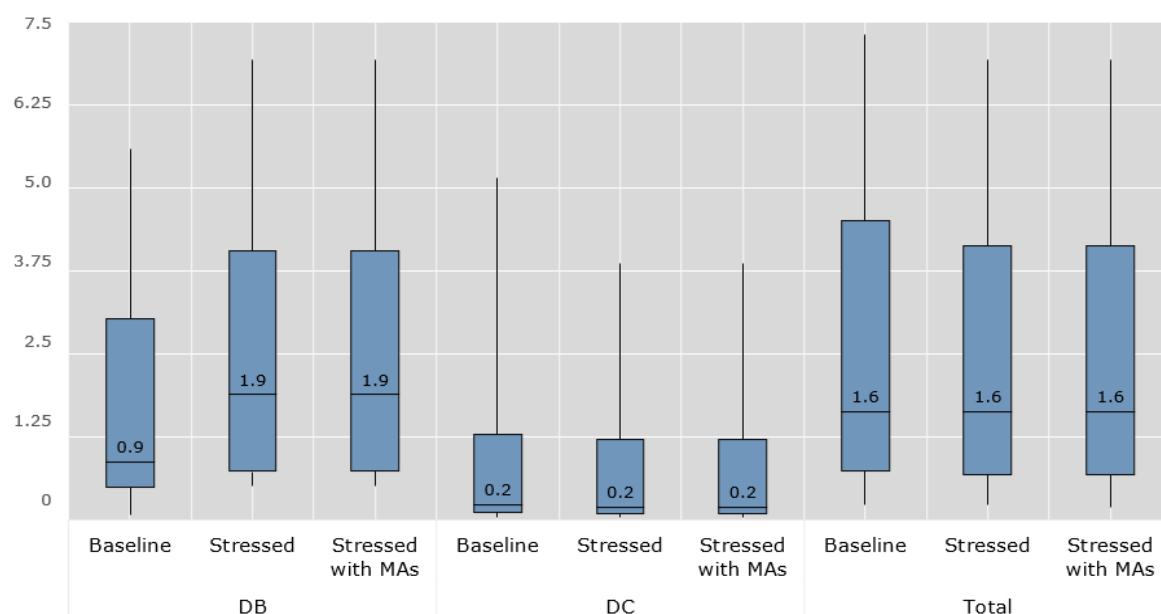
Figure 19 – YCD - Distribution of liquidity position (Net cash flows + Cash as of December 2024)



Note: boxplot reports 10th, 25th, 50th, 75th and 90th percentile of the distribution. Values in EUR million.

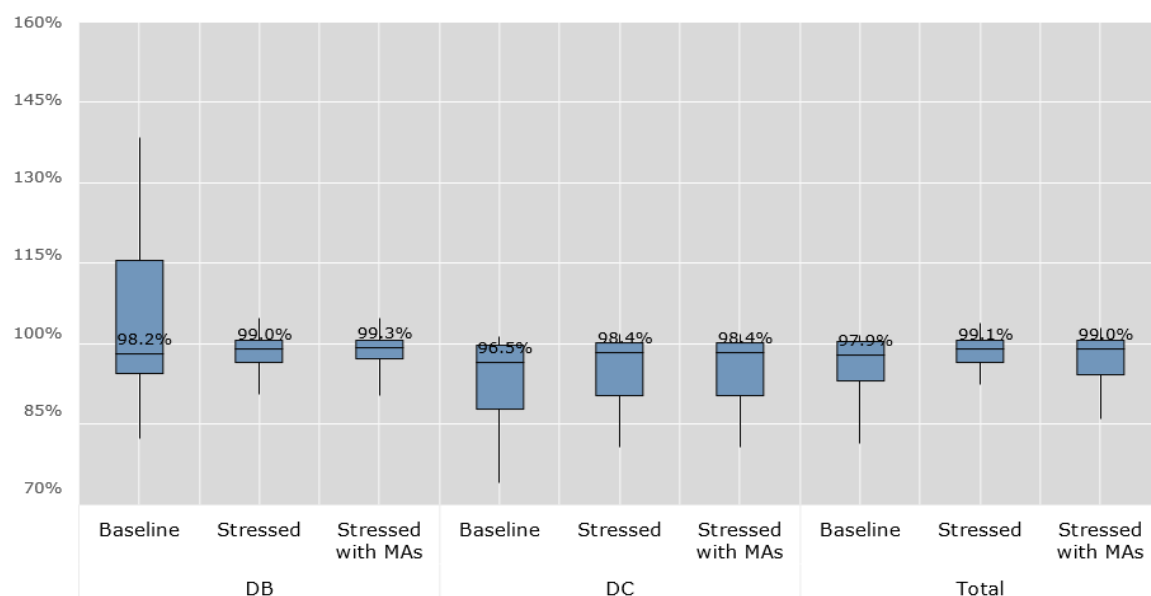
The results show that all participants can sustain the negative net cash-flows with other liquid assets in the baseline as well as in the stressed and stressed with MAs (Figure 20 and 21). On aggregate, IORPs hold EUR 1.4 tn to cover the net flows in the baseline. This drops to EUR 1.3 tn in the stressed scenario and stays then stable in the stressed with MAs context. No significant distributional change among the two adverse scenarios is observed, although the different magnitude and effects on DB and DC schemes are observable in the detailed distributions.

**Figure 20 – YCD - Sustainability indicator (Net cash-flows + cash and equivalent + other liquid assets) as of March 2025, in the Baseline, stressed and stressed with management actions**



Note: boxplot reports 10th, 25th, 50th, 75th and 90th percentile of the distribution. Values in EUR billion.

**Figure 21 – YCD - Sustainability indicator scaled by liquid assets in December 2024**



Note: boxplot reports 10th, 25th, 50th, 75th and 90th percentile of the distribution.

The liquidity outflows generated by the shocks can be covered by the liquid assets held in December 2024 within the stressed and the stressed with MAs context. Similarly to what has been observed

for the YCU scenario, overall, the distribution of the sustainability indicator scaled by liquid assets appears stable and close to 100% in all 3 contexts. Nevertheless, here as well, a few entities record values below 90%, suggesting a stronger depletion of liquid assets and potentially higher short-term liquidity pressures.

## 4.2 FLOWS

### 4.2.1 Yield Curve Up Scenario (YCU)

**The cash flows generated by IORPs between 31 December 2024 and 31 March 2025 can be divided into two main categories: investment-related and non-investment-related flows.** The first category comprises investment income and expenses, the maturity of fixed-income instruments, purchases and sales of assets, and margin calls. The second category covers contributions and benefit payments, transfers in and out, as well as other operational cash inflows and outflows. The following chapter provides a detailed assessment of each of these components.

#### 4.2.1.1 Investment related flows

##### Investment related expenses and income

**In the first quarter of 2025, IORPs report investment income of approximately EUR 10 bn and investment-related expenses of around EUR 3 bn.** These amounts remain broadly stable across the baseline and stressed scenarios, including after considering MAs. Consequently, investment-related income and expenses have no, or only a marginal, impact on the overall post-stress liquidity position of the IORPs.

##### Maturing fixed income assets

**Maturing bonds during the first quarter of 2025 amount to approximately EUR 43 bn, generating cash inflows.** These amounts are assumed to remain unchanged under the stressed scenario, given the absence of default assumptions. Any deviation would be limited to valuation effects stemming from foreign-currency exposures. Consequently, maturing assets have no impact on the post-stress liquidity position. Asset sales executed as part of MAs likewise do not affect the maturity profile and therefore have no additional impact on liquidity.

##### Purchases and Sales

**The stress scenarios affect the valuation of both asset purchases and sales, with sold assets additionally subject to liquidity haircuts** (see methodology section for further details). As shown in Figure 22, the value of asset purchases decreases by around 13% for both DB and DC schemes, while sales values decline by up to 50%. Although several factors may contribute to this difference, the



asymmetry primarily reflects the application of haircuts on sales, which further reduce their post-stress valuation relative to the baseline<sup>14</sup>. Overall, around two-thirds of the observed impact can be attributed to these haircuts.

