2021 Insurance Stress Test

Report

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European Insurance and
Occupational Pensions Authority

CONTENTS

LIST OF TABLES AND FIGURES

LIST OF ABBREVIATIONS

A/L	Assets over Liabilities ratio
BOF	Basic Own Funds
BSCR	Basic Solvency Capital Requirement
CBS	Constrained Balance Sheet approach
CIU	Collective Investment Undertaking
DTA	Deferred Tax Assets
DTL	Deferred Tax Liabilities
eAoL	Excess of Assets over Liabilities
EEA	European Economic Area
EOF	Eligible Own Funds
ESRB	European Systemic Risk Board
EU	European Union
FBS	Fixed Balance Sheet approach
LACDT	Loss Absorbing Capacity of Deferred Taxes
LACTP	Loss Absorbing Capacity of Technical Provisions
LTG	Long Term Guarantee
MA	Matching Adjustment
NCA	National Competent Authority
OF	Own Funds
RFF	Ring-fenced Funds
SCR	Solvency Capital Requirement
TP	Technical Provisions
UL/IL	Unit Linked and Index Linked business
VA	Volatility Adjustment

EXECUTIVE SUMMARY

In its fifth Union-wide stress test exercise, conducted in cooperation with the European Systemic Risk Board (ESRB), EIOPA tested the resilience of the European insurance industry against a prolonged COVID-19 scenario in a "lower for longer" interest rate environment. The exercise covers a representative sample of 44 participants from 20 countries, representing 75% of the EEA market[1].

The scenario identified a set of market and insurance specific shocks specifically constructed to reflect the current EIOPA and ESRB assessment of prevailing systemic risks to the financial system. These risks stem from the worsening of economic prospects, reflected in a global decline in long-term risk-free interest rates from already historically low levels, accompanied by a material repricing of the risk premia amid weakening countries' fiscal positions and challenging corporate profitability. An additional price correction in commercial and residential real estate completes the set of market shocks[2]. The diverging movements of the risk-free interest rate and of the risk premia qualifies the market scenario as a *double-hit*, potentially generating detrimental effects both on the liability side through the reduction of the discounting curves and on the asset side through the reduction of the prices of the relevant asset classes held by insurers in their investment portfolios.

The scenario embodies the characteristics of plausibility and severity required by a robust stress test exercise. The set of shocks are economically and market consistent, hence plausible, by construction[3]. While designed to test tail events, the overall likelihood of the market shocks of the scenario ranges between 0.1% and 0.6% as correlation moves from 0.35 to 0.82[4]. The market shocks are complemented by a set of insurance specific shocks affecting all the lines of business that are more exposed to the effects of the pandemic outbreak.

While maintaining its non pass-fail nature, the 2021 exercise has the primarily microprudential objective of assessing the capability of the participants to sustain the adverse conditions depicted in the stress test scenario. The post-stress individual positions are eventually aggregated to infer the overall resilience of the insurance industry. The 2021 insurance stress test enhances the macroprudential dimension of the exercise, complementing the standard fixed balance sheet approach with a constrained balance sheet approach where participants are allowed to apply

[1] In terms of Total Assets at Year End 2020.

[2] EIOPA (2021) Stress Test Technical Information. Available at https://www.eiopa.europa.eu/insurance-stress-test-2021_en

[3] ECB financial shock simulator based on conditional expectation calibrated on historical observations.

[4] ESRB (2021) Adverse scenario for the 2021 EU-wide insurance sector stress test coordinated by the European Insurance and Occupational Pensions Authority. Available at: https://www.eiopa.europa.eu/insurance-stress-test-2021_en

reactive management actions in the calculation of their post-stress position. The results of these actions are used to identify potential spill-over effects on other markets.

The regular capital and solvency assessment, conducted in line with the Solvency II framework, is complemented for the first time by the assessment of the pre- and post-stress liquidity position of the participants over a 90 days' time-horizon. The two components are based on a common narrative, scenario and set of shocks but are clearly separated in terms of the application of the shocks, data collection, assessment and disclosure.

The European insurance sector exhibited adequate resilience during the pandemic crisis and, despite the strong economic implications of the pandemic outbreak, approached the exercise with a strong level of capitalisation reflected in a solvency ratio of 217.9% reported at the end of 2020.

The robust solvency ratio exhibited at year-end 2020, was a needed buffer for the participants to properly absorb the impact of the adverse double-hit scenario that proved to be a severe test for the sector as summarised below.

	Baseline	Fixed Balance Sheet		Constrained Balance Sheet	
	Value	Value	Δ (Baseline)	Value	Δ (Baseline)
Solvency Ratio	217.9%	125.7%	-92.1 p.p.	139.3%	-78.6 p.p.
Solvency Capital Requirement	291.1 bn	311.6 bn	7.1%	300.0 bn	3.1%
Eligible Own Funds	634.1 bn	391.8 bn	-38.2%	417.9 bn	-34.1%
Asset over Liability ratio	110.0%	105.9%	-4.1 p.p.	106.2%	-3.8 p.p.
excess of Assets over Liabilities	590.2 bn	325.8 bn	-44.8%	340.8 bn	-42.3%

In aggregate, the post-stress solvency ratio decreases under the fixed balance sheet assumption by 92.1 percentage points from 217.9% to 125.7%. The aggregated drop is reflected in a downward shift of the distribution of the indicator, resulting in 9 undertakings to report values below the regulatory threshold of 100%. The reduction of the solvency ratio is caused by an increase of 7.1% of the Solvency Capital Requirement and by a reduction of the Eligible Own Funds which decrease on aggregate by 38.2%. None of the participants reports an assets over liability ratio below 100%. This indicates that the sector, even under a severe scenario, proves to be able to meet its promises to the policyholders.

Under the constrained balance sheet approach, 19 participants opted to apply a set of reactive management actions, such as retaining profits, de-risking their asset allocation and increase of capital, which mainly affects their solvency position rather than their balance sheet position.

Even though only a limited number of participants applies reactive management actions, the solvency ratio improves in aggregate by 13.6 percentage points in comparison to the fixed balance sheet calculation (from 125.7% to 139.3%). Among the 9 participants reporting a post-stress solvency ratio below 100% under the fixed balance sheet approach, 7 apply reactive management actions allowing them to report Solvency Ratios above the regulatory threshold.

The exercise proves the continuing relevance of the long term guarantee and transitional package both in the baseline and adverse scenario.

	Baseline	Fixed Balance Sheet	Constrained Balance Sheet
Solvency Ratio with transitional and LTG measures	217.9%	125.7%	139.3%
Solvency Ratio without transitional measures	204.6%	111.0%	123.8%
Solvency Ratio without LTG and transitional measures	173.3%	47.2%	55.1%

When removing the effect of both long term guarantee and transitional measures, the aggregate solvency ratio drops from 173.3% (baseline) to 47.2% (fixed balance sheet approach) and to 55.1% (constrained balance sheet approach). This implies that 31 undertakings fall under a solvency ratio of 100% under the fixed balance sheet and 27 under the constrained balance sheet approach. 8 participants in the fixed balance sheet and 7 in the constrained balance sheet report an assets over liability ratio below 100%.

While the long term guarantee measures are a permanent element of the Solvency II regime, the transitional measures have been introduced temporarily to smooth the transition from Solvency I to Solvency II and their effect should be phased-out by 2032. Removing the transitional measures only, the solvency ratio is 204.6% in the baseline and drops to 111.0% in the fixed balance sheet and to 123.8% in the constrained balance sheet with 15 and 10 participants reporting a value below 100% under the fixed and constrained balance sheet approach respectively. 2 participants report an assets over liability ratio without transitional measures below 100% under both the fixed and constrained balance sheet approaches.

Overall, the capital component of the exercise confirms that the main vulnerabilities come from the market shocks and specifically from the impact of decoupling the risk-free rate and the risk premia. The European insurance industry, with the exception of a limited number of cases, proves to be able to cope with such a severe development of the markets through the application of reactive management actions. However, the capital component of the exercise also shows that a portion of the market still relies on transitional measures that will be phased-out by 2032.

Introduced for the first time in the 2021 stress test exercise, the liquidity component targets the same entities as the capital component. However, in the absence of a commonly adopted framework for the assessment and the consolidation of the liquidity positions at a group level, the participating groups were requested to provide the liquidity information for a significant subset of European insurance solo entities within the perimeter of consolidation of the group. Based on the defined threshold of 80% of group total assets, 117 solos were identified and included in the analysis. Overall, the liquidity position appears to be a less significant source of concern for the insurance sector than the capital and solvency positions in the post-stress situation. Nonetheless, the mass lapse shock prescribed in the scenario generates a material outflow that in aggregate cannot be covered only by the cash holdings (negative net liquidity position of EUR 10.1 bn). The

large amount of liquid assets held by solo undertakings is, however, able to compensate the reported outflows. It is worth noting that more than 80% of the negative net liquid position is concentrated in the 15 solo undertakings that applied reactive management actions to reinstate a positive aggregate net liquidity position under the constrained balance sheet approach (EUR 11.4 bn).

	Baseline	Fixed Balance Sheet		Constrained Balance Sheet	
	Value	Value	Δ (Baseline)	Value	Δ (Baseline)
Net liquidity position (cash + net-flows)	81.1 bn	-10.1 bn	-112.5%	11.4 bn	-85.9%
Sustainability (net flows + cash + liquid assets)	2.8 tr	2.2 tr	-538.7 bn	2.2 tr	-525.8 bn

The applied reactive management actions in the liquidity component consist mainly of sales of liquid assets. The selling strategy tends to maintain the asset allocation unchanged in the liquidity component compared to the baseline.

Moving to the macroprudential aspect of the exercise, the focus is on identifying potential herd behaviours, such as, the aggregate reallocation of the assets of insurers caused by the application of the reactive management actions. In the capital exercise, despite the limited number of groups applying de-risking strategies in their asset allocation (8), a shift from corporate bonds (- EUR 47.4 bn) and equity (- EUR 4.7 bn) to government bonds (+ EUR 56.6 bn) can be observed. While the amounts are limited in the aggregate, they correspond to a significant relative change between the fixed and constrained balance sheet approach of -15.1% in the corporate bond portfolio, -16.8% in the equity portfolio, and +13.9% in the sovereign bond portfolio. Footprint on the fixed income market can potentially materialise in case a larger number of insurance undertakings applies the same behaviour in the reallocation of assets.

Further analysis of the results will be undertaken by EIOPA and by the National Competent Authorities to obtain a deeper understanding of the risks and vulnerabilities of the sector. Subsequently, EIOPA will assess the need for issuing recommendations on relevant aspects where risks were identified. Although improvements have been made, EIOPA expects that participants use the acquired experience to foster their abilities to produce high quality data and to keep enhancing their corresponding risk management capabilities. National Competent Authorities are expected to oversee and promote these improvements.

1 INTRODUCTION

The 2021 Stress Test exercise is the fifth Union-wide exercise run by EIOPA.[5] The exercise is conducted by EIOPA in cooperation with the European Systemic Risk Board, as part of its mandate as stated in Art. 23 (1) EIOPA Regulation (EU) No. 1094/2010.

As with each of the previous exercises, the overall objective is to assess the resilience of the European insurance industry against adverse market developments. EIOPA tailors the goal, scope and scenarios of each exercise according to the foreseen evolutions in market conditions and their potential negative implications for insurers. 2020 and 2021 were characterised by the pandemic outbreak, which generated an unprecedented level of uncertainty on the real economy and on the financial markets. The solvency and liquidity position of insurers reflected the development of the crisis. In response, supervisors tightened surveillance and took actions[6] to prevent adverse consequences for the insurance industry and the rest of the financial system from a micro- and macro-prudential perspective.

Against this background, the 2021 Stress Test exercise, maintains its non pass-fail nature and aims at assessing the resilience of the European insurance industry from a capital and liquidity standpoint under the adverse development of the COVID-19 crises in a low for long interest rate environment.

While maintaining its micro-prudential dimension, the methodology applied in 2021 also contains macro-prudential elements which allow to infer potential spill-over effects from the insurance industry to other sectors.

The objectives are complemented by the continuous strive for transparency that characterises EIOPA's actions since its foundation.[7] In this vein and within its capacity, EIOPA will keep its twofold approach in disclosing the results of the exercise, complementing this report that is based on aggregated information including the disclosure of a subset of balance sheet based indicators upon consent of the participants.

[5] EIOPA ran Insurance Stress Test exercises in 2011, 2014, 2016, and 2018.

[6] Refer to EIOPA (2020) EIOPA statement on dividends distribution and variable remuneration policies in the context of COVID-19. Available at EIOPA statement on dividends distribution and variable remuneration policies in the context of COVID-19 | Eiopa (europa.eu).

[7] Over time, also upon the European Court of Auditors' audit recommendations, EIOPA enhanced the transparency of the exercise including it in the objectives (refer to 2018 edition of the exercise).

1.1 RISK OUTLOOK

The assessments conducted by EIOPA, the ECB and the ESRB form the foundation of the financial stability risks that are identified to be relevant for the European insurance sector in this stress test exercise. Taking the end of 2020 as the starting point of this exercise, the risks identified originate from the negative impact of the pandemic on economic activity that may give rise to widespread defaults in the private sector and their feedback effects on the financial system. Additionally, based on the remarks of the ESRB General Board, it should be considered that "broad-based policy support measures have been essential to mitigate the impact of the crisis on households and firms as well as to contain a spillover from the non-financial private sector to the banking system. However, the longer the COVID-19 crisis lasts and the more severe its impact is on countries and economic sectors, the more pronounced the deterioration in asset quality will be".[8]

The unprecedented shock inflicted by COVID-19 in 2020 led to a sudden halt in economic activity and a sharp deterioration in short-term economic prospects. This was partly a reflection of the necessary containment measures taken. To mitigate the impact on the economy, governments implemented a number of support measures such as furlough schemes, statutory loan moratoria, government-guaranteed loans, and direct grants. These complemented the monetary policy and prudential actions taken by the ECB and other EU central banks and supervisory authorities. Nevertheless, the unprecedented slowdown in the economy led to a decline in real GDP of 6.2% for the EU27 (i.e. the EU countries excluding the United Kingdom) in 2020 compared with the previous year, as well as an increase of 1 percentage point in the unemployment rate between December 2019 and December 2020. The resulting medium-term vulnerabilities arising from the COVID-19 pandemic, together with the low interest rate environment, dominate the adverse scenario for the 2021 EU-wide insurance sector stress test.[9]

1.2 METHODOLOGY

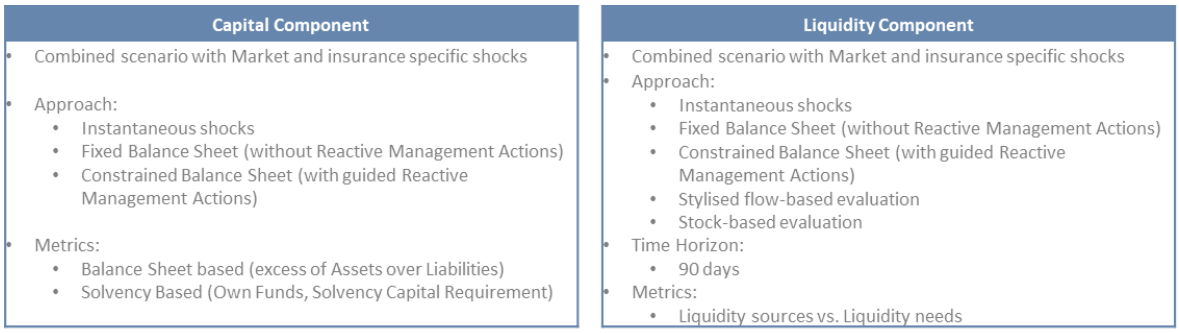
In fulfilment of the objectives set for the 2021 Stress Test exercise, EIOPA designed a twofold structure to assess the capital and the liquidity position of the entities in scope from a micro- and macro-prudential perspective.

[8] See Press release of the ESRB General Board meeting of 18 December 2020. Available at: https://www.esrb.europa.eu/news/pr/date/2020/html/esrb.pr201218~341881f7b9.en.html

[9] Refer to ESRB (2021) Adverse scenario for the 2021 EU-wide insurance sector stress test coordinated by the European Insurance and Occupational Pensions Authority. Available at: https://www.eiopa.europa.eu/insurance-stress-test-2021_en.

The two components are based on a common narrative, a common scenario, a common set of shocks but are clearly separated in terms of the application of the shocks, data collection, assessment and disclosure. Figure 1 presents the structure of the two components.

Figure 1 – Structure of the exercise



The capital component relies on the Solvency II framework as a common ground for the assessment of the resilience of the insurance industry against adverse developments. For this exercise, EIOPA requested the participants to recalculate their solvency position under the adverse scenario according to a set of specifications. These specifications fully adhere to the shared Solvency II principles with specific reference to the provided Risk Free Rate curves, the application and calibration of the Long Term Guarantee (LTG) and transitional measures, the estimation of the tax related positions, the calculation of the Risk Margin, and the application of the shocks.[10] Also the template for the data collection broadly replicates the standard Quantitative Reporting Templates used in the regular Solvency II reporting[11] and the metric used for the assessment of the pre- and post-stress position are the commonly adopted Excess of Assets over Liabilities (eAoL), Own Funds (OF), Solvency Capital Requirement (SCR) and Solvency Capital Requirement Ratio.

Participants were requested to recalculate their Balance Sheet and Solvency Position using the same approach and model used in the regular annual Solvency II reporting. To factor-in the complexity of the exercise and the constrained time-frame, participants were allowed to apply simplification and approximations within the limits and the provisions set up front.

The liquidity component could not rely on a well-established framework, hence, for this exercise, the approach is based on the hybrid stocks / flows assessment of the liquidity needs and sources

[10] The methodology related to the capital component and the application of the shocks are thoroughly described in the 2021 Stress Test technical specifications, sections 4.1 and 5 respectively. The document is available at: https://www.eiopa.europa.eu/insurance-stress-test-2021_en.

