



National Bank of Belgium

Insurance Stress Test 2024 EIOPA Scenario

Technical Specifications v1.0

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Abbreviations

0	Baseline scenario
BOS	Board of Supervisors
BE	Best Estimate
BS	Balance Sheet
CBS	Constrained Balance Sheet
D&A	Deduction and Aggregation
EA	Euro Area
ECB	European Central Bank
ESRB	European Systemic Risk Board
EU	European Union
FBS	Fixed Balance Sheet
LACDT	Loss Absorbing Capacity of Deferred Taxes
LACTP	Loss Absorbing Capacity of Technical Provisions
LLP	Last Liquid Point
LTG	Long-Term Guarantee
MA	Matching Adjustment
NCAs	National Competent Authorities
OF	Own Funds
ORSA	Own Risk and Solvency Assessment
QRT	Quantitative Reporting Templates
REIT	Real Estate Investment Trust
RFR	Risk Free Rate
RMBS	Residential Mortgage-Backed Security
SCR	Solvency Capital Requirement
SF	Standard Formula
ST	Stress Test
TP	Technical Provisions
TS	Technical Specifications
UFR	Ultimate Forward Rate
USP	Undertaking Specific Parameters
VA	Volatility Adjustment

1 Background

1. The NBB Insurance Stress Test 2024 – EIOPA scenario is based on the EIOPA Stress Test 2024. It assesses the resilience of individual companies and the insurance sector as a whole to a macroeconomic stress scenario. By simulating an economy under stress, the scenario identifies potential vulnerabilities in the sector and strategies can be developed to strengthen the resilience of individual companies in the event of an economic crisis.
2. The technical specifications are those used by EIOPA for its own 2024 Insurance stress test, adapted to the characteristics of the NBB Insurance Stress Test 2024 (Application of the stress test at solo level, reduced templates)

1.1 Legal framework

3. The National Bank of Belgium has clarified in its communication NBB_2017_06 the framework used for stress tests addressed to Belgian insurance undertakings, pursuant to Articles 322 and 467 of the Law of 13 March 2016 on the status and supervision of insurance or reinsurance undertakings. This framework enables the Bank to carry out microprudential and macroprudential stress tests in a flexible manner. The NBB Insurance Stress Test 2024 falls within this framework.

1.2 Market conditions

4. The prevailing economic conditions are characterised by a regime shift, from almost a decade of low interest rates to higher rates but also by heightened geopolitical tensions.
5. The transition to higher interest rates was triggered by unprecedented high inflation due to various reasons, such as supply chain bottlenecks related to Covid-19 measures and the unjustified invasion of Ukraine that resulted in a record increase of energy prices. The pass through of high energy costs in combination with robust demand keep the underlying inflationary pressures.
6. Central banks reacted by increasing interest rates. This increased markedly the short-term interest rates, with this part of the interest rate curve being substantially shifted upwards. The restrictive monetary policy resulted in downward sloping interest rate curve i.e., with long-term rates being lower than the short-term. Among others, this reflected expectations for inflation reverting to the target level of 2%.
7. On this backdrop, financial markets faced a strong correction across asset classes during 2022, but in some cases, e.g., equity markets, rebounded substantially since then. Regarding sovereign bond spreads, the ECB announced some measures to tackle fragmentation risk during the summer of 2022. Although this was enough to stabilise the peak in sovereign spreads in the first months of the tighter monetary policy, it indicates the fragility of the economic environment when rates increase sharply, and liquidity is withdrawn.
8. The same conclusion about fragility can be drawn looking at the unwinding of events during the UK gilt market episode. Interestingly, the adverse development was propagated due to leveraged positions of liability driven investment. Weak links in the financial system can have sizable repercussions for other parts of the financial system, even if it does not fully develop to a

systemic event. The regional bank crisis in US and the impact it had for Credit Suisse is an indicative example.

9. There are two channels (among others) of how insurers are affected directly by this economic environment: a) through claims and expense inflation and b) through the financial market volatility.
10. Higher prices can directly impact insurers, for example through costlier claims and expenses. In fact, the specific claims inflation per line of business encompasses idiosyncratic characteristics and can deviate from the consumer price index development. The same applies for the expenses, part of which comes through wage expense. At any case, the risk of higher claims inflation and expenses is far from over for insurers and its assessment is crucial to better understand sector's vulnerabilities.
11. Insurers can also be impacted by mass lapses due to policyholders' financial strain and reallocation of their investments in higher yielding savings products which result in heightening liquidity risk for insurance underwriters.
12. Financial market volatility is a material dimension for insurers. The main market movements during the most recent years were a) higher interest rates, b) relatively contained spreads and c) substantial correction (and then recovery) in equity markets with also significant negative effects for real estate prices.
13. High solvency ratios supported the insurance sector. However, additional increase of yields and inflation can prove detrimental. This increase in yields might be driven more by higher spreads, given their relatively contained levels observed so far vis-à-vis the extent of increase in interest rates.