**Purchases exceeded sales by around EUR 33 bn in the baseline scenario, financed, for example, through contributions, investment income, or other sources. This situation is confirmed, though affected by shocks under the stressed scenario.** The combined effect of lower purchase prices and reduced sales due to shocks and haircuts results in an additional liquidity shortfall of approximately EUR 55 bn under the YCU scenario. As illustrated in Figure 22, this funding gap is addressed through different MAs across DB and DC schemes. In DB schemes, the gap is mitigated by increasing asset sales relative to the stressed position, thereby returning close to baseline levels<sup>15</sup>. In contrast, DC schemes primarily reduce, in aggregate asset purchases, with only marginal increases in asset sales.<sup>16</sup>

**The behaviour applies to both DB and DC schemes.** IORPs start from a net purchasing position, meaning that purchases exceed sales (by 1.8% of the total liquid assets for DB schemes and 1.7% of the total liquid assets for DC schemes). In the stressed scenario, this imbalance becomes more pronounced due to the application of haircuts on asset sales, reaching 6.6% and 7.4% respectively. When MAs are taken into account, the net position moves back towards the baseline, to 4.1% for DB and 4.7% for DC schemes.

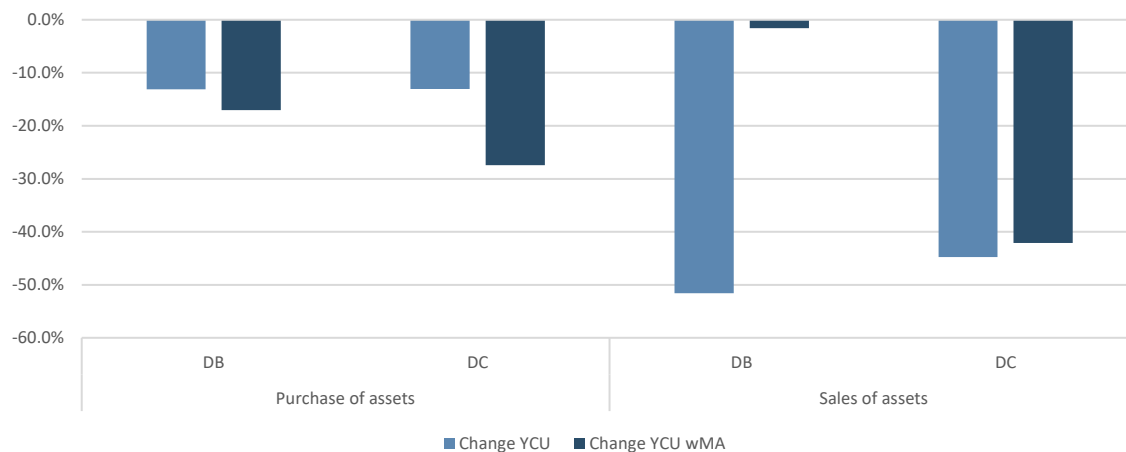
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<sup>14</sup> Not all reported sales are actual sales. For example, the sale of a repo functions as a secured loan rather than an exchange of the asset.

<sup>15</sup> This outcome is mainly driven by Dutch IORPs. When these are excluded from the sample, an increase in asset sales in response to the stressed scenario remains observable. However, the recovery in terms of cash in-flows generated through the sale of assets accounts is not the entire 50% but limited to 20%.

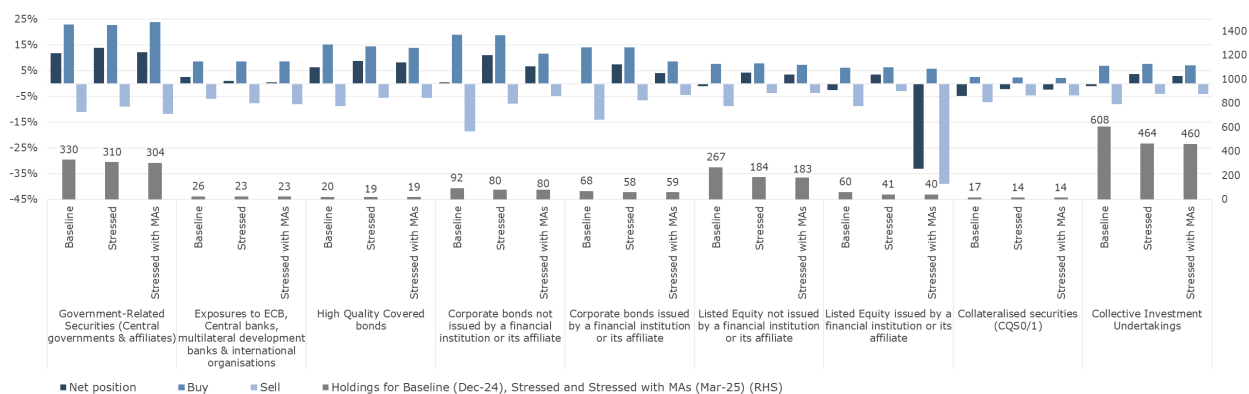
<sup>16</sup> The aggregate impact in EURO amount, does not contradict the declared management actions described in Section 3 as the latter refers to the number of IORPs applying the action and not at EURO amount affected by the action.

Figure 22 – YCU - Impact Stress Scenarios on Purchases and Sales of assets compared to baseline



The investment flows under baseline, YCU stressed and YCU with MAs shows that in aggregate, while slightly adjusting the asset allocation IORPs remain net-buyers (dark blue line being positive) confirming the stabilizing role of IORPs in a broader financial stability perspective. Figure 23, which displays the volumes of asset purchases and sales by IORPs together with the resulting net position (top blue bars), as well as their exposures by asset category under the baseline and stressed scenarios (bottom grey bars), shows that for CIUs and listed equity not issued by a financial institution the position turns from net seller in the baseline to net buyer, while for listed equity issued by a financial institution, IORPs materially amplify their net seller position (dark blue bar being negative).

Figure 23 – YCU - Liquid investment flows (DB and DC schemes) relative to holdings in the Baseline, Stressed and Stressed with management actions



Note: Values in EUR billion if not differently indicated. For visualization purposes, “purchases” are shown as positive values, but they correspond to negative flows.

**Heterogeneity in the investment behaviour emerged between DB and DC. DB IORPs turned from net buyer to net seller position for some asset categories.** In particular, the following changes in

portfolio positions are observed: fixed income issued by ECB, central banks, multilateral development and international organisations banks (from 1% in the baseline to -1% in the YCU and -2% including MAs), corporate bonds not issued by a financial institution or its affiliate (from -1% in the baseline to 12% in the YCU and 8% including MAs), corporate bonds issued by a financial institution or its affiliate (from -1% in the baseline to 6% in the YCU and 4% including MAs), listed equity not issued by a financial institution or its affiliate (from -1% in the baseline to 3% in the YCU and 3% including MAs) and CIUs (from -1% in the baseline to 3% in the YCU and 3% including MAs).<sup>17</sup>

**On the other hand, DC IORPs turned from net seller to net buyer position for some asset categories**, namely: equity not issued by a financial institution or its affiliate (from -0.2% in the baseline to 6% in the YCU and 4% including MAs), listed equity issued by a financial institution or its affiliate (from -1% in the baseline to 7% in the YCU and 5% including MAs) and CIUs (from -1% in the baseline to 6% in the YCU and 3% including MAs).