[11] Refer to EIOPA (2021) Template for the data collection – capital component. Available at: https://www.eiopa.europa.eu/insurance-stress-test-2021_en.

presented in the paper published by EIOPA on the methodological principles of stress testing for the liquidity component.[12]

Participants were requested to provide their baseline and post-stress liquidity situation calculated over a 90-day time horizon covering the first quarter of 2021 and accounting for the full stack of the liquidity sources and liquidity needs. The assessment of the liquidity position is based on the sustainability of the net flow position of the participants against their availability of liquid assets.

The calculation of the post-stress capital and liquidity positions is conducted under two assumptions:

- Fixed balance sheet (FBS), where participating entities should not take into account measures, actions or risk mitigating strategies that rely on taking future actions after the reference date (e.g. de-risking strategies and any future action taken in the context of a recovery plan). Only the embedded management actions are allowed;[13]
- Constrained balance sheet (CBS), where a set of reactive management actions which are part of the governance framework adopted by the groups can be enforced. The enforced actions should be realistic, proportionate, and implementable under adverse market conditions and their effects should materialise in the time horizon of the assessment. Since, during the time horizon of the assessment, the stress conditions apply, specific market based operations were restricted in order to better reflect the severity of the post stress market environment.[14]

The results of the FBS approach provide input to the micro-prudential dimension of the exercise allowing to assess the resilience of the individual participants and, in aggregate, the overall vulnerability of the sector to the depicted adverse scenario. The results of the CBS approach allow to infer whether and to what extent the strategy put in place by the insurers in reaction to the specific adverse condition could, in aggregate, generate externalities to other markets.

Approximations and simplifications applied in the capital and liquidity components, together with the plausibility of the reactive management actions that the groups intended to apply in the recalculation of the post stress position were subject to discussion with the National Competent Authorities (NCAs) and EIOPA in the pre-validation phase (refer to section 1.2.3).

[12] EIOPA (2021) Methodological principles of insurance stress testing - Liquidity component. Available at: https://www.eiopa.europa.eu/sites/default/files/financial_stability/insurance_stress_test/methodological-principles-liquidity.pdf.

[13] For a thorough treatment of the classification and use of the management action please refer to section 2.3.3 of the Methodological principle for insurance stress testing (EIOPA-BoS_19/568).

[14] The concept of "guided" management action is reflected in the principles provided in the paragraph.

1.2.1 SCENARIO

The exercise includes a set of market and insurance specific shocks precisely constructed for the COVID-19 scenario in a "lower for longer" interest rate environment which reflects the current assessment of prevailing systemic risks to the financial system by EIOPA and the ESRB.

The key elements of the adverse scenario and its implied shocks are as follows:

- The worsening of economic prospects is reflected in a global decline in long-term risk-free interest rates from an already historically low level, with nominal short and long-term risk-free rates remaining below zero in the EU. This is reflected in the reduction of the swap rates across all tenors for all the major currencies.
- The economic contraction weakens countries' fiscal positions. Despite the low level of risk-free interest rates, a resurfacing of concerns about the sustainability of public debt amid weakening domestic demand leads to significant increases in credit risk premia on sovereign bonds, especially in high-spread economies. Across EU countries, ten-year sovereign bond yields increase by 28 basis points.
- Corporate profitability is severely undermined by the downturn, which leads to debt sustainability concerns and to widespread insolvencies of non-financial corporations. As a consequence, corporate bond yields in the EU increase on average between 71 and 269 basis points depending on the sector and the credit rating of the issuer.
- Despite the low level of interest rates, the severity of the contraction in both global and EU economic activity under the adverse scenario leads to a significant repricing of equity. Stock prices fall abruptly by 45% in the EU, on average, by 43% in other advanced economies and by 50% in emerging economies. Similarly, other assets are subject to severe revaluations. Across EU markets, prices of private equity, hedge funds, real estate investment funds and commodities decline on average by 45%, 45%, 51% and 40% respectively.
- A slowdown of residential property market activity leads to significant price corrections. Tighter financial conditions, depressed economic activity and a negative economic outlook, marked by an inversion of the yield curve, amplify the impact of the initial shock. As a consequence, residential real estate prices decline by 8.4% at the EU level.
- Structural changes in commercial real estate demand, exacerbated by COVID-19, trigger a sharp repricing of commercial real estate. The commercial real estate market experiences substantial repricing, which leads to a decline of 17.4% at the EU level.

The prescribed market shocks are economically and market consistent by construction. Their calibration was conducted in cooperation with the ECB / ESRB to generate a severe but plausible scenario.[15]

EIOPA complemented the market shocks with a set of insurance specific shocks to be applied to the business lines that are most affected by the proposed scenario. Figure 2 provides a summary of the shocks, the targeted business lines, and their application in the two components of the exercise. A thorough explanation of the shocks and their application is provided in the Technical Specifications (TS).[16]

Figure 2 – Insurance specific shocks

	Life	Health similar to life	Health similar to non-life	Non-life
Mass Lapse	$X_{C,L}$			
Mortality	$X_{C,L}$	$X_{C,L}$		
Pandemic morbidity and increase in cost of claims			$X_{C,L}$	$X_{C,L}$
Increase in frequency			X_L	X_L
Increase in severity			$X_{C,L}$	$X_{C,L}$
Reinsurance in-flows	X_L	X_L	X_L	X_L
Reduction in written premia	X_L	X_L	X_L	X_L

C=capital component; L=liquidity component

The Stress Test Technical Information provides a comprehensive list of the market and insurance specific shocks.[17] It should be stressed that the applied methodology has benefitted from numerous interactions with all the stakeholders and participants in the context of this exercise, as well as from the development of two EIOPA papers on methodological principles for insurance stress testing in the last years.

[15] Shocks are computed with the ECB Financial Shock Simulator, which estimates their calibration via conditional expected movements of the market variables based on historical time series. The market risk scenario has been calibrated on the basis of three simulations: one for equity prices, one for bond yields and one for swap rates. The "triggering probabilities" for these three simulations have been set at 1%, 2.25% and 35% respectively. Shocks to swap rates have a higher probability and thus consist of less extreme moves, which is due to interest rates being at a very low level on the reference date and to the ESRB judging a further steep and abrupt decline unlikely at this juncture. Based on the individual probabilities of the triggering events, the overall likelihood of the scenario ranges between 0.1% and 0.6% as correlation moves from 0.35 to 0.82.

[16] EIOPA (2021) 2021 Insurance Stress Test – Technical Specifications. Available at: https://www.eiopa.europa.eu/insurance-stress-test-2021_en.

[17] EIOPA (2021) 2021 Insurance Stress Test - Technical Information. Available at: https://www.eiopa.europa.eu/insurance-stress-test-2021_en.

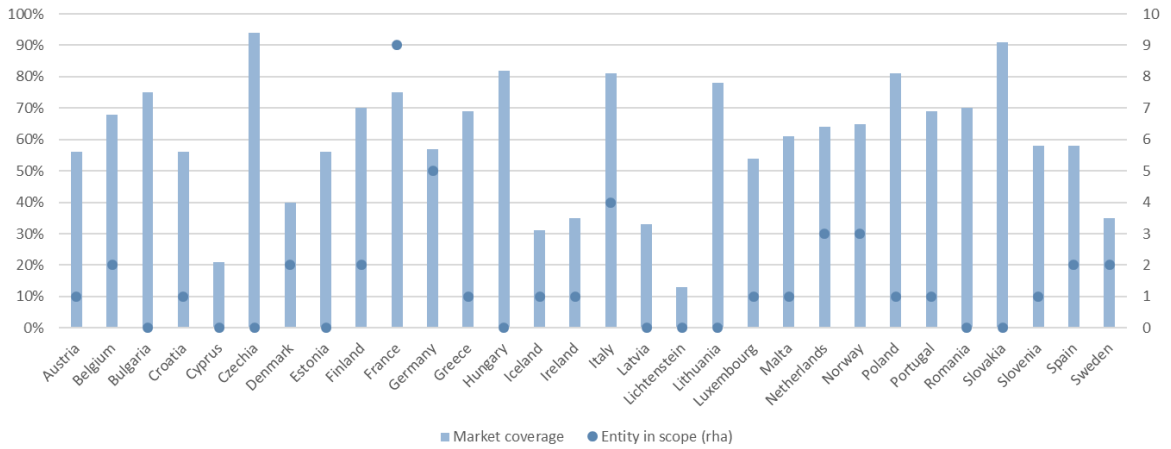
1.2.2 SCOPE

The 2021 Stress Test targets 43 European insurance groups and 1 solo entity selected in accordance with NCAs based on a set of criteria centrally defined by EIOPA that can be summarized as follows:

- Stability with the previous exercise: Include the groups of the 2018 Stress test exercise;
- Enlargement of the involved jurisdictions: for each jurisdictions that is not covered in the previous exercise, the largest group based on total assets which is domiciled in this jurisdiction is selected.

The selected scope covers 75% of the European Economic Area (EEA) insurance market (based on Total Assets). It also provides an adequate level of coverage within the national markets as displayed in Figure 3.

Figure 3 – Market coverage

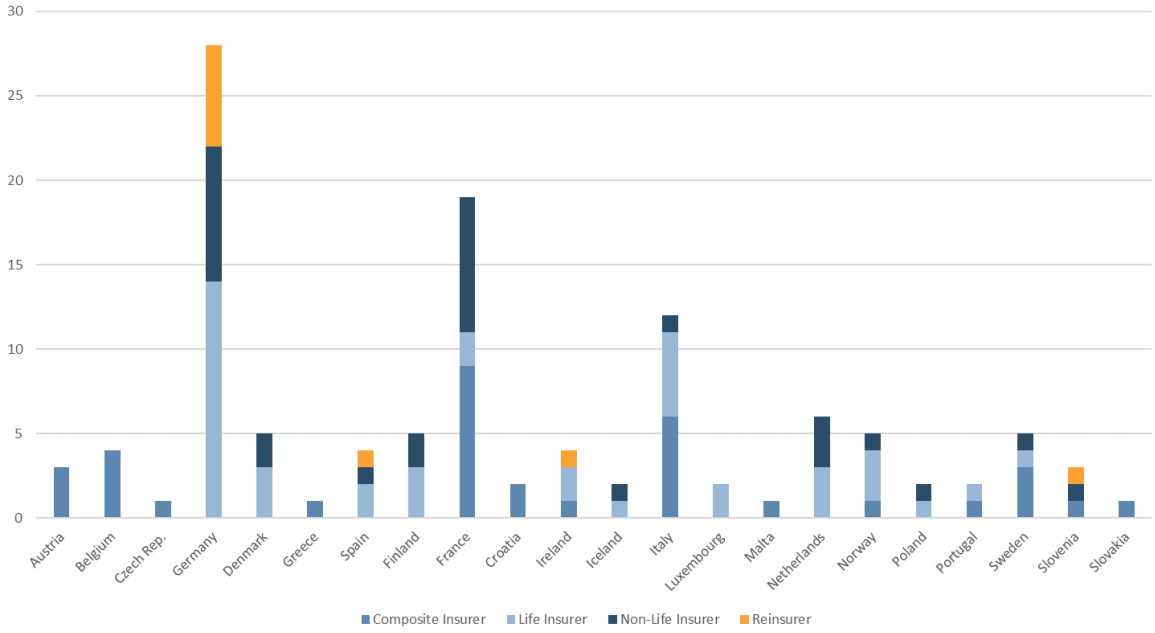


Note: The national market coverage is calculated on the total assets of the solo undertakings included in the perimeter of consolidation of the participants registered in the jurisdiction, divided by the total assets of all the solo undertakings registered in the jurisdiction. Data: Solvency II prudential reporting, reference date year-end 2020.

The list of the entities included in the scope are available in Annex 1 Scope.

The liquidity component targets the same entities as the capital component. However, in absence of a commonly adopted framework for the assessment and the consolidation of the liquidity positions at group level, the participating groups were requested to provide the liquidity information for a significant subset of European insurance solo entities within the perimeter of consolidation of the group. Based on the defined threshold of 80% of group total assets, 117 solos were identified and included in the analysis. Figure 4 provides an overview of the identified solos by type of undertaking and their geographical distribution based on the country of registration.

Figure 4 – Liquidity Scope – solo undertakings by type and country of registration



1.2.3 DATA QUALITY ASSURANCE

Accuracy, consistency and comparability of the approaches taken by groups in producing their pre- and post-stress results are key to infer robust and meaningful conclusions from a bottom-up stress test exercise. Building on the experience gained in previous exercises EIOPA adopted a three-stage approach to the validation of the information received:

- Stage 1: pre-validation focused on the approach taken by the participants in the calculation of the post stress positions, the simplifications and approximations applied, and the reactive management actions envisaged in the CBS approach;
- Stage 2: local validation: made by each NCA on the proper application of the prescribed shocks by the participating groups in their jurisdictions. This assessment benefits from the close contact and thorough knowledge of the participating groups by the national supervisors;
- Stage 3: central validation, the process complements the assessment made at national level with a step involving a full sample database assessed by selected experts from EIOPA staff and the relevant NCAs.

During each stage, EIOPA through the NCAs and the NCAs themselves interacted extensively with the participants, requesting clarifications and, where needed, recalculations and resubmissions of information in order to ensure that the prescribed shocks were accurately reflected in the post-stress capital and liquidity position of the participants.

The validation process allows to identify the following areas of attention:

- Application of the market and insurance specific shocks in the light of the simplifications and approximations agreed in the pre-validation phase;
- Use of sensitivity models instead of the model used for the regular annual reporting for the calculation of the post stress positions;
- Application and impacts of the reactive management actions;
- Consistency and quality of the information provided in the liquidity template.

The remarks were addressed via explanations and resubmission of information, hence it can be stated that the data are of sufficient quality to ensure comparability among the participants and infer robust findings and recommendations. The few remarks left open in the process will be used as inputs for the identification of potential areas that needs to be further assessed in fulfilment of the EIOPA mandate.[18]

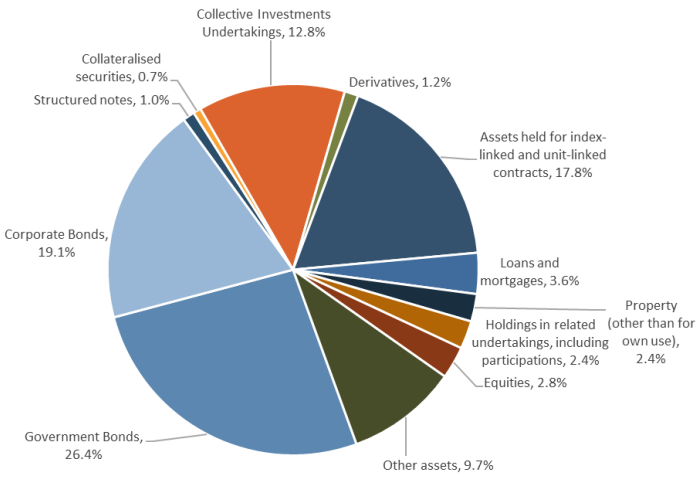
The remainder of the report is structured as follows. Section 2 describes the characteristics of the 44 participants at the reference date that are relevant for the subsequent analyses. The focus is on the asset allocation, the structure of the liability portfolios, and the models applied for the calculation of the Solvency Capital Requirement and on the use of Long Term Guarantee measures and transitional measures. The position of the participants under the adverse scenario is presented in Section 3, starting with the capital component (3.1) and ending with the liquidity component (3.2). Both of the subsections provide an overview on the evolution of the relevant indicators from the baseline to the post-stress conditions calculated under the FBS approach and the CBS approach. The capital component relies on the Solvency II framework metrics (e.g. SCR, OF, eAoL) and tools (e.g. LTG and transitional measures), whereas the liquidity component elaborates on the metrics proposed in the Technical Specifications and in the EIOPA related publications. The Capital and Liquidity subsection conclude elaborating on the main effect of the application of reactive management actions under the CBS approach. Section 4 summarises the main results of the exercise and the next steps.

[18] REGULATION (EU) No 1094/2010 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 establishing a European Supervisory Authority (European Insurance and Occupational Pensions Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/79/EC. Art. 21.2.b: "[…] it may recommend competent authorities to carry out on-site inspections, and may participate in such on-site inspections, in order to ensure comparability and reliability of methods, practices and results of Union-wide assessments;".

2 CHARACTERISTICS OF THE SAMPLE

The Total Assets of the 44 participants at year–end 2020 amount approximately EUR 6.51 tr. As shown in Figure 5, bonds are the largest asset category (45.5%) with 26.4% of total assets in government bonds and 19.1% in corporate bonds, followed by investments in collective investment undertakings (CIUs) and assets held for Unit-Linked and Index-Linked business (UL/IL).

Figure 5 – Aggregate asset composition of the stress test participants in the baseline



The baseline composition of the liabilities is dominated by the Technical Provisions - TP (Figure 6); life TP (excluding UL/IL) account for 59.3% of the total liabilities, followed by unit-linked TP which account for 19.5% and non-life TP of approximately 7.4%. The weighted average Macaulay duration of the TP for the participating groups equals 14.4 years for Life TP (excluding UL/IL) and 4.3 years for Non-Life TP. The residual 13.7% of the liabilities is composed by other items such as financial liabilities, derivatives, Deferred Tax Liabilities (DTL), etc. The financial leverage (as captured by the debt to credit institutions and others excluding re-insurance deposits) is contained, indicating that insurers do not rely significantly on financial markets for financing.