2 Overview

14. This section explains the structure, the different components of the exercise and their interrelations, allowing a better understanding of the choices made in the design of each of the individual components.
15. Scope, methodology, scenario and disclosure are treated in detail in sections 3, 4, 5, and 6 respectively.
16. Deviations from what is prescribed in sections 2, 3, 4, 5, and 6 shall be raised, discussed and agreed upon during the pre-validation period (please refer to Section 7 - Timeline).

2.1 Objective

17. The EIOPA and NBB stress test exercises were never characterised by a pass-fail nature, i.e. any potential weakness emerged in the post-stress position of the participants never automatically triggered actions to strengthen the financial position of the insurers. The information collected and produced under the stress test process were utilised in an aggregated way to issue recommendations to the insurance industry and in an individual way to enrich the analysis on individual undertakings.
18. The objective(s) of the 2024 ST is primarily to assess the resilience of the participants to the adverse scenario(s), by providing information on ability of these insurers to withstand severe shocks.

19. This microprudential-oriented approach allows recommendations to be made to the sector for companies to take remedial action, if necessary, to improve their resilience.
20. The aggregation of the results of the individual entities will be used to assess potential sector-wide vulnerabilities.
21. The 2024 ST complements the assessment of the post-stress capital positions with the assessment of the pre- and post-stress liquidity positions of the participants over a 90 days' time horizon.
22. The 2024 ST encompasses a macroprudential dimension adding to the standard fixed balance sheet (FBS) approach a constrained balance sheet (CBS) approach where participants are allowed to apply reactive management actions in the calculation of their post-stress position.
23. The latter approach allows the assessment of the resilience of the insurance sector by a different perspective. Through the aggregation of the impacts of the reactive management actions it explores potential spillover to other markets generated or amplified by the insurance sector against the prescribed scenario.

2.2 Structure

24. The structure of the 2024 ST aims at assessing the position of the participants by two perspectives as described below, in line with the 2021 exercise and the respective methodological papers:
 - capital (Own Funds - OF, Solvency Capital Requirement - SCR) where the Solvency II framework should be used as a guidance for recalculating the post-stress capital positions as common ground for the assessment in order to ensure the comparability of the baseline positions;¹ and
 - liquidity is based on the hybrid stocks / flows assessment of the liquidity sources and liquidity needs,² also based on the experience gained in the context of the EIOPA liquidity monitoring exercises.
25. The two components are based as much as possible to a common narrative, a common scenario, a common set of shocks. Due to the different nature of the two components, the application of the shocks, data collection, assessment and disclosure differ. Figure 1 presents the structure of the two components.

Figure 1- Structure of the exercise

¹ EIOPA (2019) Methodological principles for stress testing. Available at: [methodological-principles-insurance-stress-testing.pdf \(europa.eu\)](https://www.eiopa.europa.eu/sites/default/files/2019-09/methodological-principles-insurance-stress-testing.pdf).

² EIOPA (2021) Methodological principles for stress testing - Liquidity component. Available at: [Methodological principles - liquidity \(europa.eu\)](https://www.eiopa.europa.eu/sites/default/files/2021-09/methodological-principles-liquidity.pdf).

Capital Component	Liquidity Component
<ul style="list-style-type: none"> • Combined scenarios with Market and Insurance specific shocks • Approach: <ul style="list-style-type: none"> • Instantaneous shocks • Fixed balance sheet (no reactive Management Actions) • Constrained balance sheet (with guided reactive Management Actions) • Metrics: <ul style="list-style-type: none"> • Balance sheet based (Excess of Assets over Liabilities) • Solvency based (OF, SCR) 	<ul style="list-style-type: none"> • Approach: <ul style="list-style-type: none"> • Instantaneous shocks • Fixed balance sheet (no reactive Management Actions) • Constrained balance sheet (with guided reactive Management Actions) • Stylised flow based evaluation • Stock based evaluation • Time Horizon: <ul style="list-style-type: none"> • 90 days • Metrics: <ul style="list-style-type: none"> • Liquidity sources / Liquidity needs

26. The post-stress capital and liquidity positions should be calculated under two different assumptions:

- a) Fixed balance sheet;
- b) Constrained balance sheet.

27. For option a) the post stress positions should be calculated considering only the embedded management actions³, whereas in option b) the fixed balance sheet assumption is, within specific boundaries, relaxed allowing for the application of plausible and realistic reactive management actions. Details on the application of the management actions can be found in section 4.4.

2.3 Narrative

28. The adverse scenario is based on the uncertainty deriving from the economic consequences of a re-intensification or prolongation of geopolitical tensions. Such an environment would fuel supply chain disruptions and lead to lower growth and higher inflation. Second-round effects stemming from a wage-price spiral would further exacerbate inflationary pressures, ultimately leading to a re-appraisal of market expectations of interest rates across tenors and currencies. Concerns about the persistent effects of severe adverse shocks are reflected in a larger increase of expected market rates at the short end of the yield curve than at the long end. This contributes to a further inversion of the yield curve. Despite expectations of decreasing inflationary pressures over time, growth will continue to be adversely affected..

29. The resulting tightening of financing conditions, combined with higher wages and sluggish economic growth, would weigh on corporates' profitability. Corporate revenues expectations would reflect these degraded prospects, driving credit risk premia upwards and resulting in a widening of credit spreads.