**At the same time, diverging trends can be observed between DB and DC schemes across several asset classes:**

- Government securities: DB schemes record a net increase in their purchasing position compared with the baseline or after MAs, whereas DC schemes show a reduction in their purchasing position.
- Fixed income issued by central banks, the ECB, or multilateral development and international organisations: DB schemes shift from a net purchasing to a net selling position, while DC schemes exhibit an increase in their purchasing position.
- Corporate bonds: DB schemes move from a net selling to a net purchasing position, whereas DC schemes display a decrease in their purchasing position.
- Listed equity issued by financial institutions or their affiliates: DB schemes experience a sharp reduction in their net selling position, while DC schemes shift from a net selling to a net purchasing position.

### Margin calls

**As IORPs engage in derivatives and repo transactions, sharp market movements can alter the value of derivatives and, depending on the hedge direction, trigger margin in- or outflows.** Variation margin requirements are typically settled in cash, although other highly liquid assets may also be used, depending on the specific contractual arrangements and whether the transaction is centrally cleared.

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<sup>17</sup> It should be noted that based on the Technical Specifications, the changes observed under the “stressed” approach compared to the baseline are driven by the impact of the prescribed shocks as no active reallocation is supposed to be applied. As such different impacts are driven by the characteristics of the assets held, e.g., type and duration of the fixed income assets.

**Box 3: MARGIN CALLS**

*A margin call is a request for additional collateral to cover potential losses in a financial contract, ensuring exposures remain adequately collateralized. Under the European Market Infrastructure Regulation (EMIR), margin requirements apply to non-centrally cleared OTC derivatives as well as centrally cleared derivatives, including contracts on interest rates, foreign exchange, equity, credit, and commodities.*

- *Initial Margin (IM): Posted at the start of a transaction to cover potential future exposure in case of default. It is calculated using validated risk models and reflects the risk over the liquidation period.*
- *Variation Margin (VM): Exchanged daily (or intraday when thresholds are breached) to reflect changes in the market value of the position. It ensures current exposures are fully collateralized.*

*Both margins are essential for reducing counterparty credit risk and systemic risk in the derivatives market.*

**IORPs predominantly hold receiver swap positions, meaning they pay a variable interest rate and receive a fixed interest rate.** Under the YCU scenario, rising interest rates increase the payments on the variable leg relative to the fixed leg, causing the market value of these swaps to decline and resulting in additional margin calls.

**IORPs also maintain foreign-exchange hedges to protect against currency depreciation.** These contracts generate gains when foreign currencies depreciate. However, under stressed scenario, foreign currencies appreciate, moving the market against the IORPs' hedged positions and leading to additional margin calls.

**Around half of the IORPs participating in the stress test made use of derivatives.** 44 of the 105 IORPs providing DB schemes and 48 of the 77 IORPs providing DC schemes are reporting the use of derivatives in the stocks template. This corresponds in 37 IORPs providing DB schemes and 47 IORPs providing DC schemes reporting margin calls.

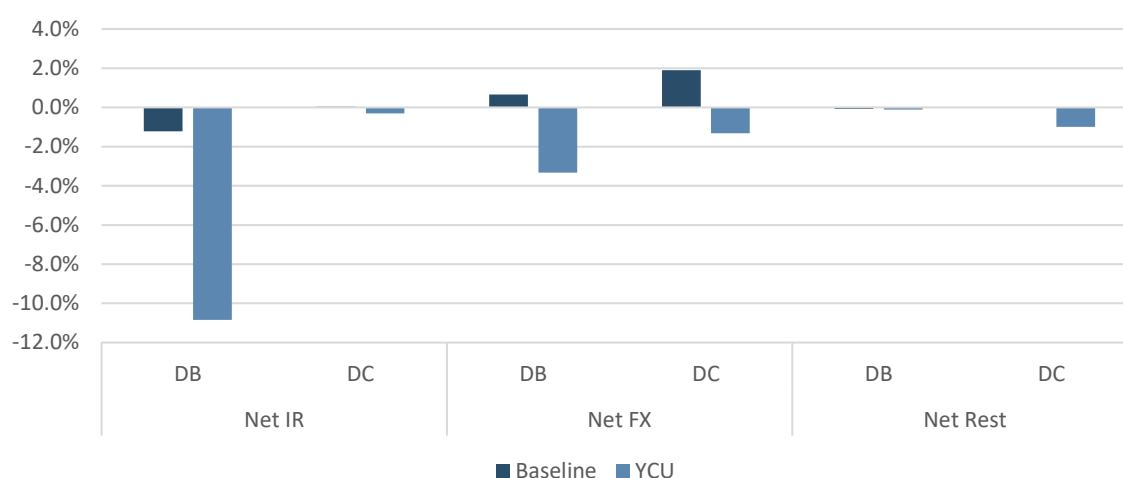
**Aggregated margin call flows, amounting to EUR -1 bn in the baseline, further deplete liquidity under stress, resulting in a total outflow of EUR -88 bn in the stressed scenario<sup>18</sup>.** IORPs hedge interest rate risk mainly against lower interest rates. Therefore, the overall net outflow arises from a sharp decline in inflows, which more than offsets the moderate decrease in outflows. Specifically, margin and collateral outflows fall from EUR 129 bn in the baseline to EUR 91 bn under stress, while inflows drop significantly from EUR 128 bn to EUR 3 bn.

**Interest rate derivatives and the associated margin calls are significantly more prominent for DB IORPs than for DC IORPs under the stressed scenario (Figure 24).** This outcome is expected, as DB

<sup>18</sup> When comparing the baseline with the stressed scenarios, it should be noted that the baseline reflects actual margins paid and received by IORPs during the first quarter, following observed market movements in interest rates, spreads, equity prices, and exchange rates. Consequently, both inflows and outflows are sizeable, while the net position remains relatively small, reflecting temporary market volatility that largely offset over the period. In contrast, the stressed scenarios assume an instantaneous shock at the start of the year, with no evolution over the quarter, and are therefore not directly comparable with the baseline.

schemes typically hedge against falling interest rates, which would otherwise have a substantial impact on their liabilities. Consequently, a rising interest rate environment moves against these positions, leading to margin outflows. Regarding FX derivatives, the difference between DB and DC schemes is smaller, although DB IORPs still show relatively higher exposures, resulting in larger margin calls. In the baseline, collateral inflows and outflows from repurchase agreements are also reported but largely offset each other. Under the stressed scenarios, both inflows and outflows fall to zero.

**Figure 24 – YCU - Net margin calls over liquid assets including haircuts**



The median net margin call decreases by around EUR 5 bn for DB schemes and by less than EUR 0.5 bn for DC schemes for the EEA largest IORPs. The impact is concentrated among the largest IORPs. The distributions are skewed above the median, with DB schemes facing collateral outflows exceeding EUR 10 bn at the 90th percentile. The results also suggest that the overall outcome for DB schemes is influenced by a few outliers, indicating that the use of interest rate hedging is relatively limited across most DB IORPs.

**27 IORPs with negative margin calls lack sufficient cash for immediate coverage.** Margin calls should be settled within 1 day in form of cash (some exception applies). Given the instantaneous nature of the shocks, it is plausible to assume that the payment of the margins should be done in the initial days of January 2025 relying on the cash and equivalent held on 31 December 2024<sup>19</sup>. For the IORPs that do not have sufficient cash to cover the net margin calls, the shortfall amounts to EUR 49 bn, mainly covered through repo facilities and net sales of CIUs.