Figure 6 – Aggregate liability composition of the stress test participants in the baseline

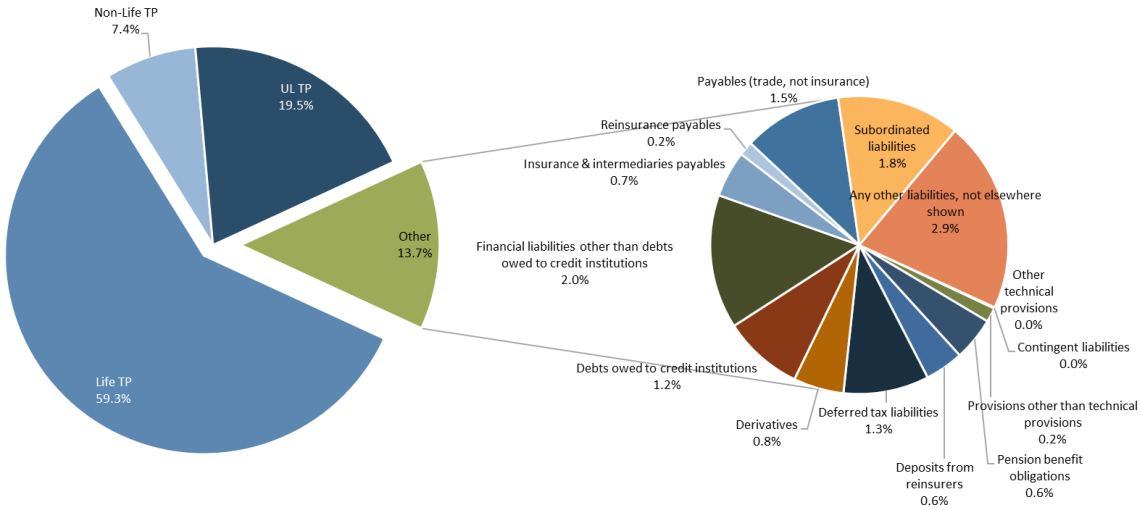
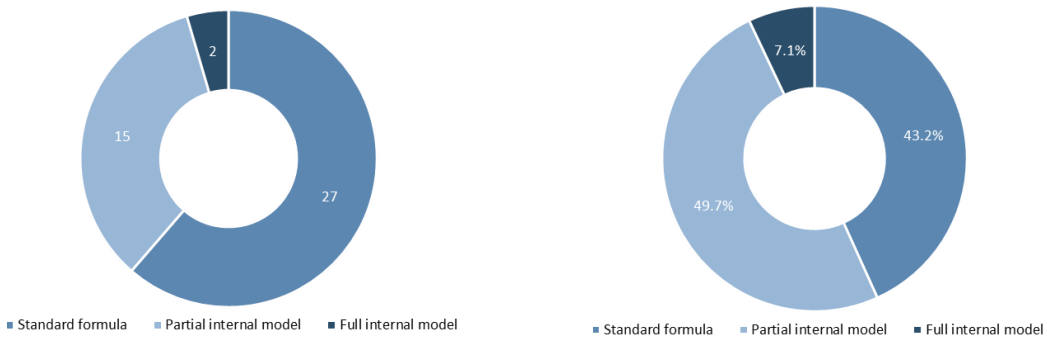


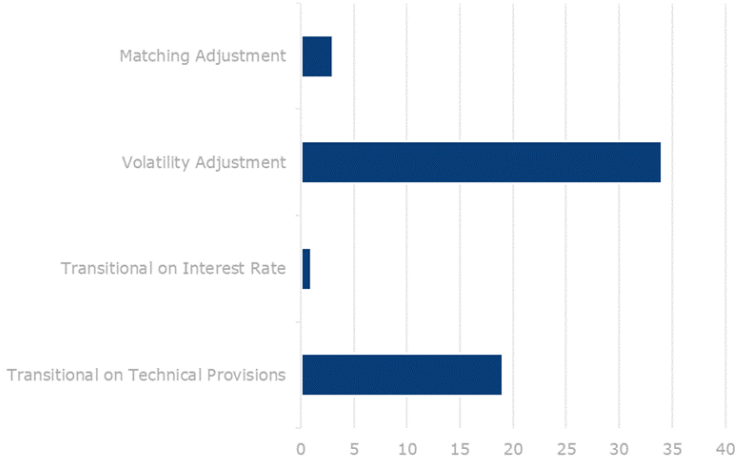
Figure 7 (left graph) shows a breakdown of the methods applied for the SCR calculation. The majority of the participants (27) in the sample are standard formula users, while 15 participants use partial internal models. The remaining 2 groups apply full internal models. The picture changes when looking at the split in terms of total assets (Figure 7 – right chart). Size-wise, larger players tend to use partial internal models (56.8%) whereas standard formula users cover 43.2% of the total assets.

Figure 7 – Participants split by method of calculation of the Solvency Capital Requirement (number and share of total assets)



Regarding the application of LTG and transitional measures, the sample shows some heterogeneity (Figure 8). The vast majority of the participants (34) use LTG measures with only 3 participants applying the matching adjustment. Less than half (19) of the participants apply transitional measures on TP, whereas only 1 participant applies transitional measures on the interest rate.

Figure 8 – Application of Long Term Guarantee and Transitional measures



3 MAIN FINDINGS

Section 3 displays the impacts of the adverse scenario on the capital position (section 3.1) and on the liquidity position (section 3.2) of the participants. Both sections describe the effect of the application of the shocks following a top-down approach, namely starting from the aggregated indicators (e.g. solvency ratio and sustainability indicator for the capital and liquidity section respectively) followed by their decomposition in the main constituents (e.g. SCR, Eligible Own Funds -EOF for the capital, flows and stocks for the liquidity).

The impacts of the shocks are always presented under the fixed balance sheet (FBS) and constrained balance sheet (CBS) approaches, highlighting, the main differences where relevant. The relevant management actions and their contribution are subject to a specific description for the capital (section 3.1.5) and the liquidity component (section 3.2.4).[19]

Limited to the capital component, each subsection provides an overview of the evolution and related marginal contribution of LTG and transitional measures.

3.1 CAPITAL COMPONENT

The adverse scenario with its double-hit nature represents a severe test for the participants in the exercise, whose post-stress solvency ratio decreased significantly as reported in Figure 9.

Figure 9 – Impact of the adverse scenario on the main Solvency II indicators

	Baseline	Fixed Balance Sheet		Constrained Balance Sheet	
	Value	Value	Δ (Baseline)	Value	Δ (Baseline)
Solvency Ratio	217.9%	125.7%	-92.1 p.p.	139.3%	-78.6 p.p.
Solvency Capital Requirement	291.1 bn	311.6 bn	7.1%	300.0 bn	3.1%
Eligible Own Funds	634.1 bn	391.8 bn	-38.2%	417.9 bn	-34.1%
Asset over Liability ratio	110.0%	105.9%	-4.1 p.p.	106.2%	-3.8 p.p.
excess of Assets over Liabilities	590.2 bn	325.8 bn	-44.8%	340.8 bn	-42.3%

Under the FBS approach the ratio decreases by 92.1 percentage points, whereas under the CBS approach, the reactive management actions applied by 19 participants partially mitigate the drop, resulting in a decrease of 78.6 percentage point on aggregate. The drop in the solvency ratio is driven both by the drop in own funds (-38.2% in the FBS) and by the increase in the SCR (+7.1% in the FBS). This drop results in 9 participants reporting a solvency ratio below 100% in the FBS. Among

[19] Results reported under constrained balance sheet approach are referred to the whole sample of the 44 participants in the capital component and 117 solo undertakings in the liquidity component, if not otherwise specified. The analysis is based on the values reported under constrained balance sheet in case the participant opted to apply reactive management actions. In all the other cases the values reported under fixed balance sheet are utilised.

these 9 participants, 7 apply reactive management actions, all of them resulting in a solvency ratio above 100%.

The SCR increases in aggregate by 7.1% in the FBS and by 3.1% in the CBS. This increase is higher for standard formula users in the FBS (9.3%) and lower in the CBS (1.4%), compared to the increase observed for partial and full internal model users (5.5% and 4.3%, respectively). For both CBS and FBS, the main driver of the increase is the reduction of the benefit deriving from the loss-absorbing capacity of technical provisions and deferred taxes.

The largest impact on the EOF occurs in the FBS scenario. The aggregate EOF decrease by -38.2% (EUR 242.3 bn), from an aggregated value of EUR 634.1 bn in the baseline to EUR 391.8 bn post-stress. On the asset side, the repricing of the risk premia together with the other market shocks have a significant impact on the eAoL and EOF. The reactive management actions mitigate this reduction resulting in an aggregate impact of -34.1% (EUR 216.2 bn). The impact on the EOF is mainly driven by the change in Basic Own Funds (BOF), which is its largest component, accounting for 92.6% in the baseline. Changes in other own funds items (ancillary own funds, own funds of other financial sectors and own funds when using Deduction and Aggregation) are less material. The shock on the BOF is mostly driven by the decrease in excess of assets over liabilities, which may be slightly compensated by a reduction in foreseeable dividends or an increase in Deferred Tax Assets (DTA) as a Tier 3 BOF element.

The aggregate value of the assets over liability ratio (A/L) in the baseline scenario is 110.0% with a median of 110.5%. The adverse scenario causes a reduction of 4.1 percentage points in the aggregate ratio, with reactive management actions partially mitigating this drop resulting in a decrease of 3.8 percentage points. The effect of the stress scenario translates into a decrease of 44.8% (EUR 264.4 bn) in the eAoL for the FBS, from EUR 590.2 bn to EUR 325.8 bn, and in a decrease of 42.3% (EUR 249.4 bn) for the CBS. The drop is mainly driven by the asset side, in particular, by the material decrease in the value of fixed income assets and equity holdings, both of which are also reflected in the significant decrease of CIUs. The decreased liabilities only partially mitigate the effect of the assets.

Consistently with their aim and in line with the provisions contained in the technical specifications, the LTG and transitional measure in general and the volatility adjustment (VA) in particular, have a stronger effect in the adverse scenario than in the baseline smoothening the impact of the prescribed shocks. LTG and transitional measures provide a significant buffer to all the dimensions of the analysis (refer to Figure 10).

Figure 10 – Contribution of Long Term Guarantee and transitional measures to the solvency ratio

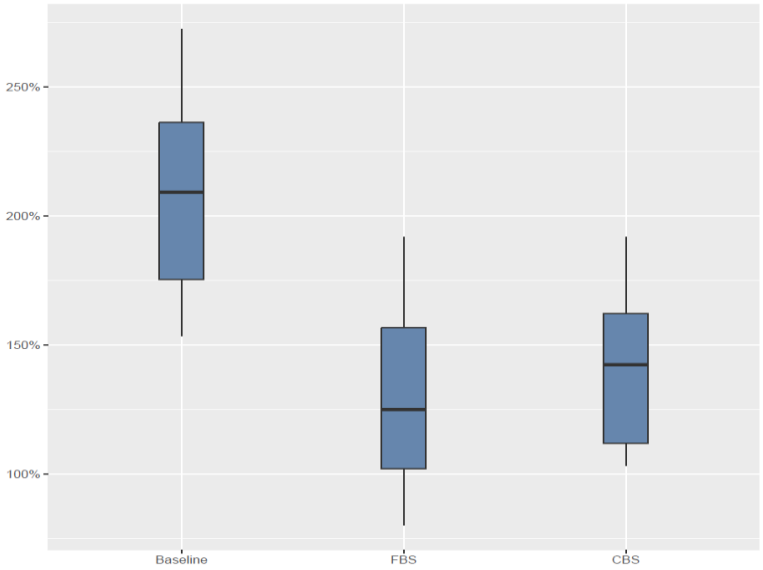
	Baseline	Fixed Balance Sheet	Constrained Balance Sheet
Solvency Ratio with transitional and LTG measures	217.9%	125.7%	139.3%
Solvency Ratio without transitional measures	204.6%	111.0%	123.8%
Solvency Ratio without LTG and transitional measures	173.3%	47.2%	55.1%

The post stress solvency ratio, including all the measures, results in 9 participants below a 100% for the FBS and 2 for the CBS approach. The figures increase to 31 for the FBS and 27 for the CBS when removing the LTG and transitional measures. Similar effects are also shown for the A/L and eAoL.

3.1.1 SOLVENCY RATIO

The adverse scenario has a material impact on the solvency ratio with an aggregated reduction of 92.1 percentage points (from 217.9% to 125.7%) in the FBS and of 78.6 percentage points to 139.3% in the CBS. The distribution of the solvency ratios (Figure 11) shows how the drop of the indicators affects all the participants, with the median losing 84.1 percentage points with respect to the baseline (from 209.1% to 125.0%) in the FBS and 66.9 percentage points in the CBS (where the median solvency ratio equals 142.2%). The lower dispersion of the distribution reported in the CBS approach shows that the reactive management actions are applied in the CBS approach by the participants whose solvency ratio was below or close to the regulatory threshold of 100% in the FBS.

Figure 11 – Distribution of the Solvency ratio in Baseline, FBS and the CBS

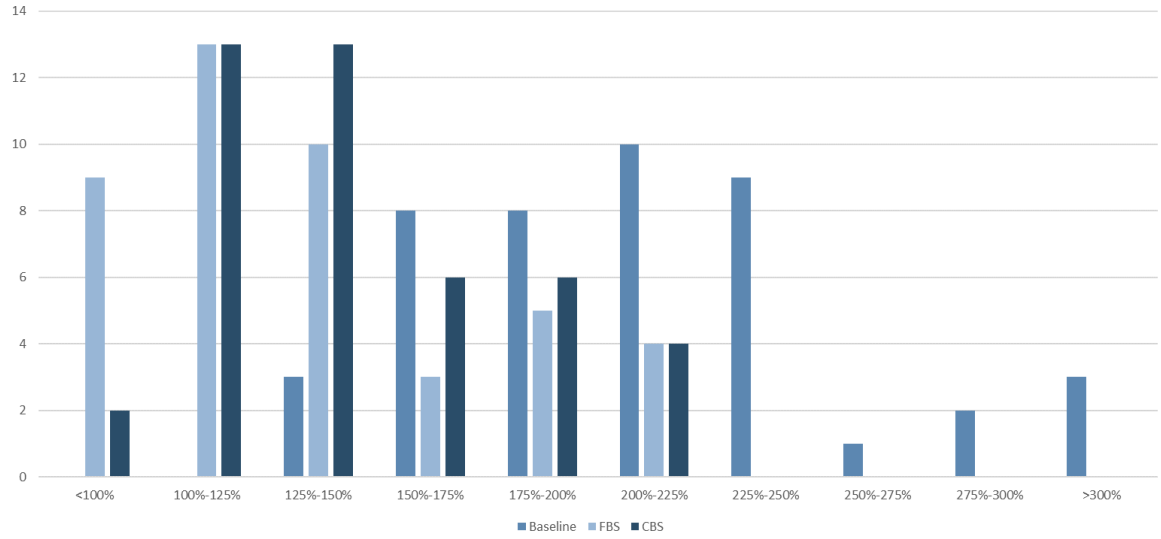


Note: boxplots report 10th, 25th, 50th, 75th and 90th percentile of the distribution.

The reduction of the solvency ratio is evident in Figure 12, which shows the movements of the participants among solvency ratio buckets in the baseline and adverse scenario. In the baseline,

most of the participants report a ratio above 150% with 35 of them between 150% - 250% and none below the regulatory threshold of 100%. In the FBS, the distribution shifts significantly downward, with 32 of the participants reporting a solvency ratio below 150% and among these 9 reporting a value below 100%. The situation improves in the CBS with the application of reactive management actions, reducing the number of participants with a solvency ratio below 100% from 9 to 2. There is also a general transition from the lower solvency ratio buckets, increasing the number of participants in the buckets between 125% and 200%.

Figure 12 – Solvency ratio bucketing of the participants in the Baseline, FBS and CBS

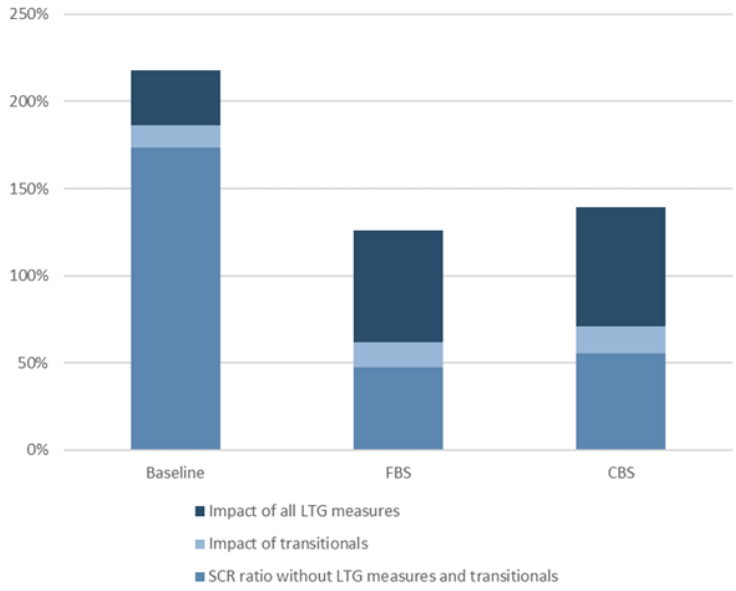


3.1.1.1 IMPACT OF LONG TERM GUARANTEE AND TRANSITIONAL MEASURES

LTG and transitional measures play a material role in the calculation of the solvency ratio under the Solvency II regime. The impact of these measures is reflected in the post stress position of the participants, in line with the Solvency II regulation and according to provisions contained in the Technical Specifications.

Removing from all the scenarios the impact of the LTG and transitional measures, the aggregate solvency ratio with respect to the baseline drops by 126.1 percentage points in the FBS (from 173.3% to 47.2%) and by 118.1% in the CBS (from 173.3% to 55.1%). Figure 13 shows how the contribution of the LTG and transitional measures increases in the adverse scenario compared to the baseline causing a higher marginal impact on the indicator when removing them.