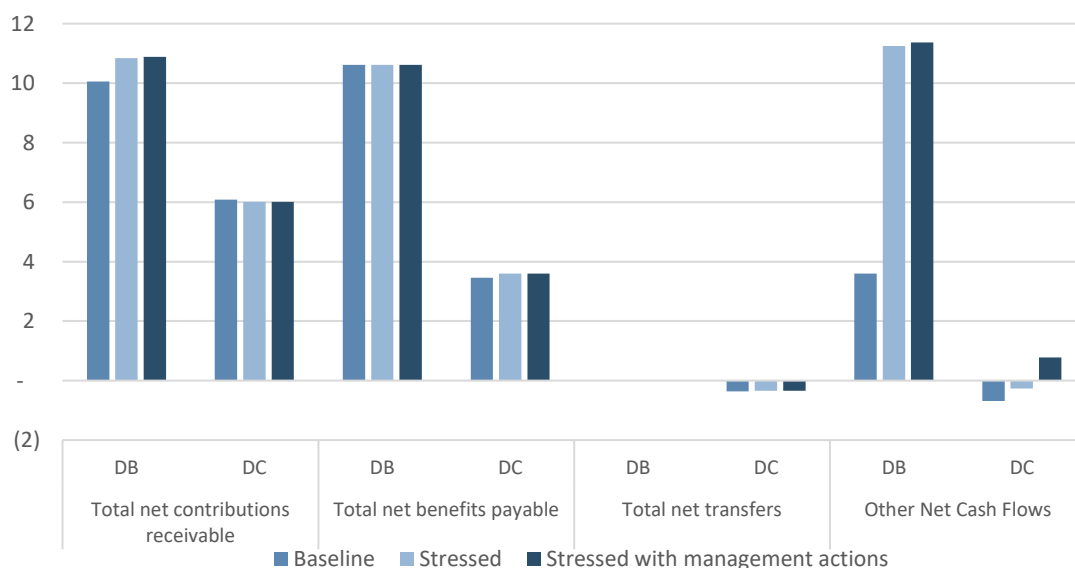
<sup>19</sup> It is worth noting that Dutch participants, depending on their existing contractual arrangements, are allowed to (partially) cover margin using high quality assets as a collateral.

#### 4.2.1.2 Non-Investment related flows

Non-investment related flows cover contributions and benefit payments, transfers in and out, as well as other operational cash inflows and outflows.

Figure 25 presents the evolution of those cash flows for DB and DC schemes under the baseline, stressed, and stressed with MAs scenarios. Net contributions receivable remain broadly stable across scenarios, indicating that few additional contributions were called to address increased liquidity needs, mainly for DB schemes. Net benefits payable are naturally consistent across scenarios, aside from valuation effects, and slightly exceed contributions for DB schemes. For DC schemes, contributions exceed benefit payments, resulting in a net inflow. Net transfers are close to neutral for both scheme types, as participants did not expect material transfers in or out during the period. The main variation arises in other net cash flows, where significant additional inflows are reported under the stressed scenarios, unrelated to operational income or expenses. This increase was mainly driven by the use during stress of committed credit lines, which were considered part of an always accessible cash pool (and therefore not reported as management action).

**Figure 25 – YCU - Non-investment flows**



*Note: Values in EUR billion if not differently indicated. Other Net Cash Flows cover operational and miscellaneous expenses not included in the other categories.*

#### 4.2.2 Yield Curve Down Scenario (YCD)

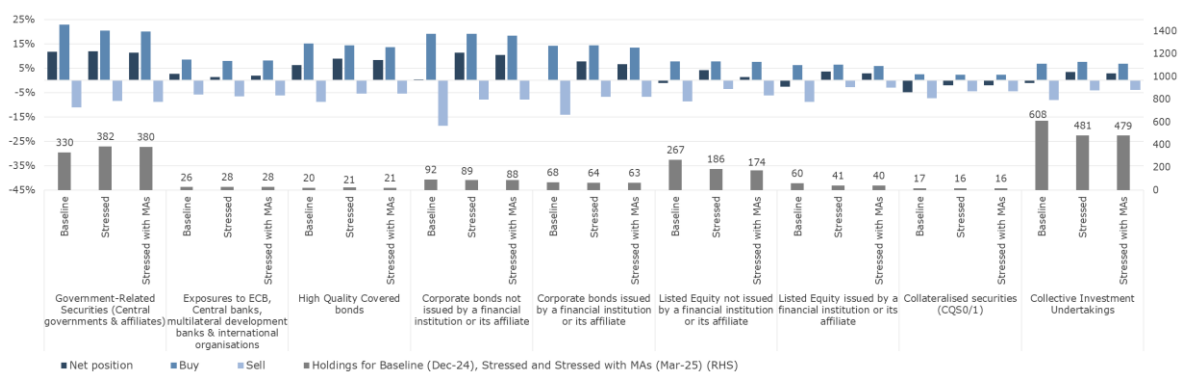
For the YCD scenario, the analysis focuses only on areas materially affected by the stresses, as other aspects remain broadly consistent with the YCU scenario. Accordingly, the paragraphs below concentrate on investment flows, margin calls and other expected cash-flows.

##### Purchases and sales of assets

The results for the YCD scenario are broadly similar to those of the YCU scenario, but with a less pronounced impact, as interest rate-sensitive investments benefit from lower rates. Consequently, the MAs taken by both DB and DC schemes are more aligned and have a smaller overall effect than under the YCU stress. The main difference lies in DC schemes purchasing fewer assets than DB schemes.

Figure 26 shows the investment flows for DB and DC schemes, aggregated relative to their total holdings under the different scenarios. Overall, the net positions remain ‘buying’ under the stressed scenarios, once MAs and the applied haircuts are considered. Like the YCU scenario, a change from a net selling to a net buying position is observed for CIUs, which represent a significant share of IORP investments.

**Figure 26– YCD - Liquid investment flows (DB and DC schemes) relative to holdings in the Baseline, Stressed and Stressed with management actions**



*Note: Values in EUR billion if not differently indicated. For visualization purposes, “purchases” are shown as positive values, while they represent negative flows.*

##### Margin calls

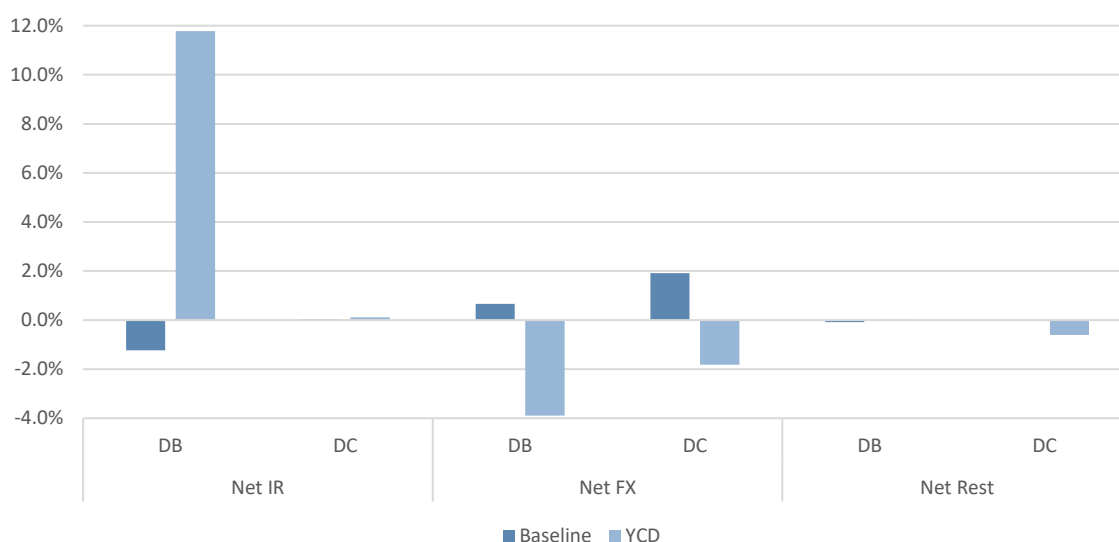
As noted under the YCU scenario, IORPs predominantly hold receiver swap positions, under which they pay a variable rate and receive a fixed rate. The YCD scenario moves in the opposite direction of the YCU: **falling interest rates increase the value of these positions, thereby reducing margin call requirements as IORPs pay less on the variable leg. However, for foreign currency hedges,**

most currencies also appreciate against the euro in the YCD scenario, leading to margin calls on these positions.

Aggregated margin call flows, amounting to around EUR -1 bn in the baseline, improve the overall liquidity position under stress, resulting in a total inflow of approximately EUR 40 bn in the YCD scenario. This outcome is mainly driven by margin inflows on interest rate derivatives, reflecting the effects of the lower yield curve.

Figure 27 illustrates, that interest rate derivatives and the associated margin calls increases are significantly more prominent for DB IORPs than for DC IORPs under the stressed scenario.

**Figure 27 – YCD - Net margin calls over liquid assets incl. haircuts**



When looking at the YCD scenario, we can also identify divergent patterns for DB and DC. While overall DB IORPs have an improved net position due to their exposure to interest rate derivatives which over-compensates the negative cashflows from exchange rate derivatives, DC IORPs suffer similar almost cash outflows than in the YCU scenario (depreciation of the Euro is slightly stronger than in YCU).

This outcome is expected, as DB schemes typically hedge against falling interest rates. Consequently, a decreasing interest rate environment moves in line with these positions, leading to margin inflows. Regarding FX derivatives, the difference between DB and DC schemes is smaller, although DB IORPs still show relatively higher exposures, resulting in larger margin calls.

For DB schemes, the distribution is skewed above the median, with collateral inflows exceeding EUR 15 bn at the 90th percentile. In contrast, for DC schemes the distribution is mainly skewed below the median, with expected outflows slightly below this level. The results further indicate that the aggregate outcome for DB schemes is influenced by a few outliers. This finding, consistent with



observations from the YCU scenario, suggests that the use of interest rate hedging remains relatively limited across most DB IORPs.

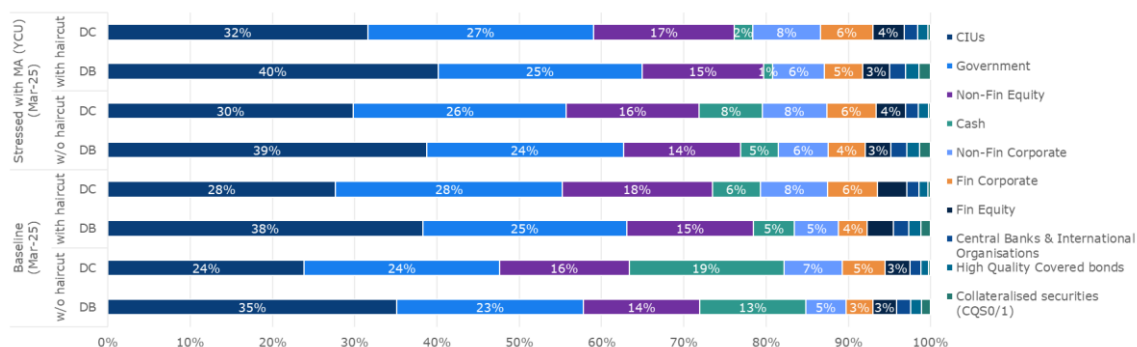
**24 IORPs with negative margin calls lack sufficient cash for immediate coverage.** The movements of exchange rates and interest rates in the YCD scenario generate less liquidity strains from margin calls. Most of the derivative users have positive net positions between cash at 2024 year-end and margin calls.

## 4.3 STOCKS

### 4.3.1 Yield Curve Up Scenario (YCU)

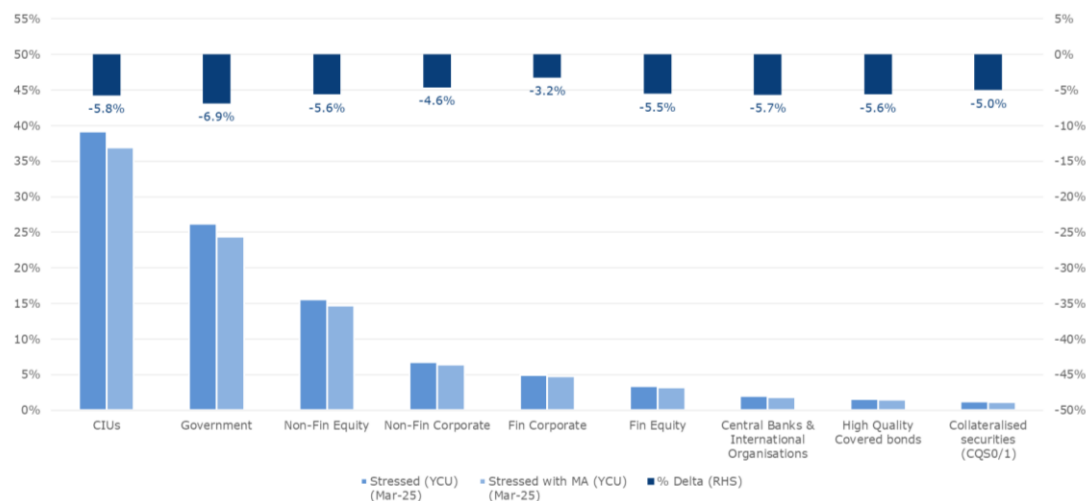
**The relative allocation of liquid assets within the portfolio remained overall stable after the prescribed shocks.** Figure 28 shows the resulting asset allocation (liquid assets only) in the post stress situation.

**Figure 28 - YCU - Total liquid assets with/without haircuts in the Baseline and stressed with management actions**



As mentioned in the paragraphs above, the application of MAs ultimately leads to changes in the asset allocation, of which Figure 29 depicts the main dynamics.

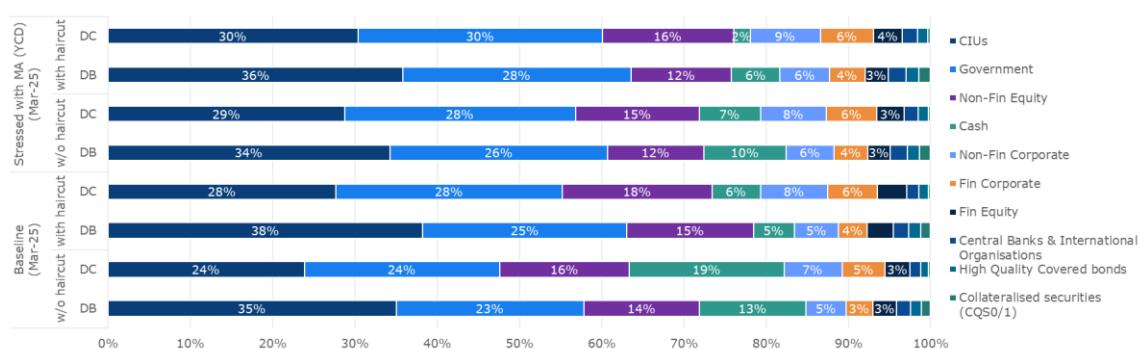
Figure 29 – YCU - Change in asset allocation