Figure 13 – Aggregate impact of the Long Term Guarantee and Transitional measures



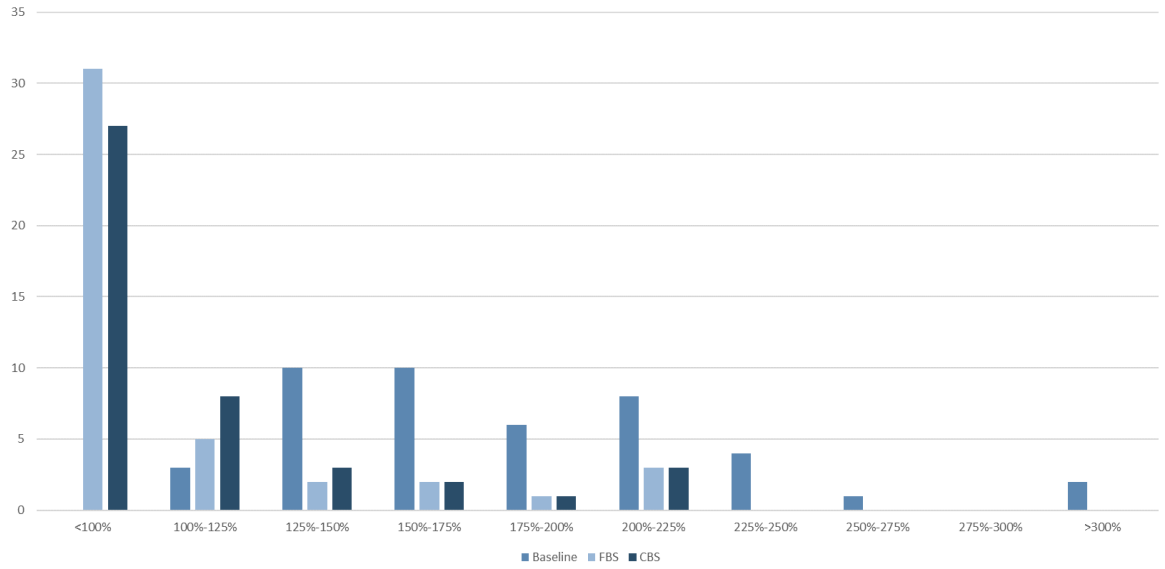
LTG and transitional measures have been introduced in the Solvency II regime with two different purposes. LTG are permanent measures that aim at reducing the impact of short term market fluctuation on the capital and solvency values of insurance undertakings, whereas transitional measures have the aim of softening the transition from the Solvency I to the Solvency II regime, and therefore their nature is only temporary. The different purpose requires a separate analysis of the two set of measures.

In line with their purpose of smoothing the instantaneous movements in market prices, the contribution of the LTG measures more than doubles in the adverse scenario, from a 31.4% of the baseline to a 63.8% of the FBS and 68.6% of the CBS. The increase is mainly driven by the increase of the VA under adverse scenario (from 7 bps to 60 bps for the Euro[20]). The contribution of transitional measures remains almost unchanged due to their nature and provisions for the calculation of the post stress positions (13.2% Baseline, 14.7% FBS, 15.5% CBS).

The effect of the removal of LTG and transitional measures in the solvency ratio is reflected in the distribution of the participants as shown in Figure 14. While none of the participants reports a solvency ratio <100% in the baseline, 31 undertakings fall under the regulatory thresholds when removing LTG and transitional measures in the FBS and 27 undertakings in the CBS.

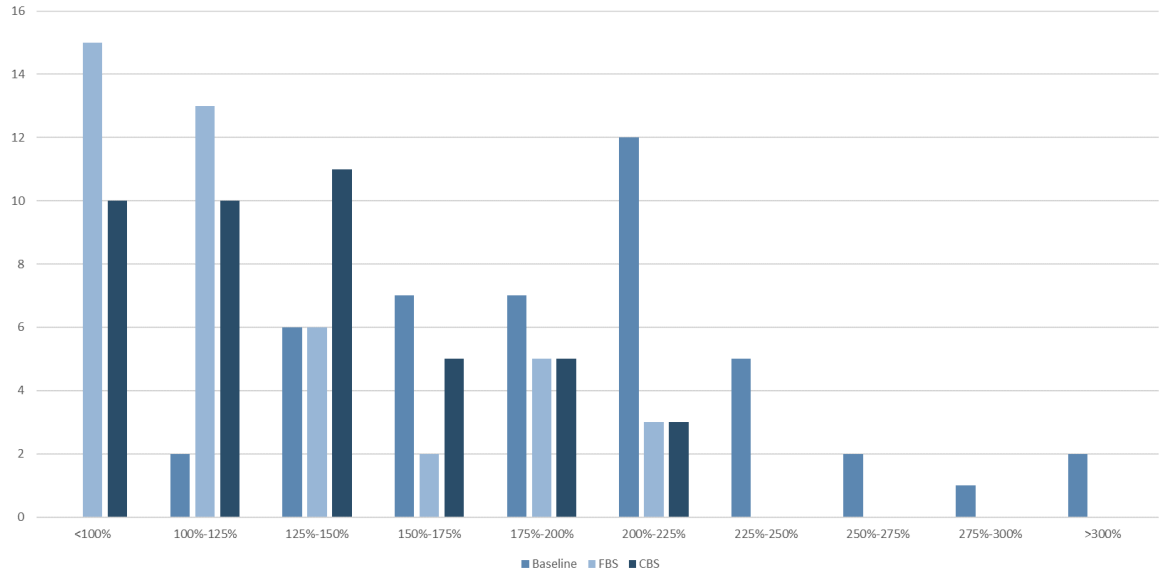
[20] VAs for other currencies can be retrieved in the Technical information file available at: https://www.eiopa.europa.eu/insurance-stress-test-2021_en

Figure 14 – Solvency ratio bucketing of the participants in the Baseline, FBS and CBS without Long Term Guarantee and transitional measures



Removing only the transitional measures, which by construction are supposed to be phased out by 2032, the aggregate solvency ratio becomes 204.6% in the baseline, 111.0% in the FBS simulation and 123.8% in the CBS simulation. The number of participants below 100% almost halves compared to the situation without both LTG and transitionals to 15 and 10 in the FBS and CBS respectively, as shown in Figure 15.

Figure 15 – Solvency ratio bucketing of the participants in the Baseline, FBS and CBS without transitional measures



3.1.2 SOLVENCY CAPITAL REQUIREMENT

In aggregate the SCR increases by 7.1% in the FBS and by 3.1% in the CBS. Standard formula users show an increase of 9.3% in the FBS and 1.4% in the CBS, while partial and full internal model users report an increase of 5.5% and 4.3%, respectively.

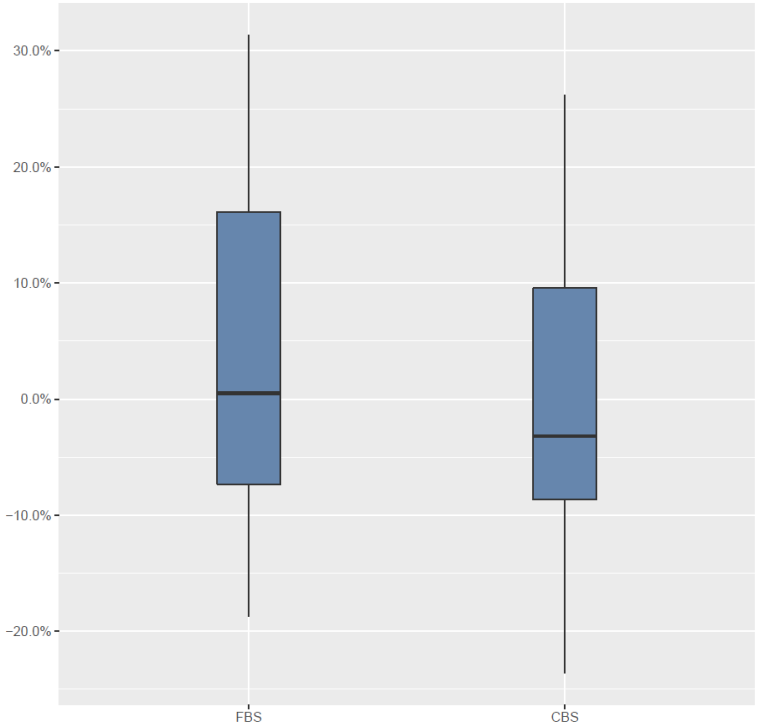
The Basic Solvency Capital Requirement (BSCR) shows an overall decrease both in the FBS and CBS. The standard formula users report in aggregate a decrease with respect to the baseline in the gross BSCR of 25.6% in the FBS and 29.4% in the CBS. The main contribution to the BSCR comes from the market risk module and from the underwriting risk module (life and non-life). The capital requirement for market risk accounts for 85.4% of the gross BSCR before diversification benefits in the baseline, decreasing to 78.9% in the FBS. The life underwriting risk SCR, accounting for 18.4% in the baseline, shows an opposite move and it increases to 23.7% in the FBS. The contribution of the non-life underwriting risk module in the baseline is 9.6% of the gross BSCR and increases to 12.9% in the FBS. Same movement is observed for partial and full internal model users.

The contribution of the loss absorbing capacity of deferred taxes (LACDT) and the loss absorbing capacity of the technical provisions (LACTP) to the post-stress SCR is reduced. For standard formula users, the LACTP over SCR is -30.8% in the baseline and becomes -10.0% in the FBS and -8.8% the CBS. The same movement is observed in the LACDT, whose contribution to the SCR decreases from -5.6% in the baseline to -3.4% and -3.0% in the FBS and CBS respectively. For partial and full internal model users LACTP and LACDT contributions also decrease. In particular, the LACTP contribution drops from -15.8% in the baseline to -3.2% in the FBS and -3.0% in the CBS, and the LACDT drops from -13.6% in the baseline to -7.8% in the FBS and to -8.1% in the CBS, determining the aggregate increase of the total SCR.

The reduction of the LACTP in the stress scenario derives from the prescribed market shocks that reduce future discretionary benefits and from the insurance specific shocks which reduce the size of the liability portfolios. The reduction of the LACDT occurs due to the shrinkage of the future profit under the adverse scenario, and from the fact that many participants did not recalculate the LACDT in the stress scenario, setting it to zero.

As a result, the SCR increases in the FBS for half of the participants (22 out of 44), while it decreases for the rest. The participants whose SCR increased (decreased) show heterogeneous characteristics (e.g. method of SCR calculation or size of the group). The abovementioned movements are reflected in a median increase of the SCR of 0.5% between the baseline and the FBS. In the CBS the SCR increases in aggregate by 3.1% while the median percentage change between the baseline and the FBS is -3.2% (Figure 16). This opposite movement in the aggregate and median value observed under CBS approach depends on the fact that participants reporting a large increase in the SCR (effectively increasing the aggregate value) did not apply actions with a direct impact on it, while other participants had their SCR reduced by the application of reactive management actions.

Figure 16 – Relative change in Solvency Capital Requirement (FBS and CBS against Baseline)

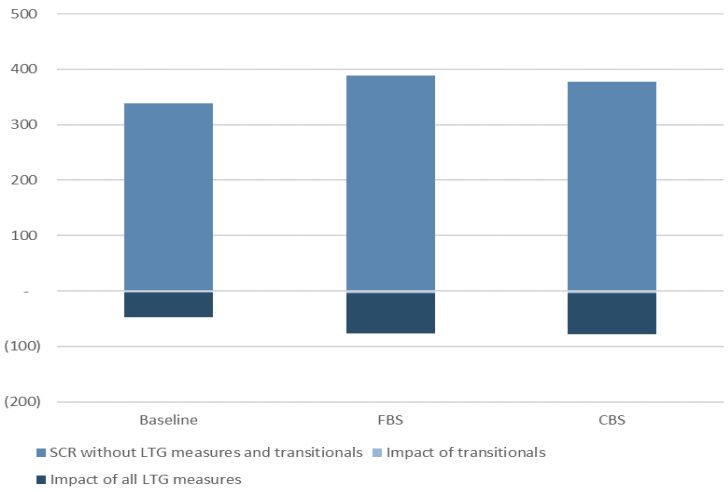


Note: boxplots report 10th, 25th, 50th, 75th and 90th percentile of the distribution.

3.1.2.1 IMPACT OF LONG TERM GUARANTEE AND TRANSITIONAL MEASURES

Transitional measures do not materially affect the SCR, while also removing the LTG measures increases the SCR by 16.2% in the baseline. In aggregate terms, the SCR increases by 14.9% in the FBS with respect to the baseline without the use of all these measures and by 11.6% in the CBS, with an additional capital requirement of about EUR 77 bn in both scenarios (see the decomposition of the SCR in Figure 17).

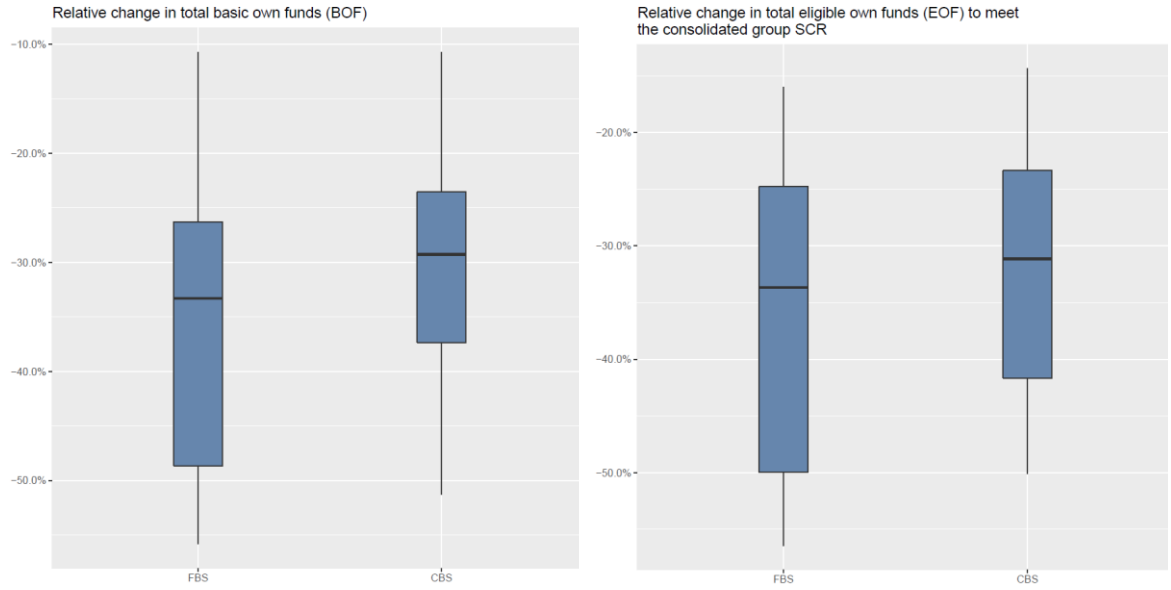
Figure 17 – Decomposition of the impact of the Long Term Guarantee and transitional Measures on the Solvency Capital Requirement



3.1.3 OWN FUNDS

The aggregate EOF decrease by -38.2% (EUR 242.3 bn) from EUR 634.1 bn in the baseline to EUR 391.8 bn in the FBS, with reactive management actions mitigating this reduction resulting in an aggregate impact of -34.1% (EUR 216.2 bn) in CBS. The impact on the EOF is mainly driven by the change in Basic Own Funds (BOF), which is its largest component, accounting for 92.6% in the baseline. The prescribed shocks cause a decrease in the BOF and the percentage changes in the FBS approach are distributed between a minimum of -91.4% and a maximum of -0.5% with a median of -33.3%, which translates to an aggregate movement from 587.3 bn in the baseline to 366.9 bn in the FBS. Under the CBS approach the minimum becomes -91.4% and the maximum -0.5% with a median of -29.2% (Figure 18 - left), which translated to an aggregated value of 394.3 bn.

Figure 18 – Relative change in the Basic Own Funds and Eligible Own Funds to meet Solvency Capital Requirement

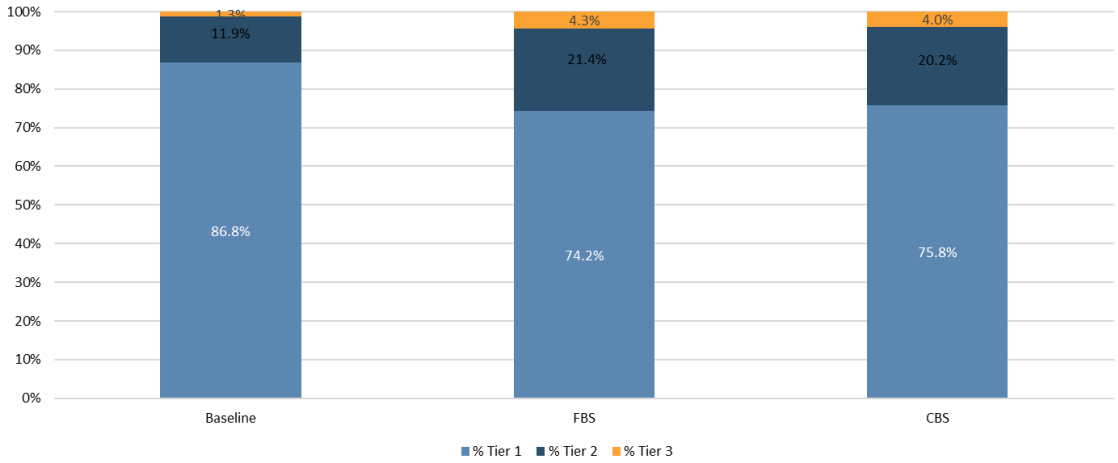


Note: boxplots report 10th, 25th, 50th, 75th and 90th percentile of the distribution.

The overall quality of EOF deteriorates in both scenarios (Figure 19). In the FBS scenario, the share of Tier 1 EOF to total EOF decreases from 86.8% to 74.2%, whereas the share of Tier 2 EOF increases from 11.9% to 21.4% and the share of Tier 3 EOF increases from 1.3% to 4.3%. Similar but less pronounced changes can be observed in the CBS scenario, where the share of Tier 1 EOF decreases to 75.8% while the share of Tier 2 EOF and Tier 3 EOF increase respectively to 20.2% and 4.0%.

Although Tier 1 EOF still contributes approximately 75% of the total EOF, the increased contribution of Tier 2 and Tier 3 indicates a greater reliance on lower quality own fund items to cover the SCR.

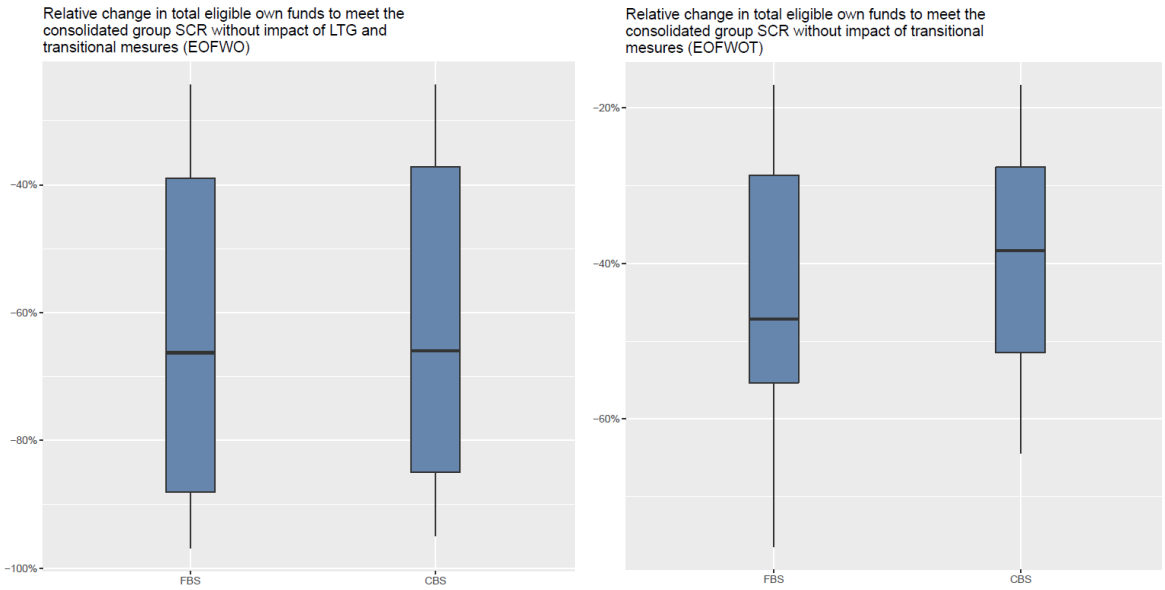
Figure 19 – Quality of the Eligible Own Funds



3.1.3.1 IMPACT OF LONG TERM GUARANTEE AND TRANSITIONAL MEASURES

The impact of the scenario is amplified when removing the shock absorbing effect of LTG and transitional measures. In the FBS, the exclusion of transitional measures (Figure 20 – right) causes a median decrease of 47.1% in the EOF, resulting in an aggregate decrease of 46.8%. By further excluding the LTG measures, the median drop becomes more pronounced at 66.2% (Figure 20 - left), resulting in an aggregate reduction of 71.1% with respect to the baseline value with LTG and transitional. The impact of the CBS scenario on the EOF partially mitigates some of the effects in the FBS. Excluding the transitional measures, the median drop is 38.3% and when excluding also LTG measures the reduction becomes 65.9%. In fact, the aggregate EOF decrease by 42.9% with respect to the baseline value when transitional measures are excluded and by 67.2% when both LTG and transitional measures are excluded.

Figure 20 – Distribution of Eligible Own Funds without the impact of Long Term Guarantee and Transitional measures

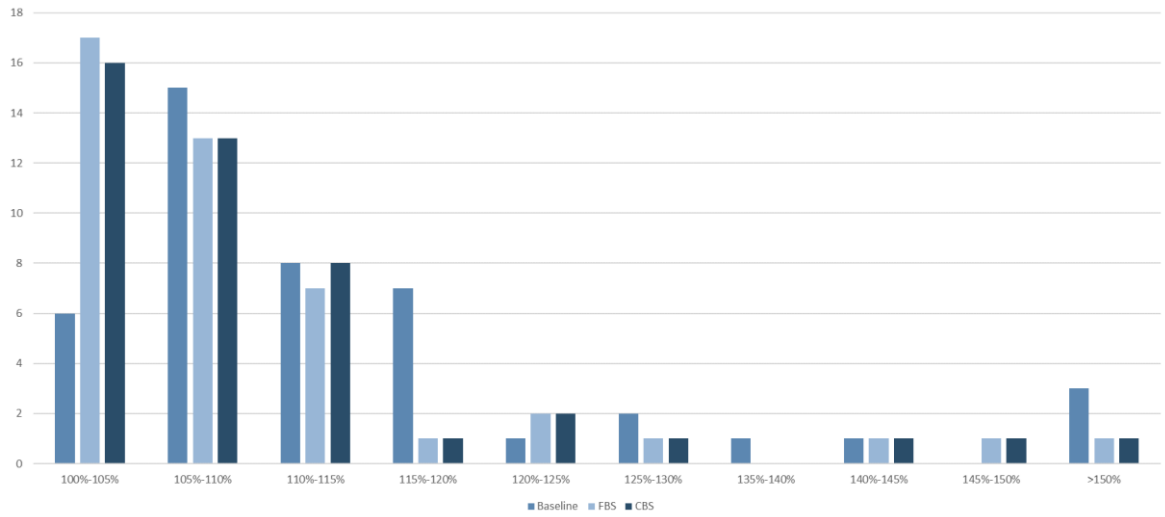


Note: boxplots report 10th, 25th, 50th, 75th and 90th percentile of the distribution. Reference value for the changes is the baseline total eligible own funds to meet the consolidated group SCR with LTG and transitional measures.

3.1.4 ASSETS OVER LIABILITY RATIO AND EXCESS OF ASSETS OVER LIABILITIES

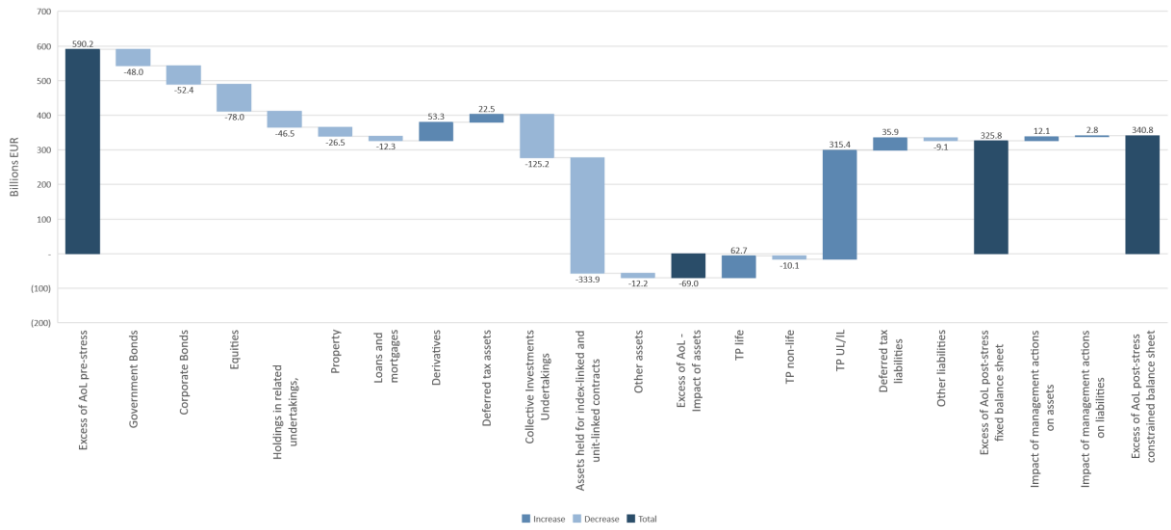
The impact of the adverse scenario produces a material reduction of the A/L ratio that drops from the aggregated baseline value of 110.0% to 105.9% (-4.1 percentage points) in the FBS and to 106.2% (-3.8 percentage points) in the CBS. The reduction of the ratio is reflected in the general shift in the distribution of the A/L with participants moving from the cohorts characterised by high ratios to lower ones. Figure 21 shows a post-stress concentration in the cohort of 100%-105%, however, despite the material reduction, none of the participants falls under 100% of the ratio with the minimum value reported being 100.4% both under the FBS and CBS approaches. This indicates that the sector, even under a severe scenario, proves to be able to meet its promises to the policyholders.

Figure 21 – Assets over Liabilities ratio bucketing of the participants in the Baseline, FBS and CBS



The aggregate eAoL almost halves in the FBS (-44.8%) as shown in Figure 22. In fact, from the baseline value of EUR 590.2 bn it reduces to the post-stress value of EUR 325.8 bn. Despite the application of reactive management actions, the drop remains significant with a CBS value of EUR 340.8 bn (-42.3%). The reduction of the eAoL is driven by the larger decrease in the assets (EUR 659.3 bn -10.1%) partly offset by a contained decrease of liabilities (EUR 394.9 bn – 6.7%). Under the CBS, the reactive management actions contribute mostly to contain the impact on the assets rather than the liabilities.

Figure 22 – Decomposition of the change in excess of assets over liabilities



To better reflect the impact on the excess of assets over liabilities, the following subsections discuss the drivers for assets and liabilities and their impacts on the eAoL.

3.1.4.1 ASSETS

On aggregate, the assets decrease by 10.1% in the FBS. Looking at the non-UL/IL assets, the significant impact of the stress scenario on the asset side (Figure 22) stems from the decrease in the fixed income assets, where in aggregate participants report a reduction of EUR 48.0 bn (-2.8%) for government and EUR 52.4 bn (-4.2%) for corporate. The equity holdings reduce by EUR 78.0 bn (-42.6%) and the CIUs asset class by EUR -125.2 bn (-15.0%). The holdings in related undertakings also show a material reduction of EUR 46.5 bn (-29.2%). The positive change in the derivative position (EUR 53.3 bn) partly mitigates the negative impact of the scenario on the aggregate balance sheet. This indicates that some insurers use derivatives to a significant extent to hedge against adverse developments on financial markets. Finally, assets held for UL/IL decrease significantly (EUR 333.9 bn).

The assets shocks result in a depletion of the baseline eAoL. The impact of reactive management actions increase assets by EUR 12.1 bn, mainly driven by milder stress shocks to the resulting asset reallocation after applying asset de-risking as a management action.

3.1.4.2 LIABILITIES

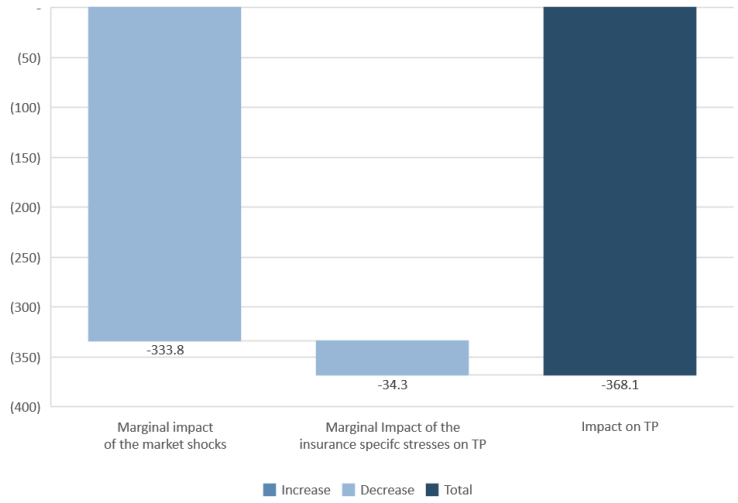
Total liabilities decreased by 6.7%. Life TP show a decrease of EUR 62.7 bn (-1.8%) whereas non-life TP increase of EUR 10.1 bn (2.3%). Finally, in the UL/IL business the reduction is more significant. The net effect of the deferred taxes positively contributes to the increase of eAoL (EUR 58.4 bn). The distribution of the impact on TP across the participants indicates that the changes are driven by the characteristics of the portfolios and not only by the type of business.

The drivers for the abovementioned movements are the following:

- The significant reduction in the UL/IL TP is due to the shocks on the assets held for UL/IL. In fact, looking at the impact on UL/IL liability in conjunction with the assets held for UL/IL business the resulting impact is a net reduction of the eAoL of EUR 18.5 bn;
- The impact on life TP (excl. UL/IL) can be related to:
    - the impact of the post-stress increase in VA with the contemporaneous decrease in the swaps curve leading (compared to the baseline) in higher discounting rates (for EUR) up to the tenor 7y and lower thereafter;
    - the reduction in future discretionary benefits;
    - the impact of the insurance specific shocks, which depending on the business was either positive or negative, but on aggregate contribute positively (Figure 23).
- The non-life TP increases driven by the insurance specific shock as well as the discounting, in cases where the average duration is higher 8 years or higher;

- The reduction in the DTL combined with the increase in the DTA reflect the losses in the net asset value position of the sector in the stress scenario.

Figure 23 – Marginal impact of insurance specific shocks on Technical Provisions



The post stress position of the liabilities is marginally beneficial for eAoL. The reactive management actions decrease the liabilities further causing a small increase in the eAoL.

3.1.4.3 IMPACT OF LONG TERM GUARANTEE AND TRANSITIONAL MEASURES

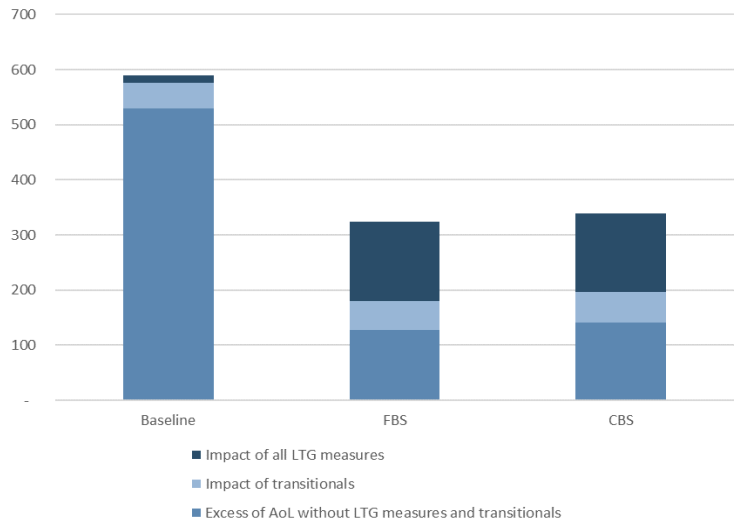
LTG and transitional measures are significant shock absorbers in the post-stress eAoL. The decomposition of the impact of LTG and transitional measures (Figure 24)[21] in the fixed and constrained balance sheet approach shows that LTG measures provide a significant buffer. The change in the impact of LTG between the fixed and the baseline is driven by the significant increase in the volatility (matching) adjustment and its relatively low level in the baseline.

The contribution to the eAoL increases from EUR 14.3 bn reported in the baseline to EUR 144.0 bn in the FBS approach and EUR 143.7 bn in the CBS approach containing the drop in the A/L to values above 100% for all the participants.

The impact of the transitional measures remains unchanged, since they were not recalculated in the stress scenario. In the CBS approach, both are kept almost the same as in the FBS, with only the eAoL showing improvements.

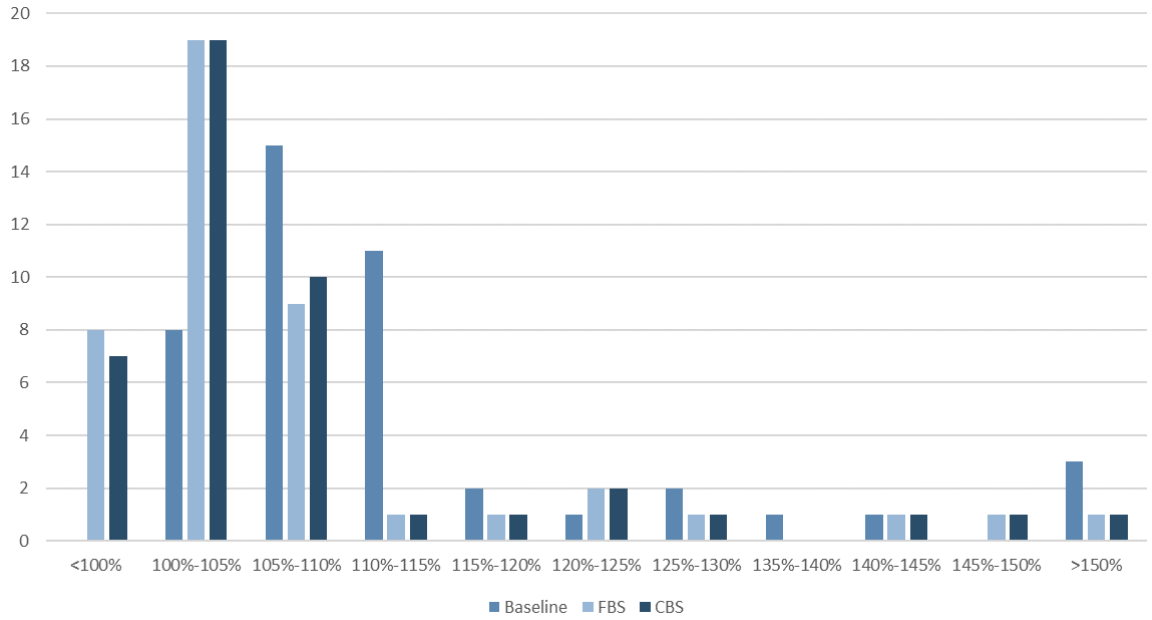
[21] The graph is based on the values of eAoL reported in the LTG tabs (baseline, CBS, FBS). In a limited number of cases, small differences with the corresponding balance sheet item were identified due to rounding effect.