#### 4.3.2 Yield Curve Down Scenario (YCD)

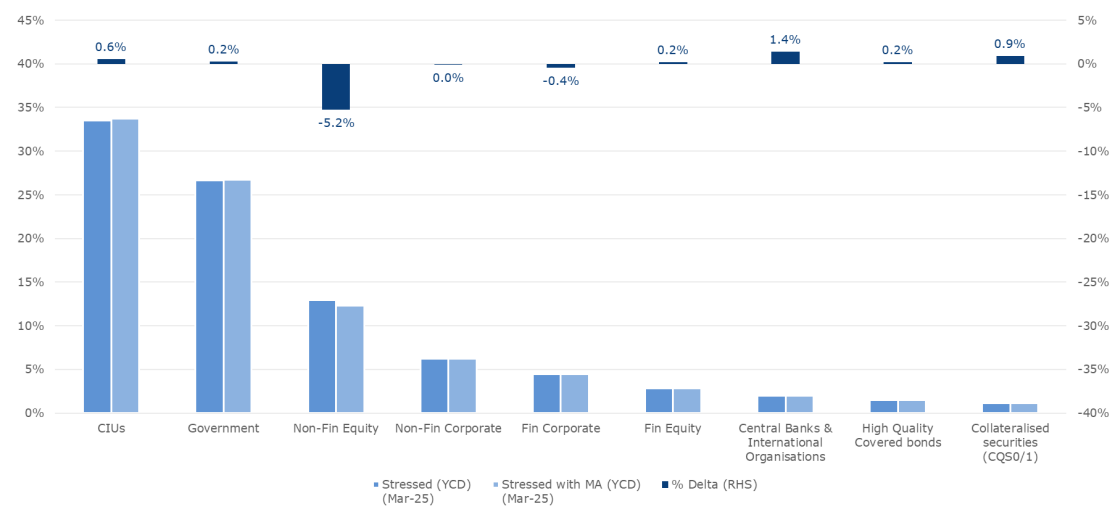
The YCD scenario shows lower differences in terms of asset allocation vs Baseline when compared with the YCU scenario (Figure 30) and the impact on cash does not lead to negative developments. However, in a similar fashion to the YCU scenario, the level of liquid assets remained overall stable after the prescribed shocks, considering the impact of liquidity haircuts on asset portfolios.

Figure 30 – YCD - Total liquid assets with/without haircuts in the Baseline and stressed with management actions



As for the YCU scenario, the YCD scenario also benefits from the application of MAs, which ultimately lead, also in this context, to changes in the asset allocation, of which Figure 31 depicts the main dynamics. The changes are however less impactful, when compared to the dynamics observed in the YCU scenario.

Figure 31 – YCD - Change in asset allocation



## 5 CONCLUSIONS AND NEXT STEPS

### 5.1 CONCLUSIONS

**The 2025 IORP Stress Test marks the first European exercise focusing specifically on the liquidity resilience of IORPs.** Its relevance remains high, also considering the ongoing economic uncertainty, elevated geopolitical tensions, and tightening financial conditions. The exercise aimed to assess the capacity of IORPs to withstand severe but plausible liquidity shocks arising from market stress and sudden collateral requirements.

**Overall, the IORP sector demonstrates a sound baseline liquidity position, with sufficient cash holdings and positive net cash flows within the first quarter 2025.** From a liquidity perspective, the YCU scenario posed the most significant challenges, as the combined effects of rising interest rates and a depreciation of the euro triggered substantial margin calls and additional liquidity strain from market shocks. Nevertheless, in aggregate the sector's overall liquidity resilience remains solid, supported by adequate cash buffers and effective liquidity management practices.

**Results confirm the liquidity risk linked to the hedging positions.** While beneficial by a capital perspective, derivatives may, under adverse scenario(s) generate margin calls to be settled usually through cash. Not all the participants were able to cover the margin calls generated by the prescribed shocks with the available cash at 31 December 2024, requiring the application of specific MAs. The liquidity strains are primarily driven by margin calls, which generally need to be settled within one day in cash (some exception applies). The MAs applied, mainly the sale of liquid assets and the use of repos, are reasonably implemented within this time horizon.

**Moreover, the results indicate that IORPs possess the flexibility to effectively manage liquidity challenges, demonstrated through the application of MAs for the first time in a stress test exercise for the sector.** Participants showed their ability to adapt by adjusting investment strategies, including asset reallocations and refinements in collateral management practices. These findings underline the sector's capacity to withstand adverse liquidity developments<sup>20</sup>, while also highlighting areas where methodological consistency and risk management practices can be further strengthened.

**The aggregated outcome of the application of MAs does not indicate the risk of potential spillover to other markets.** Within the limitation of the approach applied which does not explicitly account

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<sup>20</sup> Noting that, especially in the DC context, this might have an impact on members expected benefits

for second round effects, the MAs applied by IORPs do not generate major movements in their asset allocation or large sales concentrated in specific asset classes. By maintaining their net buyer position, IORPs confirm their stabilizing role in a broader financial stability perspective.

**The stress test results should be interpreted in light of the focused nature of the exercise which targets only the asset side of the participants.** The exercise does not capture the full range of potential impacts arising from differences in liabilities, benefit structures, or national frameworks, all of which may influence the overall resilience of IORPs.

## 5.2 NEXT STEPS

The 2025 IORP stress test exercise represents a comprehensive assessment of the liquidity position of European IORPs under a dual set of severe but plausible scenarios (YCU and YCD), building on the past stress tests exercises, but also introducing the use of haircuts on sales to better reflect the potential loss on sales of liquid assets generated by the instantaneous shock. It provides, among others, a valuable basis for a follow-up dialogue between the supervisors and the participating IORPs on the identified vulnerabilities, but, overall, still represents the picture of a resilient sector. EIOPA will further analyse the results obtained in order to get a deeper understanding of the risks and vulnerabilities of the sector.

The exercise also highlights the importance of a proper look-through approach, particularly regarding derivative exposures and potential margin calls within investment funds, in order to obtain a more accurate picture of IORPs' liquidity positions. This insight supports the work EIOPA is carrying out on the supervision of liquidity risk management by IORPs, as set out in its *Opinion on the Supervision of Liquidity Risk Management of IORPs* (published July 2025)<sup>21</sup>. The Opinion clarifies expectations for IORPs with material liquidity risk exposures — whether stemming from derivative positions or other sources — to integrate liquidity risk management into their governance and to conduct regular stress testing and scenario analysis.

Moreover, further methodological refinements (e.g. treatment of MAs and application of liquidity haircuts) could be considered in future exercises, building on the lessons learned from the liquidity exercise and the broader supervisory work.

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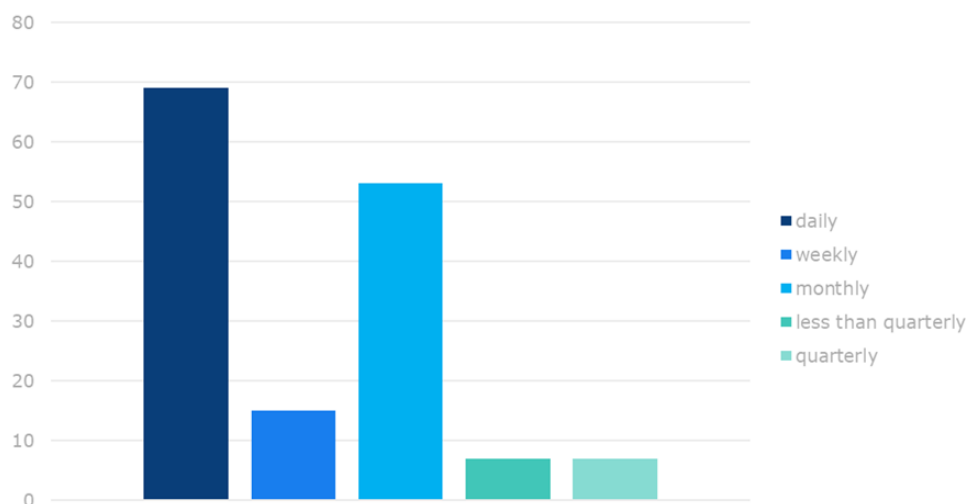
<sup>21</sup> See [Opinion on the supervision of liquidity risk management of Institutions for Occupational Retirement Provision \(IORPs\)](#)

## 6 ANNEXES

### 6.1 OUTCOME OF THE QUALITATIVE QUESTIONNAIRE ON THE LIQUIDITY MANAGEMENT AND GOVERNANCE

Among the participants, a significant majority (120) uses liquidity indicators to monitor their liquidity buffer. In contrast, 35 IORPs declaring they do not use liquidity indicators to monitor their liquidity buffer rely on monthly monitoring to track their liquidity position.<sup>22</sup>

**Figure A.1: Frequency of the monitoring of the liquidity buffer.**



Among the IORPs that use liquidity indicators, 11 do not have limits in place for their liquidity buffer. However, the vast majority (100) of those IORPs reported no breaches of their liquidity buffer over the preceding period. A small number of IORPs experienced breaches, with 2 reporting a single breach and 6 reporting multiple breaches. This suggests that while some IORPs are able to maintain their liquidity buffer without issues, others may face challenges in managing their liquidity, highlighting the importance of effective liquidity risk management.