Figure 24 – Impact of Long Term Guarantee and transitional measures in the Excess of Assets over Liabilities



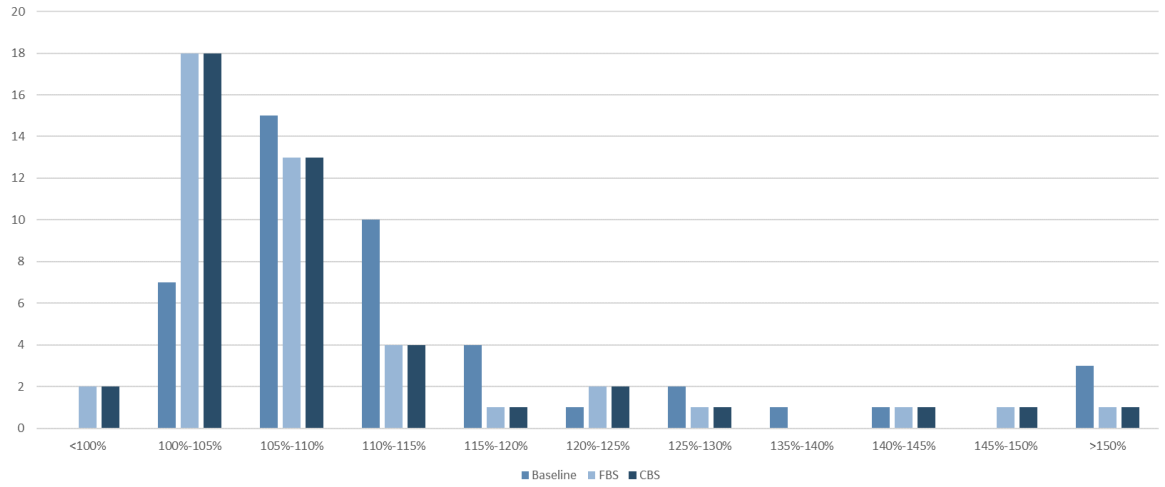
When removing the marginal impact of the LTG and transitional measures, the distribution shifts substantially to the left resulting in a reduction of the A/L ratio from 108.9% to 102.2% for the FBS and 102.5% for the CBS on aggregate, with the minimum value falling below the 100% for 8 in the FBS and 7 participants in the CBS (Figure 25).

Figure 25 – Assets over Liabilities ratio without Long Term Guarantee and transitional measures bucketing of the participants in the Baseline, FBS and CBS



When removing only the impact of the transitional measures, the impact is less pronounced, with only two participants falling below the 100% in the ratio of assets over liabilities, both for the FBS and CBS (Figure 26).

Figure 26 – Asset over Liability ratio without transitional measures bucketing of the participants in the Baseline, FBS and CBS



It is worth noting that there is no significant difference between the distribution of the participants when considering the post stress positions under the FBS and CBS. The only difference is limited to one participant that opted to apply as a reactive management action the VA which was not applied under the Baseline scenario[22].

3.1.5 REACTIVE MANAGEMENT ACTIONS AND POTENTIAL MACROPRUDENTIAL IMPLICATIONS

The 2021 Stress Test exercise enhances the macroprudential dimension of the framework complementing the standard fixed balance sheet (FBS) approach with a constrained balance sheet (CBS) approach where participants were allowed to apply reactive management actions in the calculation of their post-stress position[23].

In the context of the CBS, only actions that are part of the governance framework adopted by the group (e.g. risk management plans, investment strategies, recovery plans) and that are appropriate and realistic under the prescribed adverse scenario have been allowed.

[22] The measure was approved by the NCA before the reference date.

[23] Information on the management actions and their application can be retrieved from section 4.4 of EIOPA-BoS-21-156 Insurance Stress Test 2021 - Technical specifications. Available at https://www.eiopa.europa.eu/insurance-stress-test-2021_en

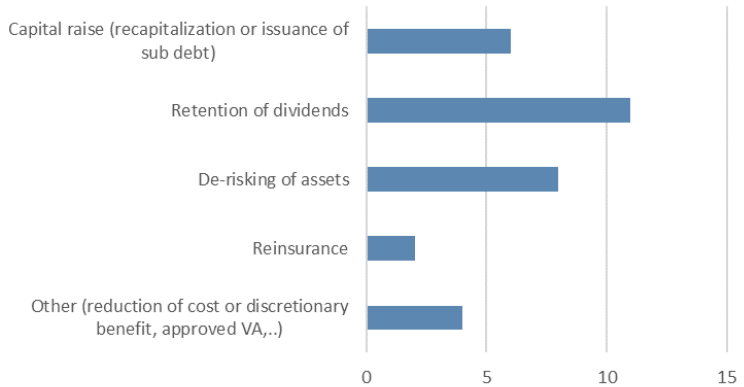
The decision to apply reactive management actions was in the capacity of the participants. Taking this into account, only 19 participants decided to apply reactive management actions in the capital exercise. Among these, 7 used these measures in order to re-establish their solvency position as the SCR ratio in the FBS scenario dropped below 100%, while the remaining 12 strengthened their position despite having a solvency ratio above the regulatory limits after stress.

While most of the participants apply more than one reactive management action, the majority uses actions whose effect is limited to the solvency position and have no impact on the balance sheet position. Indeed, 11 participants decided not to distribute dividends (resulting in an increase of their EOF) and 8 participants applied a de-risking strategy on the asset side of the balance sheet (resulting in a lower solvency capital requirement). In addition, 6 participants increased their capital through a recapitalization or issuing subordinate debt with the result of increasing both the eAoL and the SCR ratio post stress. While external recapitalizations are unlikely to be implemented under the stressed scenario, 1 participant opted to pursue the raise of capital through market-based operations via the issuance of equity and subordinated debt. The cost of this action properly reflected the distressed market and economic conditions implied in the narrative, hence the action has been deemed realistic and in line with the provisions contained in the Technical Specifications.

Other actions applied are the reduction of costs, a de-risking strategy on the liabilities side of the balance sheet by reducing the discretionary benefits, and the use of a pre-approved VA or a change of the reinsurance strategy/coverages.

The reactive management actions have a positive impact both on the balance sheet as well as the solvency position. However, actions related to the de-risking could, in the long run, impair the profitability and the sustainability of the business models based on long term guarantees. The list of applied reactive management actions are displayed in Figure 27.

Figure 27 –Applied reactive management actions



Focusing on the aggregate values of the subsample of the 19 participants applying reactive management actions, Figure 28 shows the limited effect of the actions on the balance sheet based indicators, with the A/L ratio improving by only 0.5 percentage points from the FBS to the CBS scenario and the eAoL improving by 4.9 percentage points. That said, capital and solvency indicators benefited greatly from the application of reactive management actions with an impact of +7.9 percentage points on the EOF and of -7.7 percentage points on the SCR. The improvements of the EOF and of the SCR position in the CBS is reflected in a material improvement of the Solvency ratio that increases with respect to the FBS by 25 percentage points.

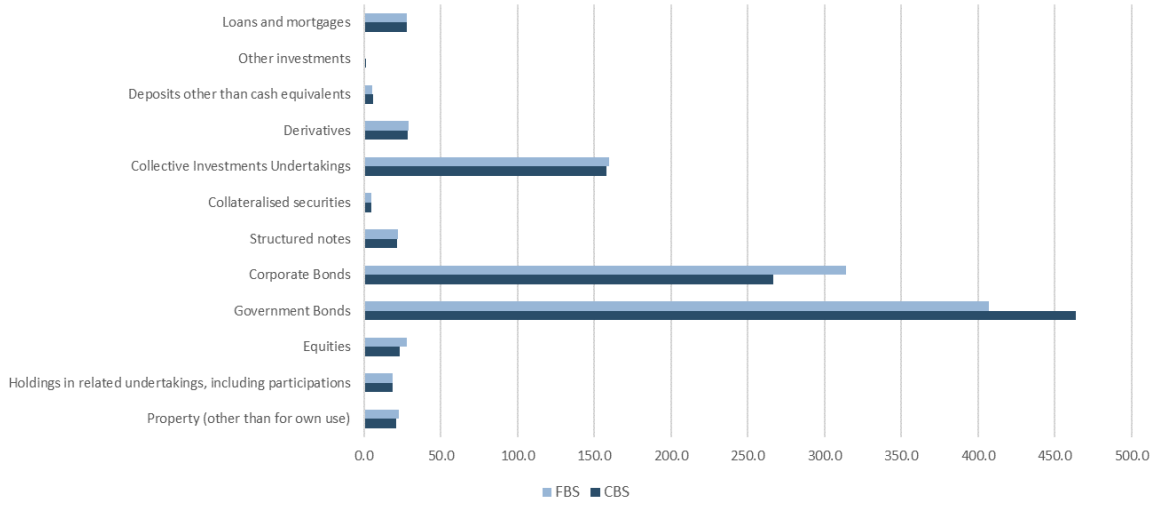
Figure 28 –Impact of the Reactive Management Actions on the subsample of 19 participants

	Baseline	Fixed Balance Sheet		Constrained Balance Sheet	
	Value	Value	Δ (Baseline)	Value	Δ (Baseline)
Solvency Ratio	219.7%	115.8%	-103.9 p.p.	140.7%	-79.0 p.p.
Solvency Capital Requirement	149.4 bn	170.6 bn	14.1%	159.0 bn	6.4%
Eligible Own Funds	328.3 bn	197.5 bn	-39.8%	223.6 bn	-31.9%
Asset over Liability ratio	109.5%	105.2%	-4.3 p.p.	105.7%	-3.8 p.p.
excess of Assets over Liabilities	304.2 bn	153.5 bn	-49.5%	168.5 bn	-44.6%

The effect of the reallocation of the assets, neglecting the price effect stemming from the shocks prescribed in the Stress Test is identified by comparing the value of the post-stress CBS positions vis-à-vis the post stress FBS positions.

Figure 29 shows how the 19 participants applying reactive management actions moved their asset allocation from asset classes with higher capital absorption to asset classes with lower capital surcharge (under Solvency II regime). The position in corporate bonds is reduced by -15.1% (- EUR 47.4 bn) and the position in equity drops by -16.8% (EUR -4.7 bn), while government bonds allocation increases by +13.9%; (EUR 56.6 bn). It should be noted that the increase of deposits other than cash (+13.6%; EUR 0.7 bn) is due to the concomitant application of a capital raise applied by one of the participants together with the de-risking strategy.

Figure 29 –Change in the asset allocation stemming from Reactive Management Actions



Note: Values in EUR billion

3.2 LIQUIDITY

The adverse scenario affects the liquidity position of the participants with the aggregate total net cash flows decreasing and turning negative from approximately EUR 6.0 bn in the baseline to EUR -78.9 bn in the FBS and to EUR -57.4 bn in the CBS. The starting cash position is not enough to compensate these net cash outflows, resulting in a shortage of EUR -10.1 bn in the FBS, although it turns positive following the reactive management actions. Crucially, the strong liquid asset position (EUR 2.8 tr in the baseline which drops by EUR -538.7 bn in the fixed balance sheet - FBS approach and EUR -525.8 bn in the constrained balance sheet – CBS approach) provides a significant buffer to compensate for any shortage of cash in the FBS (refer to Figure 30).

Figure 30 –Impact of the adverse scenario on the liquidity indicators

	Baseline	Fixed Balance Sheet		Constrained Balance Sheet	
	Value	Value	Δ (Baseline)	Value	Δ (Baseline)
Net liquidity position (cash + net-flows)	81.1 bn	-10.1 bn	-112.5%	11.4 bn	-85.9%
Sustainability (net flows + cash + liquid assets)	2.8 tr	2.2 tr	-538.7 bn	2.2 tr	-525.8 bn

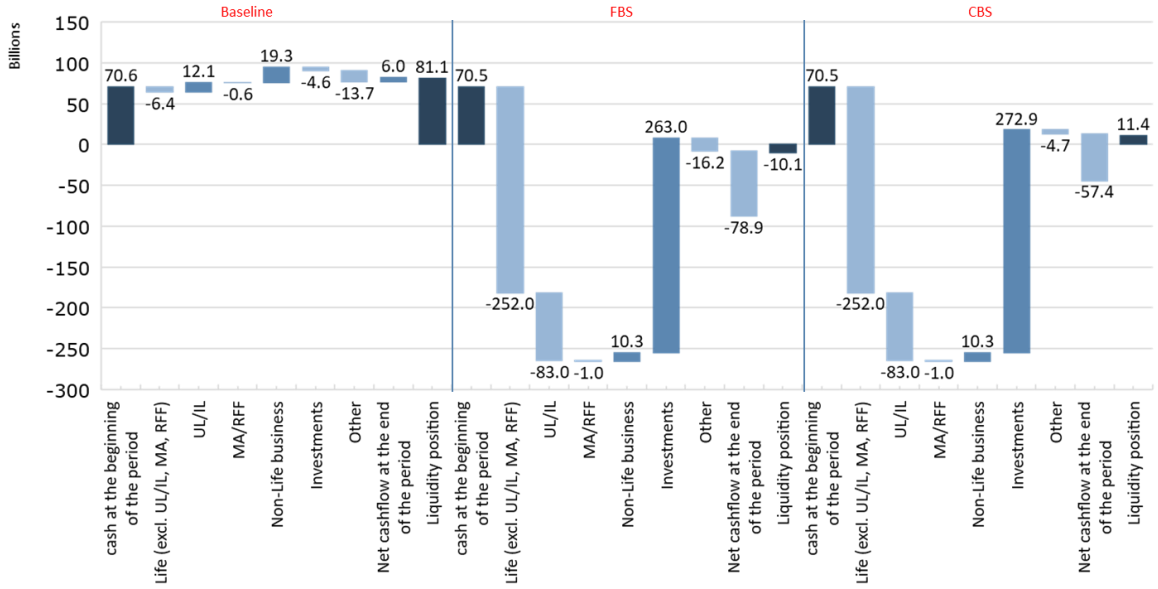
The deterioration of the net flows stems from the life business and in particular from the increase of net outflows from surrenders due to the mass lapse shock from EUR 32.2 bn in the baseline to EUR 346.7 bn in the FBS. To compensate the losses, participants sell assets. Looking at the starting asset class position, sovereign and supranational bonds, corporate bonds and equities have the highest change in their net flows (bought minus sold as a percentage over the starting position) in the FBS and CBS.

In terms of stocks, the liquid asset ratio (defined as the ratio of liquid assets after a haircut, to total assets) and the liquid liability ratio (defined as the ratio of liquid liabilities after a haircut, to total liabilities) at the end of the quarter (March) further confirm the sustained liquidity position. The liquid asset ratio remains stable in the stress scenario on aggregate, with a marginal reduction from 52.1% in the baseline (December) to 50.7% in the FBS (March) and shifts up to 50.9% in the CBS (March). Similarly, the liquid liability ratios for life, UL/IL and MA business, drop by almost 2 percentage points in the FBS, from 35.8% to 33.5%, driven by the UL/IL business, with the ratio remaining stable otherwise.

3.2.1 SUSTAINABILITY

The aggregate liquidity position, expressed as net cash flows plus cash at year-end 2020, of the participants is materially impacted by the prescribed shocks with an aggregated reduction of the cash at the beginning of the period from EUR 70.5 bn to a shortfall of cash amounting to EUR -10.1 bn in the FBS. This is compensated by the application of reactive management actions leading to an aggregate positive outcome of EUR 11.4 bn in the CBS (Figure 31). The aggregate depletion of cash shows that the overall cash holdings of the sample are not enough to cover the negative total cash flows of the stress scenario (FBS). Regarding the net cash flow position of the insurers, the impact of the scenario leads to a significant net outflow in the FBS (EUR -78.9 bn), compared to the baseline. At individual level, the distribution of the net cash flow position shows an important change between the baseline and the FBS, where the median (EUR +5.9 bn) in the baseline becomes negative (EUR -36.2 bn) in the FBS. In the CBS, the distribution is more concentrated and shifts toward higher values than in the FBS, but the median is still negative at EUR -2.6 bn.

Figure 31 –Liquidity position (Net cash-flows + cash and cash equivalent as at December 2020) in the baseline, FBS and CBS

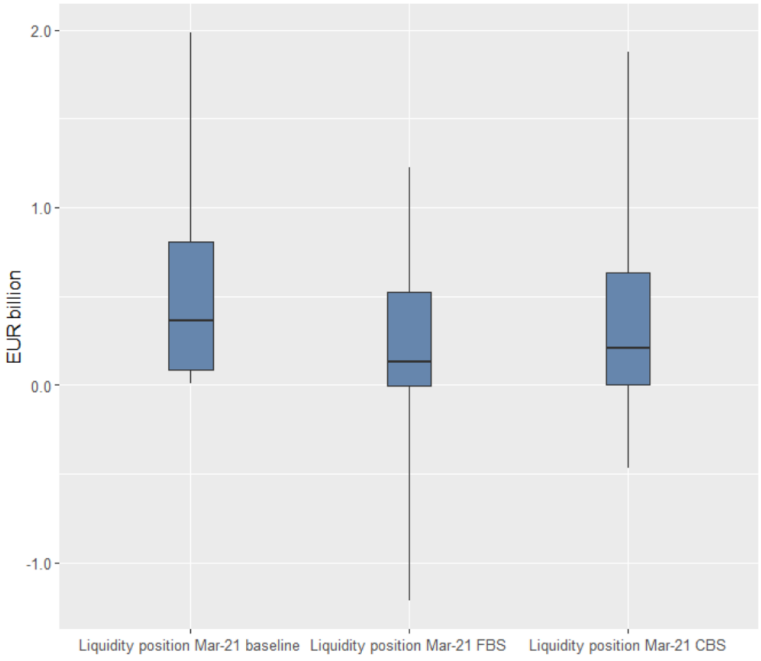


Focusing on the FBS approach, the net cash-flows for life business (excl. UL/IL, Matching Adjustment portfolios – MA, and Ring-Fenced Funds - RFF) are already negative in the baseline scenario and suffer a significant further drop from EUR -6.4 bn to EUR -252.0 bn, driving the outflows for the net cash-flows. Net cash-flows in the UL/IL business, albeit less material, turns negative in the FBS (from EUR 12.1 bn to EUR -83.0 bn), whereas net cash-flows in the non-life business remains positive but reduced compared to the baseline (from EUR 19.3 bn to EUR 10.3 bn). The technical flows deterioration is driven by the significant increase in the surrender outflows due to the mass lapse shock. To compensate these negative technical flows, investment flows increase strongly from negative EUR -4.6 bn to EUR 263.0 bn. The "Other flows" do not change significantly in the FBS scenario and remain negative (from EUR -13.7 bn to EUR -16.2 bn). Finally, the contribution of Matching Adjustment portfolios and Ring Fenced Funds is not material.

For the CBS, the investment flows further increase to EUR 272.9 bn (mainly deriving from higher sales of assets and less purchases) and "Other flows" increase to EUR -4.7 bn.

The distribution of the liquidity position at March 2021 (Figure 32), computed as the net cash flows plus the cash and cash equivalent as of December 2020, shows that the aggregate cash shortage is mainly driven by the 25th percentile of the distribution in the FBS. Overall, the median liquidity position remains positive both in the FBS and CBS, with a drop of the median in the baseline from EUR 0.4 bn to EUR 0.1 bn in FBS and EUR 0.2 bn respectively.

Figure 32 – Distribution of Liquidity position (Net cash flows + cash at Dec 2020)

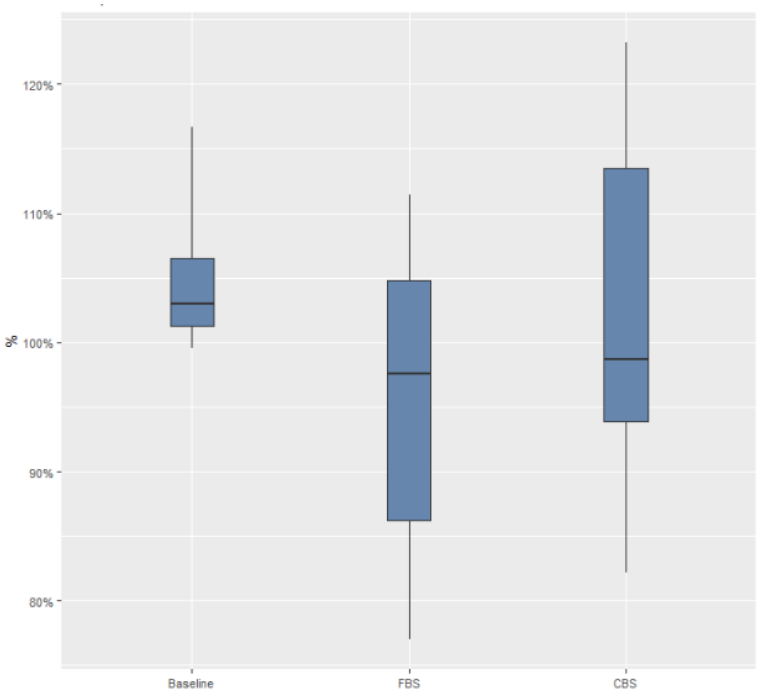


Note: boxplots report 10th, 25th, 50th, 75th and 90th percentile of the distribution.

The liquidity needs, equal to the net cash flows corrected for sales and purchase of assets in the stressed period, can easily be covered by the liquid assets held at December 2020 under the FBS and the CBS approach. This is measured by the sustainability ratio, displayed in Figure 33, which is equal to ((Net cash flows - purchase and sale of assets + liquid assets at December 2020) / (liquid assets at December 2020)). It shows whether, in case of net outflows, the undertakings hold a sufficient amount of liquid assets to cover the net outstanding amounts between December 2020 and March 2021, given the prescribed scenarios. Note that a sustainability ratio larger than 100% implies positive net cash flows. A sustainability ratio below 0% indicates that the liquidity needs are larger than the liquid assets at the reference date, which is a cause for concern. As shown in Figure 33, the stressed net-outflows of the median participant in the FBS scenario are equal to 2.4% of its liquid asset holdings in December. The portion of liquid assets needed increase to 13.8% when looking at the 25th percentile. Under the CBS approach, the values result in 1.3% for the median and 6.1% for the 25th percentile.[24]

[24] The values of the liquid assets in the FBS and CBS approaches reflects the shocks prescribed in the adverse scenario and the haircuts.

Figure 33 – Sustainability ratio: fraction of liquid assets as of December remaining after paying the stressed net cash flows corrected for the purchase and sale of assets

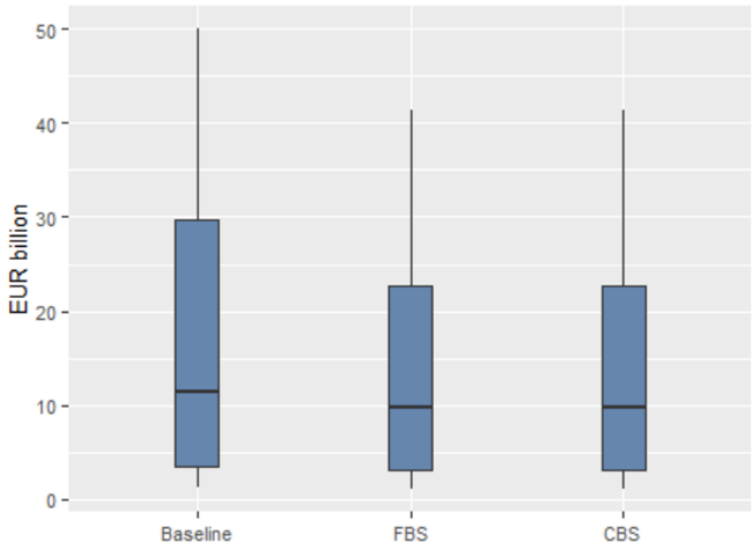


Note: boxplots report 10th, 25th, 50th, 75th and 90th percentile of the distribution.

The sustainability indicator, computed as the liquidity position plus other liquid assets, projects, in absolute terms the potential liquidity needs up to March 2021[25], considering also the net investment flows. It shows whether, in case of net outflows, the undertakings hold a sufficient amount of liquid assets to cover the net outstanding amounts between December 2020 and March 2021 given the prescribed scenarios. 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 FBS and CBS. On aggregate, insurers hold EUR 2.8 tr to cover the net flows in the baseline. This drops by EUR 538.7 bn in the FBS and EUR -525.8 bn in the CBS. In fact, at individual level the distribution of the sustainability indicator (Figure 34) shows that the median sustainability indicator drops from EUR 11.5 bn in the baseline to approximately EUR 9.8 bn in the FBS and CBS with no significant distributional change among the FBS and CBS as a result of the strong position of liquid assets outweighing the negative net cash flows.

[25] The sustainability indicator uses as a reference date the stock position at the end of the 90-day period of the liquidity assessment, i.e. March 2021. The approach is adopted to avoid the double counting of the effect of the sales of assets. In case an asset is sold within the 90 days of the assessment, the impact of the transaction is reflected in an increase of the inflows, and the same assets is removed from the stocks of liquid assets at the end of the period (March 2021) used to compute the sustainability indicator. In case the indicator is computed using the stocks at the beginning of the period (December 2020), the contribution of this asset is accounted both in the increase of the inflows and in the stock of liquid assets generating de-facto a duplication of its contribution to the liquidity position.

Figure 34 – Sustainability indicator (Net cash-flows + cash and equivalent + other liquid assets) as at March 2021, in the Baseline, FBS and CBS



Note: boxplots report 10th, 25th, 50th, 75th and 90th percentile of the distribution.

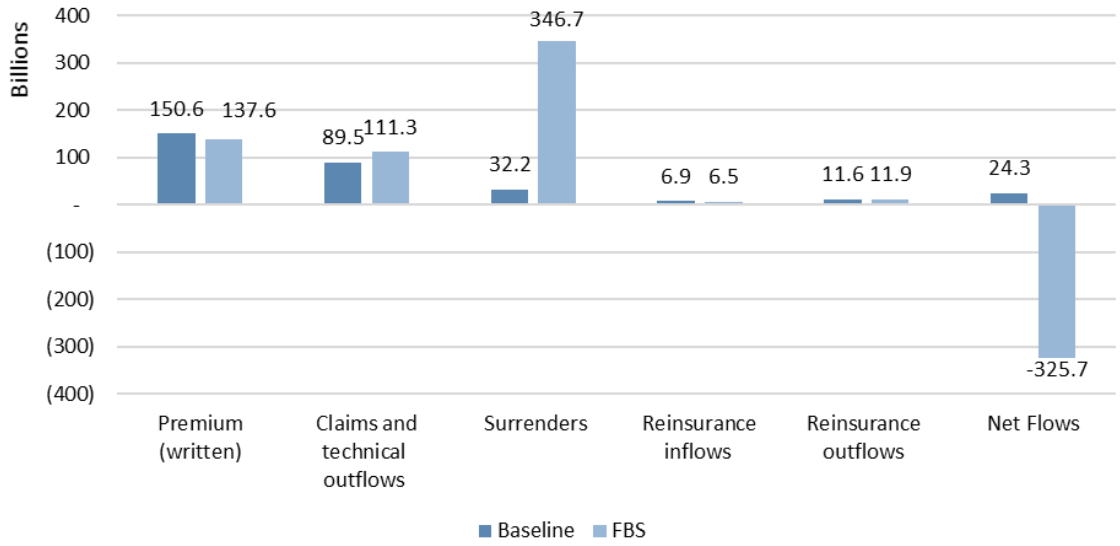
3.2.2 FLOWS

This section elaborates on the two relevant constituents of the flows: the technical flows (3.2.2.1) and the investment flows (3.2.2.2).

3.2.2.1 TECHNICAL FLOWS

Figure 35 shows the change in the technical net flows in the baseline and the FBS against the prescribed shocks. Consistently with what is observed in the analysis on the sustainability indicators, the main driver in the change of the liquidity position of the insurers is the increase in surrenders triggered by the mass-lapse shock. On aggregate, surrenders increase from EUR 32.2 bn in the baseline to EUR 346.7 bn in the FBS. The second driver of the changes is related to the increase in claims (EUR +21.8 bn in the FBS) that comes from the mortality shock followed by the decrease in premiums (EUR -13.0 bn in the FBS).

Figure 35– Technical net cash-flows in the Baseline, FBS and CBS

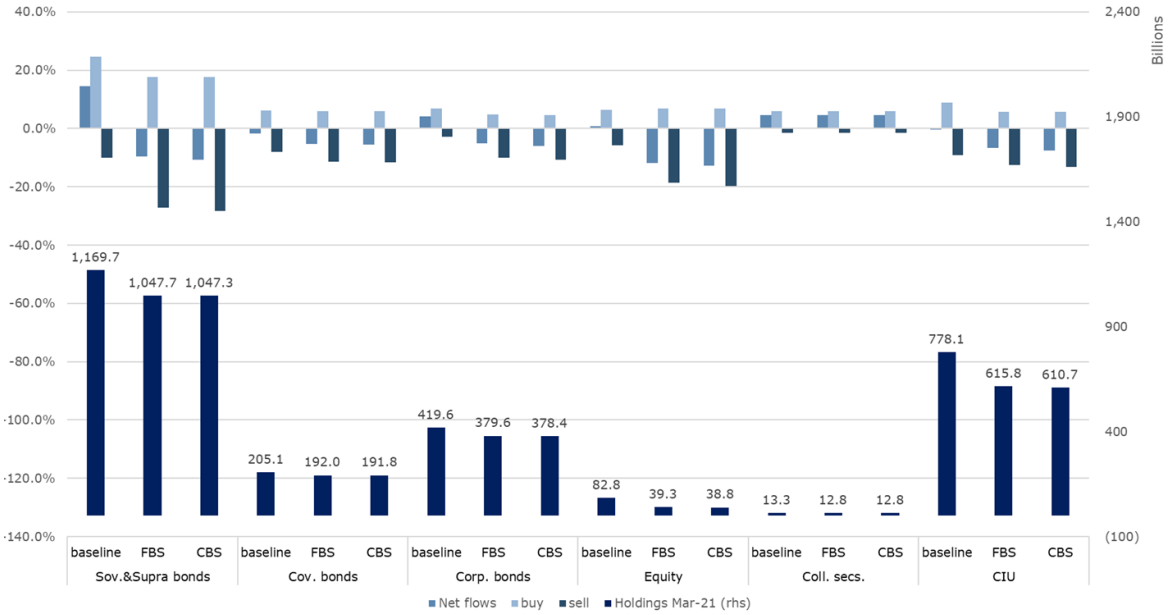


3.2.2.2 INVESTMENTS

Figure 36 shows the structure of the aggregated investment flows for the life and non-life business excluding the UL/IL and the Matching Adjustment portfolio across the main asset classes (in % of the year end asset stocks of the corresponding asset), along with the asset allocation as of March 2020 for the baseline, FBS and CBS. After stress, net selling occurs across all asset categories, with the exception of collaterized securities, which remain stable across all three scenarios. Net selling is (partially) related to increased surrenders and claims outflows discussed in section 3.2.2.1. At an asset class level, insurers in the sample turned from net buying sovereign and supranational bonds (+14.5%) in the baseline to net selling (-9.6%) in the FBS and (-10.6%) in the CBS. Corporate bond net flows decrease from 4.1% in the baseline to –5.2% in the FBS and to -6.0% in the CBS. Equity net flows drop from +0.7% in the baseline to –11.7% in the FBS and -12.8% in the CBS, showing significant changes. At an aggregate level, investment net flows for the life and non-life portfolio (excluding the UL/IL and MA portfolio) changed from 1.2% to -3.6% in the FBS and -3.8% in the CBS.

While changes for the UL/IL porftolio are even more significant, going from 1.8% in the baseline to -7.5% in the FSB and -7.6% in the CBS, the flows generated by these portfolios are not available to cover other parts of the business, and are therefore not analysed in more details. The MA portfolio remains relatively constant in all three scenarios.

Figure 36 – Liquid investment flows (excluding UL/IL and MA portfolios) relative to holdings in the Baseline, FBS and CBS

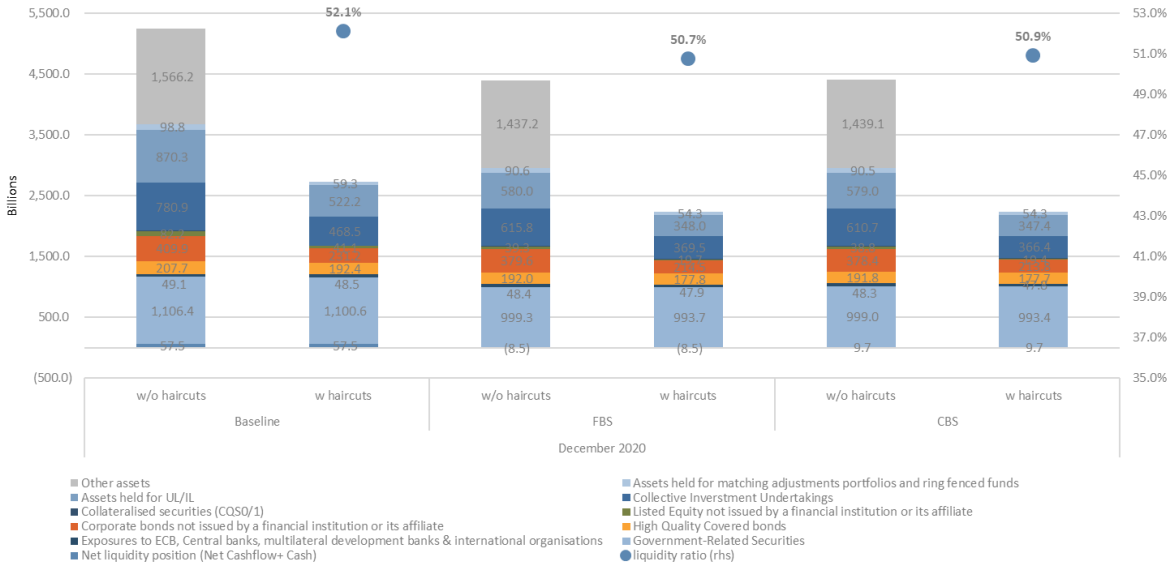


3.2.3 STOCKS - LIQUIDITY OF ASSET AND LIABILITY PORTFOLIOS

The analysis is completed with the assessment of the liquidity position of the stocks, i.e. asset portfolios and liability portfolios based on the concept of haircuts as described in the Technical Specifications. The liquid asset ratio is defined as the ratio of liquid assets (after haircut) to total assets. The indicator remains on aggregate stable in the stress scenario, with a marginal reduction from 52.1% at the December 2020 baseline to 50.7% in the FBS and shifts up to 50.9% in the CBS as of March 2021 (Figure 37). The comparison between the baseline situation in December and the stressed situation in March (FBS and CBS) encompasses both the changes due to the application of the market shocks prescribed by the technical specifications, and the changes due to movements (sales and purchases) in the time horizon of the projection.

Decomposing the liquid asset ratio in its numerator and denominator, the total assets decrease on aggregate by 16.3% between the baseline in December and the stressed situation in March (both FBS and CBS). This further splits into a reduction of 11.2% due to the application of market shocks (i.e. comparing the December baseline with the December stressed) and with a further 5.7% both in the FBS and the CBS due to asset reallocation in the projection period (i.e. comparing March stressed with December stressed). The liquid assets, after application of the haircuts, decrease overall by 18.5%. This further splits into a reduction of 10.9% due to market shocks (i.e. comparing December baseline with December stressed) and a further reduction of 8.6% following the sales and purchases during the projection period (i.e. comparing March stressed with December stressed).

Figure 37 – Total assets, liquid asset with/without haircuts and asset liquidity ratio in the Baseline, FBS and CBS (1)



(1)The asset classes reported in the graph are those of the Table Stocks.1 in the liquidity template, hence subject to specific requirements on CQS in order to be considered fully or partially liquid.

The liquid liability ratios for life, UL/IL and MA business, defined as the ratio of liquid liabilities (after haircuts) to total liabilities, drop by 2.3 percentage points in the FBS, from 35.8% to 33.5%, driven by the UL/IL business with the ratio remaining stable otherwise (Figure 38). The liquid liabilities (numerator) decreases by 14.6% in the FBS, while total liabilities decreased by 8.9%%. The liquidity ratio for non-life decreased by 0.6 percentage point, from 22.0% to 21.4%, in the FBS.