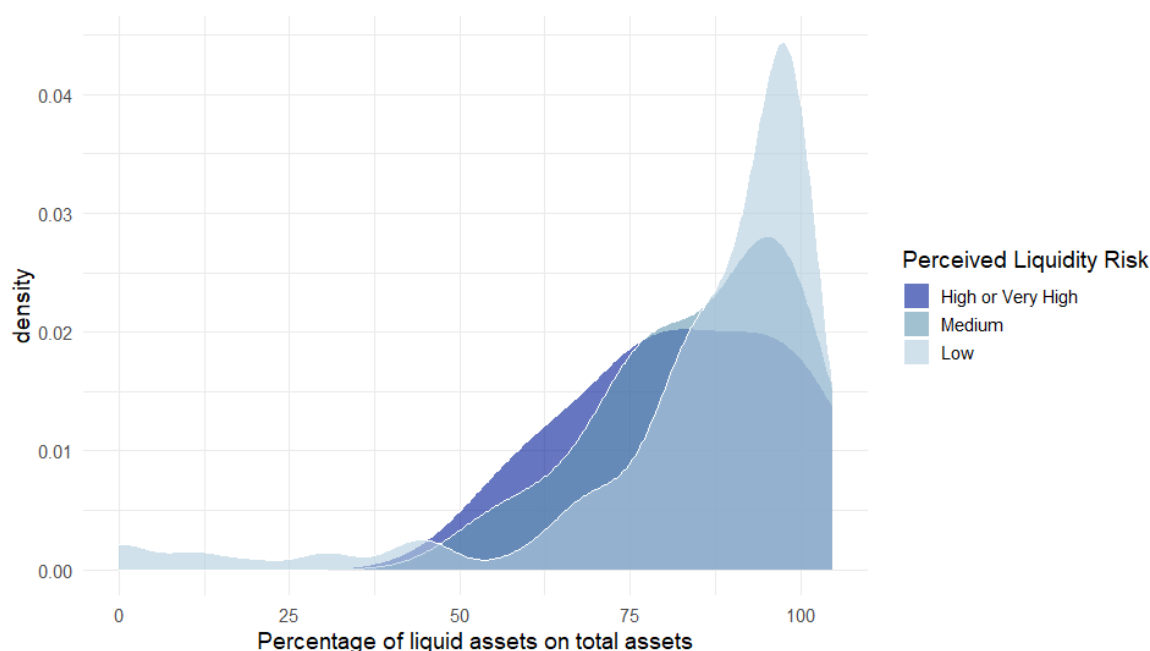
For IORPs that have at least one liquidity indicator, a breach of any of these indicators is typically considered a signal to apply MAs. In most cases, this involves rebalancing the portfolio or selling assets, rather than relying on automatic mechanisms.

<sup>22</sup> The total number of IORPs includes only those IORPs that provided a response to the relevant question.

The survey reveals that the majority of IORPs (137) perceive their material liquidity risk as low, while a smaller number (13) consider it to be medium, and only 5 IORPs assess it as high or very high<sup>23</sup>. This self-assessment of liquidity risk is noteworthy, as it reflects the IORPs' internal evaluation of their ability to meet their liquidity needs.

Interestingly, the IORPs' self-assessment of material liquidity risk appears to be just slightly correlated with their Total Liquid Assets (TLA) to Total Assets (TA) ratio, a commonly used quantitative metric for evaluating liquidity risk. This suggests that IORPs' perceptions of their liquidity risk may not be solely driven by their portfolio composition or liquidity asset holdings.

**Figure A.2: Density plot of liquid assets ratio by perceived liquidity risk**



Furthermore, the self-assessment of material liquidity risk also does not seem to be correlated with the type of scheme operated by the IORP. This implies that the IORPs' evaluation of their liquidity risk is not necessarily influenced by the specific characteristics of their scheme and just slightly by their investment strategy.

<sup>23</sup> The total number of IORPs includes only those IORPs that provided a response to the relevant question.

## 6.2 ANNEX LIST OF PARTICIPATING IORPS PER MEMBER STATE

### AUSTRIA

ALLIANZ PENSIONS KASSE AG  
APK PENSIONS KASSE AKTIENGESELLSCHAFT  
BONUS PENSIONS KASSEN AKTIENGESELLSCHAFT  
VALIDA PENSION AG  
VBV PENSIONS KASSE AG

### BELGIUM

AANVULLENDE PENSIOENEN VAN ING BELGIE  
AMONIS  
BELFIUS OFP  
BP PENSIOENFONDS  
ELGABEL  
EXXONMOBIL OFP  
J & J PENSION FUND  
NESTLÉ EUROPEES PENSIOENFONDS (NEPF)  
NOKIA BELL PENSIOENFONDS  
PENSIO B  
PENSIOENFONDS KBC  
PENSIOENFONDS METAAL  
PROXIMUS PENSIOENFONDS  
SANOFI EUROPEAN PENSION FUND  
TOTAL ENERGIES PENSION FUND BELGIUM OFP  
UNILEVER PENSION PLAN  
UNITED PENSIONS

### CYPRUS

AON HEWITT MULTI-EMPLOYER PROVIDENT FUND  
ELECTRICITY AUTHORITY OF CYPRUS PENSION FUND  
HOTEL EMPLOYEES PROVIDENT FUND  
LIFEGOALS MULTI-EMPLOYER PROVIDENT FUND  
PENSIONS AND GRANTS FUND OF THE PERSONNEL OF CYPRUS TELECOMMUNICATION AUTHORITY  
TAMEIO PRONOIAS TOU TAKTIKOU OROMISTHIOU KYVERNITIKOU PROSOPIKOU  
TAMEIO PRONOIAS TRAPEZIKON YPALLILON KYPROY

### GERMANY



ALLIANZ PENSIONS FONDS AG  
ALLIANZ PENSIONSKASSE AG  
ALLIANZ VERSORGUNGSKASSE VVAG  
BASF PENSIONSKASSE VVAG  
BAYER-PENSIONSKASSE  
BOSCH PENSIONS FONDS AG  
BVV VERSICHERUNGSVEREIN DES BANKGEWERBES A. G.  
ERGO PENSIONSKASSE AG  
FRANKFURTER PENSIONSKASSE AG  
HAMBURGER PENSIONSKASSE VON 1905 VVAG  
IBM DEUTSCHLAND PENSIONS FONDS AG  
MERCEDES-BENZ PENSIONS FONDS AG  
METZLER PENSIONS FONDS AG  
PENSIONSKASSE DEGUSKA VVAG  
PENSIONSKASSE DER MITARBEITER DER HOECHST-GRUPPE VVAG  
PRO BAV PENSIONSKASSE AG  
R+V PENSIONS FONDS AG  
SIEMENS PENSIONS FONDS AG  
SPARKASSEN PENSIONSKASSE AG  
VERSORGUNGSANSTALT DES BUNDES UND DER LÄNDER - FREIWILLIGE VERSICHERUNG  
WTW PENSIONS FONDS AG  
ZUSATZVERSORGUNGSKASSE DES BAUGEWERBES AG