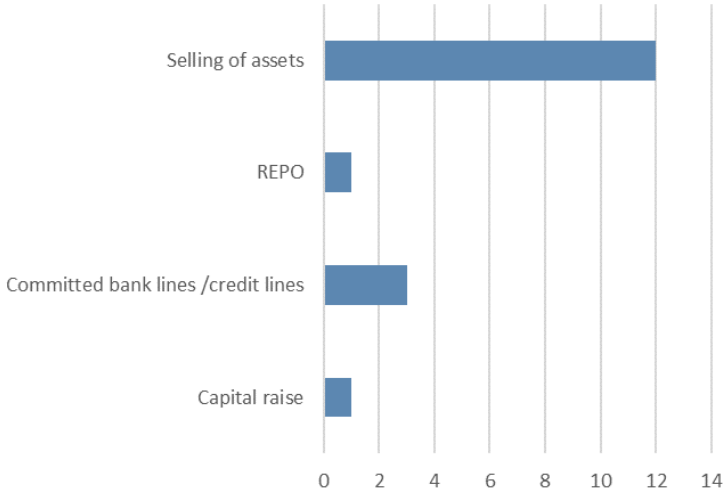
Figure 38 – Total liabilities, liquid liabilities and liquidity ratio (excl. non-life) with/without haircuts in the Baseline and FBS

3.2.4 REACTIVE MANAGEMENT ACTIONS AND POTENTIAL MACROPRUDENTIAL IMPLICATION

In the case of a centralized liquidity management system, any liquidity intragroup transaction was considered as an embedded management action, and thus included in the Fixed Balance Sheet (FBS). In all other cases liquidity related intragroup transaction are included in the Constrained Balance Sheet (CBS). In addition, other reactive management actions are permitted provided that they were appropriate and realistic, and that they could be executed in the time horizon of the exercise (3 months).

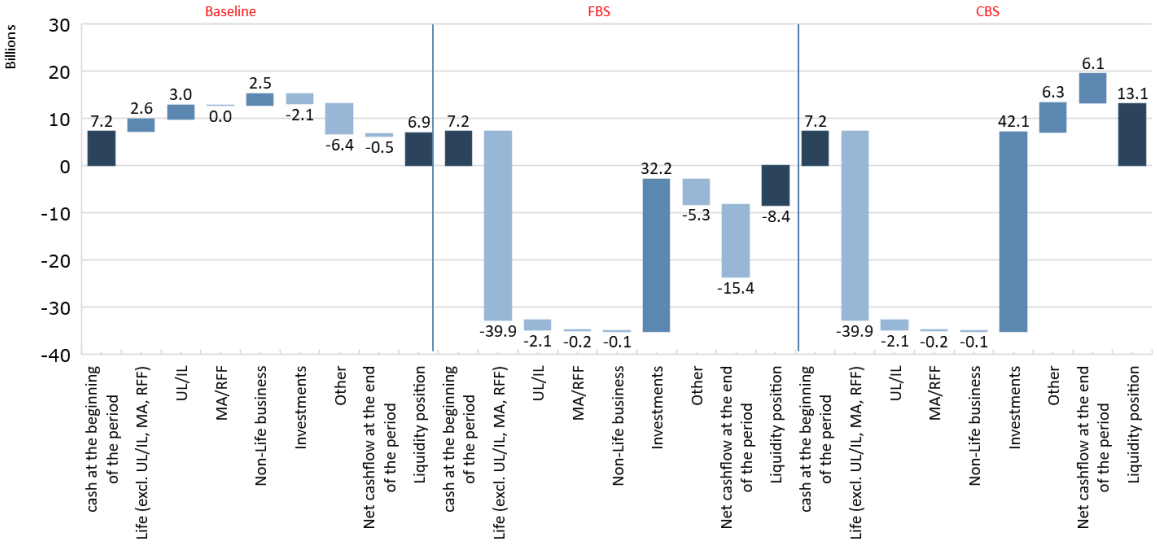
In total, 15 solo undertakings belonging to 6 groups apply reactive management actions and, among them, 2 apply more than one action (Figure 39). The majority of the undertakings (12 in total) sell highly liquid assets to mitigate the impact of the net outflows observed under the adverse scenario, while 3 participants raised liquidity through committed bank lines. Moreover, 1 participant uses repurchase agreements (repos) of bonds as a reactive management action, which is deemed appropriate in the context of the exercise since the repo arrangements were already in place at the reference date and the transaction was conducted within the perimeter of the group. Another participant raises capital through a recapitalization and issuance of subordinate debt.

Figure 39 – Applied reactive management actions



The evolution of the aggregate net liquidity position of the subsample of 15 solo undertakings (Figure 40) shows in the FBS simulation a shortfall of EUR 8.4 bn, driven by the same flows observed for the full sample, (i.e. large technical outflows for the life business not compensated by the investment inflows). The sales of assets applied in the CBS generates a significant increase in the inflows from the investment (EUR 9.9 bn) supported also by the liquidity injection related to the repo agreement showed under the category "other" (EUR 6.1 bn out of EUR 6.3 bn). The total effects of these reactive management actions increases the net liquidity position to EUR 13.1 bn.

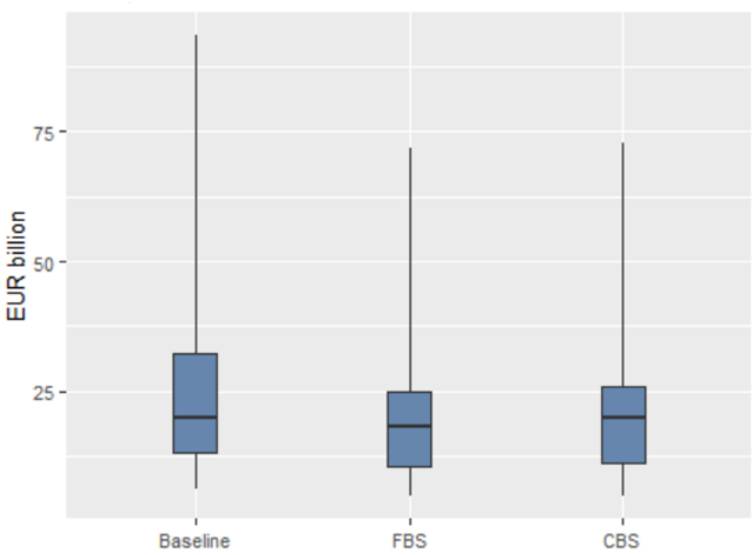
Figure 40 – Evolution of the liquidity position (Reactive Management Actions subsample)



The analysis of the subsample also shows how these 15 solo undertakings contribute to 83.2% of the negative net liquidity position of the full sample of 117 solo undertaking (EUR 8.4 bn out of EUR

10.1 bn) in the FBS. This information allows to confine the potential vulnerability to a small number of players.

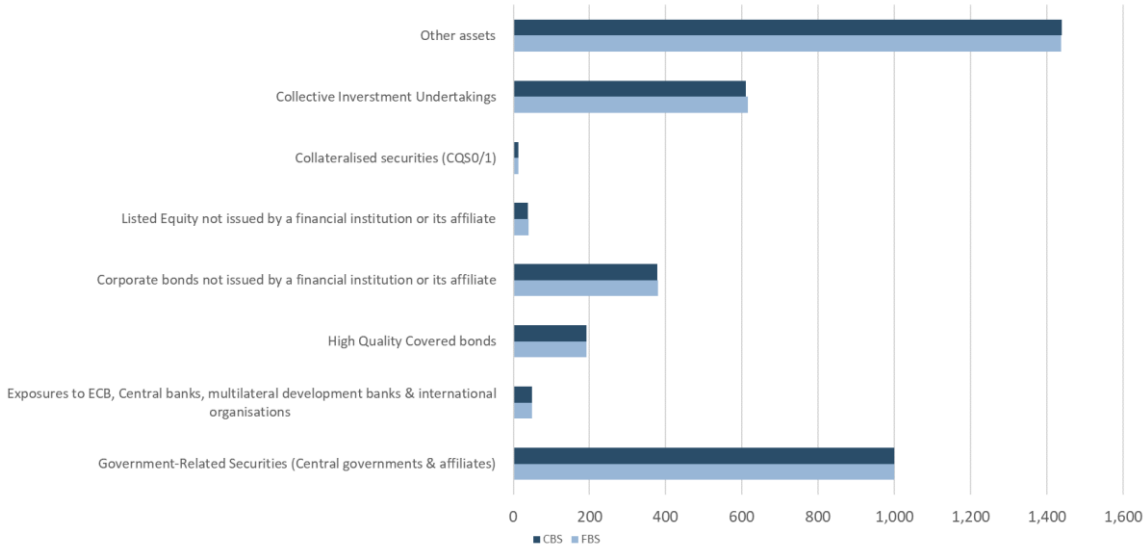
Figure 41 – Sustainability (Net cash-flows + cash and equivalent + other liquid assets as at March 2021, in the Baseline, FBS and CBS) - Reactive Management Actions subsample



Note: boxplots report 10th, 25th, 50th, 75th and 90th percentile of the distribution.

The comparison of the evolution of the post-stress asset allocation under FBS and CBS reported in Figure 42 shows that the reactive management actions applied by the solo undertakings to cope with the liquidity shocks do not produce changes in the asset allocation. This means that undertakings tend to sell assets while maintaining the same investment mix.

Figure 42 – Change in the asset allocation stemming from Reactive Management Actions



Note: Values in EUR billion

Being a first exercise of this type, the liquidity component also collects qualitative information on how solo undertakings are managing the liquidity risk. The results are summarised in Annex 5.2.

4 CONCLUSIONS AND NEXT STEPS

4.1 CONCLUSIONS

This stress test exercise encompasses both the regular capital and solvency assessment conducted in line with the Solvency II framework but also, for the first time, the assessment of the pre- and post-stress liquidity position of the participants over a 90 days' time-horizon. For both components, the participants are allowed to apply reactive management actions for the first time in an EIOPA insurance stress test exercise.

The results of the fixed balance sheet approach provide an assessment on the resilience of the individual participants and, in aggregate, the overall vulnerability of the sector to the depicted adverse scenario reflecting the microprudential dimension of the exercise. In addition, the results of the constrained balance sheet approach provide an indication of the potential spillover effects to other markets as a reaction of the strategies of insurers in the adverse scenario (macroprudential dimension).

In aggregate, the post-stress Solvency Ratio decreases under the fixed balance sheet assumption from 217.9% to 125.7%, with 9 undertakings reporting a value below the regulatory threshold of 100%. However, none of the participants reports an Assets over Liability ratio below 100, showing that the sector has sufficient assets backing the liabilities of policyholders also under the tested adverse scenario. The application of the reactive management actions (19 participants) improves the aggregate solvency ratio by 13.6 percentage points. Among the 9 participants reporting a post-stress Solvency ratio below 100%, 7 applied reactive management actions increasing their Solvency Ratio above 100%.

The LTG and transitional measures are significant shock-absorbers. Without the Long Term Guarantee measures and transitional measures, 31 undertakings would fall under a solvency ratio of 100% in the fixed balance sheet and 27 in the constrained balance sheet. Removing only the transitional measures, 15 and 10 participants fall below 100% in the fixed balance sheet and constrained balance sheet, respectively

Overall, the capital component of the exercise confirms that the main vulnerabilities come from the market shocks and specifically from the decoupling of the risk free rate and of the risk premia, although the European insurance industry proves (with limited exceptions) that through the enforcement of reactive actions it is able to cope with such an adverse development of the markets. In addition, the exercise proves the continuing relevance of the LTG and transitional package under

the Solvency II regime. It also shows that a portion of the market still relies on transitional measures that will be phased out by 2032.

The liquidity component confirmed that the liquidity position is less of a concern than the capital and solvency positions for the European insurance industry, since the large amount of liquid assets held by insurers can be used to cover the extra liquidity outflows generated by adverse circumstances.

Finally, in terms of the macroprudential aspect of the exercise, in the capital component, despite the limited number of groups applying de-risking strategies in their asset allocation (8), a notable shift from corporate bonds and equity to government bonds can be observed. While the amounts in aggregate are limited, the shift corresponds to a relative change of -15.1% in the corporate bonds, -16.8% in equities and +13.9% in sovereign bonds over the corresponding aggregate amounts of the participants applying reactive management actions. Footprint on the fixed income market can potentially materialise in case a larger number of insurance undertakings applies the same behaviour in the reallocation of assets.

4.2 NEXT STEPS

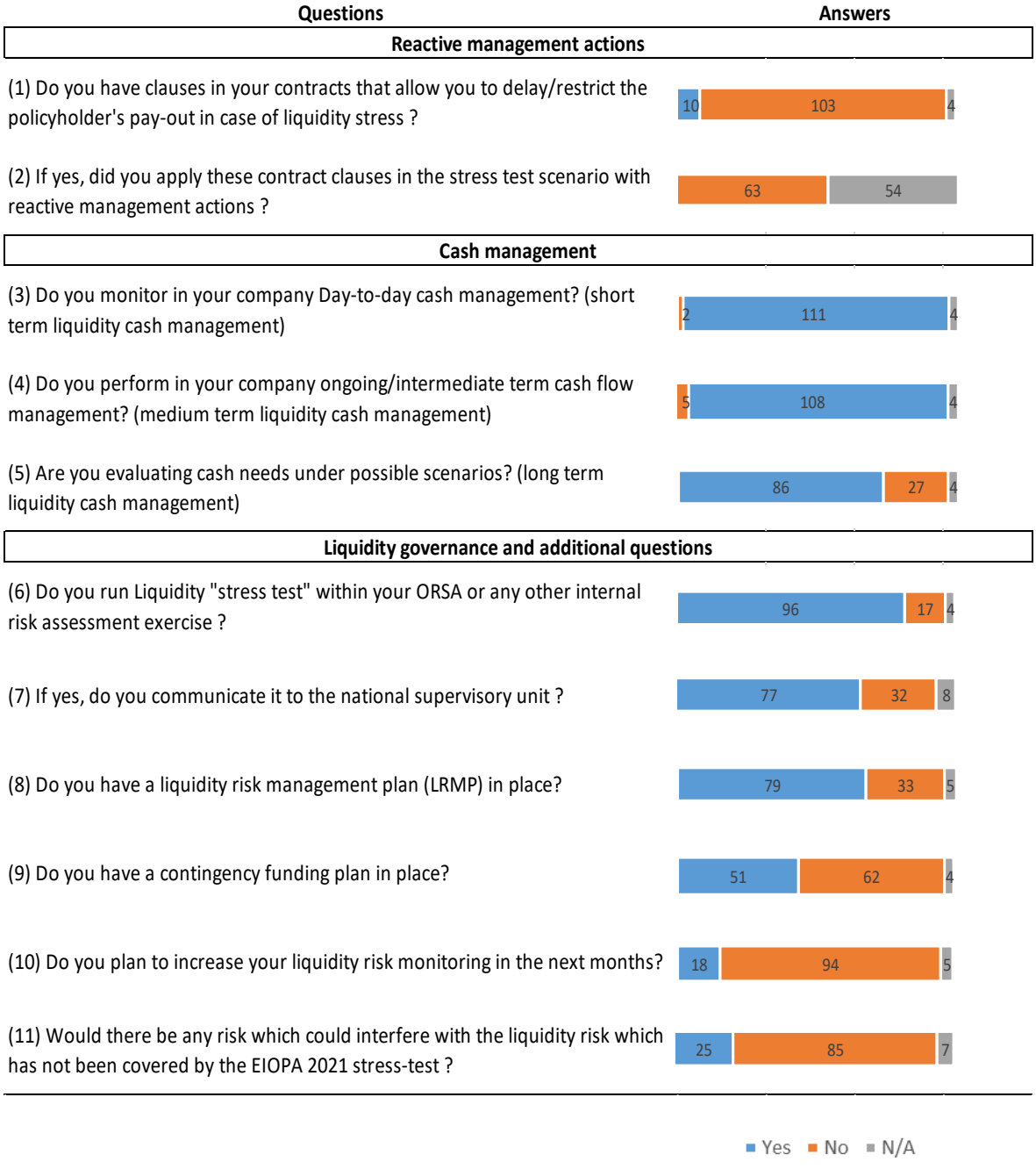
The 2021 Stress Test exercise represents an important step forward in the assessment of the capital and liquidity position under a severe but plausible scenario. It provides, among others, a valuable basis for a follow-up dialogue between the group supervisors and the participating groups on the identified vulnerabilities. EIOPA will further analyse the results obtained in order to get a deeper understanding of the risks and vulnerabilities of the sector. Based on that, EIOPA will assess the need for issuing recommendations on the relevant issues identified during the exercise.

5 ANNEXES

5.1 SCOPE

Participant	Domicile	Participant	Domicile
Vienna Insurance Group	Austria	The Ethniki Hellenic	Greece
Ageas	Belgium	Sjova-Almennar	Iceland
KBC Insurance Group	Belgium	Assicurazioni Generali	Italy
Croatia Osiguranje	Croatia	UNIPOL Group	Italy
PFA Pension	Denmark	Poste Vita Group	Italy
Forsikringsselskabet Danica	Denmark	Intesa Sanpaolo Vita	Italy
Sampo plc	Finland	MetLife EU Holding	Ireland
OP Osuuskunta	Finland	Lombard International	Luxembourg
AXA	France	QIC Europe Limited	Malta
CNP Assurances	France	Aegon	Netherlands
BNP Paribas Cardif	France	NN Group	Netherlands
Crédit Agricole Assurances	France	Achmea	Netherlands
COVEA	France	Kommunal Landspensjonskasse	Norway
GROUPAMA	France	Gjensidige Forsikring	Norway
Groupe des Assurances du Credit Mutuel	France	Storebrand	Norway
Natixis Assurances	France	Powszechny Zaklad Ubezpieczen	Poland
Sogecap	France	LongRun	Portugal
Münchener Rückversicherungs	Germany	Skupina Triglav	Slovenia
Allianz SE	Germany	MAPFRE	Spain
Alte Leipziger - Hallesche	Germany	VIDACAIXA S.A.U. de Seguros y Reaseguros	Spain
HDI Haftpflichtverband der Deutschen Industrie	Germany	Nordea Life Holding	Sweden
R+V Versicherung	Germany	Skandia Försäkringsgrupp	Sweden

5.2 QUALITATIVE QUESTIONNAIRE ON THE LIQUIDITY COMPONENT



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