#### DENMARK

DANMARKS NATIONALBANKS PENSIONSKASSE UNDER AFVIKLING  
IBM PENSIONS FOND  
TDC PENSIONSKASSE

#### SPAIN

FONDO DE PENSIONES NATURGY, F.P.  
NESTLE, FONDO DE PENSIONES  
NESTLE CONSERVADOR, FONDO DE PENSIONES  
EMPLEADOS DE TELEFÓNICA DE ESPAÑA  
BBVA FONDO DE EMPLEO CONSERVADOR  
BBVA FONDO DE EMPLEO DECIDIDO  
MULTIFONDO 2000, FONDO DE PENSIONES  
G.M. PENSIONES, FONDO DE PENSIONES  
IBERCAJA EMPLEADOS, FONDO DE PENSIONES

MAPFRE VIDA DOS FONDO DE PENSIONES  
NUCLEAR ASCÓ-VANDELLÓS II  
IBERDROLA 3  
IBERDROLA 1  
IBERDROLA 2  
PENSIONS CAIXA 30, FONDO DE PENSIONES  
PENSIONS CAIXA 135, FONDO DE PENSIONES  
ADMINISTRACION GENERAL DEL ESTADO  
PREVISIÓN SOCIAL, EMPLEADOS DEL GRUPO ENDESA, F.P.  
FONS DE PENSIONS AMBIT DE LA GENERALITAT, F.P.  
PLAN DE PENSIONES SANTANDER EMPLEADOS

#### FINLAND

NORDEAN ELÄKESÄÄTIÖ  
VR ELÄKESÄÄTIÖ  
OP-ELÄKESÄÄTIÖ  
FINNAIRIN ELÄKESÄÄTIÖ  
KESKON ELÄKEKASSA

#### FRANCE

CREDIT AGRICOLE ASSURANCES RETRAITE  
CNP RETRAITE  
GENERALI RETRAITE  
LA MONDIALE RETRAITE SUPPLÉMENTAIRE  
SWISSLIFE ASSURANCE RETRAITE

#### IRELAND

THE AON IRELAND MASTERTRUST  
IRISH LIFE EMPOWER MASTER TRUST  
THE MERCER DC MASTER TRUST  
ESB DEFINED BENEFIT PENSION SCHEME  
AIB GROUP IRISH PENSION SCHEME  
AN POST SUPERANNUATION SCHEME  
THE BANK OF IRELAND STAFF PENSIONS FUND  
ZURICH MASTER TRUST  
GUINNESS IRELAND GROUP PENSION SCHEME  
EIRCOM LIMITED SUPERANNUATION FUND  
CONSTRUCTION WORKERS' PENSION SCHEME

C.I.E. SUPERANNUATION SCHEME 1951 (PB1853)

ITALY

FONDO PENSIONE FIDEURAM FONDO PENSIONE APERTO

ARCA PREVIDENZA

SECONDAPENSIONE FONDO PENSIONE APERTO

FONDO PENSIONE APERTO IL MIO DOMANI

ASSOCIAZIONE FONDO PENSIONE COMPLEMENTARE A CAPITALIZZAZIONE PER I LAVORATORI DELL'INDUSTRIA CHIMICA E FARMACEUTICA E DEI SETTORI AFFINI - FONCHIM

FONDO PENSIONE FONDENERGIA

FONDO PENSIONE COMETA

SOLIDARIETÀ VENETO - FONDO PENSIONE

FONDO NAZIONALE PENSIONE COMPLEMENTARE A CAPITALIZZAZIONE PER I LAVORATORI DELL'INDUSTRIA ALIMENTARE E DEI SETTORI AFFINI - ALIFOND

FONDO PENSIONE COMPLEMENTARE PER I LAVORATORI DIPENDENTI DAI DATORI DI LAVORO OPERANTI NEL TERRITORIO DEL TRENTINO ALTO ADIGE - LABORFONDS

FONDO PENSIONE COMPLEMENTARE DIPENDENTI GRUPPO ENEL - FOPEN

FONDO NAZIONALE PENSIONE COMPLEMENTARE PER I LAVORATORI DELLE AZIENDE DI TELECOMUNICAZIONE TELEMACO

FONDO PENSIONE FON.TE.

FONDO PENSIONE PRIAMO

FONDO NAZIONALE PENSIONE COMPLEMENTARE PER IL PERSONALE NON DIRIGENTE DI POSTE ITALIANE S.P.A. - FONDOPOSTE

FONDO PENSIONE NAZIONALE A CAPITALIZZAZIONE DEI LAVORATORI, SOCI E DIPENDENTI DELLE IMPRESE COOPERATIVE E PER I LAVORATORI DIPENDENTI ADDETTI AI LAVORI DI SISTEMAZIONE IDRAULICO-FORESTALE ED IDRAULICO-AGRARIA - PREVIDENZA COOPERATIVA

FONDO PENSIONE PREVIBANK

FONDO PENSIONE A CONTRIBUZIONE DEFINITA DEL GRUPPO INTESA SANPAOLO

PREVIP FONDO PENSIONE

FONDO PENSIONE NAZIONALE BCC/CRA

PREVINDAI - FONDO PENSIONE

FONDO DI PREVIDENZA MARIO NEGRI

LICHTENSTEIN

LV 1871 PENSIONS FONDS AG

LUXEMBOURG

BIL PENSION FUND

CLEARSTREAM LUXEMBOURG PENSION FUND (CLPF)  
COMPANIE LUXEMBOURGEOISE DE PENSION - COMPARTIMENT BCEE  
SWISS LIFE INTERNATIONAL PENSION FUND A.S.B.L.

#### NETHERLANDS

STICHTING PENSIOENFONDS ABP  
STICHTING BEDRIJFSTAKPENSIOENFONDS VOOR DE BOUWNIJVERHEID  
PFZW  
PME  
STICHTING PENSIOENFONDS METAAL EN TECHNIEK

#### NORWAY

BERGEN KOMMUNALE PENSJONSKASSE  
BÆRUM KOMMUNALE PENSJONSKASSE  
CONOCOPHILLIPS NORGE PENSJONSKASSE  
DNV PENSJONSKASSE  
EQUINOR PENSJON  
KRISTIANSAND KOMMUNALE PENSJONSKASSE  
MP PENSJON PK  
NORSK HYDRO PENSJONSKASSE  
PENSJONSKASSEN FOR FYLKENE AKERSHUS, BUSKERUD OG ØSTFOLD  
PENSJONSKASSEN FOR HELSEFORETAKENE I HOVEDSTADSOMRÅDET  
TELENOR PENSJONSKASSE  
TRONDHEIM KOMMUNALE PENSJONSKASSE

#### PORTUGAL

FUNDO DE PENSÕES BANCO BPI  
FUNDO DE PENSÕES BANCO SANTANDER TOTTA  
FUNDO DE PENSÕES DO BANCO DE PORTUGAL - BENEFÍCIO DEFINIDO  
FUNDO DE PENSÕES DO BANCO DE PORTUGAL – CONTRIBUIÇÃO DEFINIDA  
FUNDO DE PENSÕES DO BANCO POPULAR PORTUGAL  
FUNDO DE PENSÕES DO GRUPO BANCO COMERCIAL PORTUGUÊS  
FUNDO DE PENSÕES DO NOVO BANCO

#### SWEDEN

ALECTA TJÄNSTEPENSION ÖMSESIDIGT  
AMF PENSIONS FÖRSÄKRING AB

#### SLOVENIA

POKOJNINSKA DRUŽBA A, D.D.  
PRVA POKOJNINSKA DRUŽBA, D.D.  
SAVA POKOJNINSKA, D. D.

SLOVAKIA

DOPLNKOVÁ DÔCHODKOVÁ SPOLOČNOSŤ TATRA BANKY, A.S.  
NN TATRY - SYMPATIA, D.D.S., A.S.  
STABILITA, D.D.S., A.S.  
UNIQA D.D.S., A.S.

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