30. The high level of government bond yields, also driven by sustained high risk-free rates, would impose tight financing conditions for public spending. The pandemic-induced elevated level of government debt and the need for mitigating measures to support the real economy in a downturn would fuel concerns about sovereign debt sustainability, leading to a further heterogenous increase in government bond rates.

31. Households would also experience losses in real income and face higher borrowing costs amid higher unemployment. This would make it challenging for homeowners to service their mortgages, resulting in an increase in mortgage defaults. The ensuing fall in residential real estate prices is

³ 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).

exacerbated by a slowdown in residential property market activity. At the same time, the large increase in interest rates would fuel a disorderly repricing in the commercial real estate market, in the context of structural changes to demand for office space that had been initiated by the COVID-19 pandemic.

32. The higher cost of debt-servicing, coupled with the sharp fall in property prices, would trigger a sudden repricing of covered bonds and other asset-backed securities, driving spreads upwards.
33. Such market reactions would also trigger a sudden revaluation of other financial assets in an uncertain environment characterised by high volatility. In particular, equity valuations would drop substantially worldwide, while hedge funds, real estate investment trusts and private equity funds would incur in losses. The latter would be largely affected by an amplification of liquidity stress. Finally, commodity prices would surge in line with the supply-chain driven inflation prospect.

2.4 Data collection

34. Results will be collected through ad-hoc templates containing information to be used for analysis and validation. The templates rely to the maximum extent to the regular QRT reporting.
35. For the assessment of the capital position, as a general principle, the templates are to be kept aligned to the regular Solvency II reporting where possible.

2.5 Disclosure

36. The NBB will not disclose individual results of the NBB stress test exercise. All public communication will be based on anonymised and/or aggregated data. The format and content of the communication will depend on the results of the stress test and the type of messages that the NBB will convey to the participants and other stakeholders.
37. The undertakings participating at the stress test cannot disclose, discuss, or comment on any of their individual results.

3 Scope

38. Consistent with the objectives and the requirements that the 2024 insurance stress test implies, this exercise targets Belgian solo insurers. The selection of the participating entities was based on:
 - size;
 - risk profile;
 - relevance of the scenario for the business model of the insurer.
39. The companies that are required to take part in this stress test were invited by official invitation letter.

4 Methodology

40. EIOPA and NBB Stress Test exercises rely on the Solvency II framework as common ground for the assessment of the resilience of the insurance industry against adverse developments. Solvency II offers common and shared principles for the evaluation and reporting of balance sheets and solvency positions (SCR and OF), which ensure the comparability of the baseline

positions and serve as guidance for recalculating the post-stress capital positions.

41. The reference date is 31 December 2023. The base case is the pre-stress financial situation of the participant at the reference date and should be fully aligned with the 2020 annual Solvency II reporting. The pre- and post-stress valuations have to be done at the specified reference date according to Solvency II framework and the current technical specifications.
42. EIOPA stress test exercises are based on a full balance sheet approach. Participants are expected to reevaluate their entire balance sheet items against the provided shocks, as well as each element of the solvency position.
43. Market shocks and insurance specific shocks are assumed to be applied as one-off shocks to the balance sheet at a reference date. To properly reflect the narrative and to ensure its homogeneous application, participants are requested to apply the shocks following a specific sequence when calculating their post-stress balance sheet and solvency position:
 - Step 1. Application of market shocks;
 - Step 2. Application of insurance specific shocks (shocks to: lapse, mortality, and cost of claims).
44. All the insurance specific shocks are designed to be applied simultaneously (no specific order is needed). Participants are requested to modify their best estimate assumptions against the prescribed shocks.
45. The shocks and their specifications might differ in the capital and liquidity assessment. Details are provided for each shock in section 5. Given the structure of the liquidity component and the specifications and the simplifications therein, the sequence of application of the shocks is not relevant.

4.1 Capital Component

46. Shocks prescribed in the stressed scenarios shall be applied to the entire in force business at the reference date with the highest possible accuracy in term of recalculation of the post stress position and in term of granularity:
 - The post-stress figures shall be generated coherently with the model(s) applied by the participating entities for Solvency II valuation purposes. The use of (partial) internal models and undertaking specific parameters (USPs) should have been approved by the NBB at reference date.⁴
 - The look-through approach should be applied when calculating the impact of the scenarios (e.g. for Collective Investment Undertakings).⁵
47. Participating entities shall apply the prescribed stresses to the solo entities aggregated via Deduction & Aggregation (D&A) according to the methodology used for the standard reporting with subsequent identification of the marginal impact on the OF and on the SCR.

⁴ In case of model changes occurred between the calculation of the baseline and the stressed scenarios, participating entities are requested to liaise with the NBB. Furthermore, only models used for the regular QRT submission are allowed.

⁵ Any residual 'collective investments undertakings' (i.e. for those for which look-through was not feasible) should be shocked according to the asset shocks most closely resembling the collective investment undertakings. The application of the shocks depends on specific assets included in the balance sheet items.

48. Potential simplifications in the approach to the calculation of the post stress position and on the perimeter of application of the shocks (e.g., portfolios, entities) can be applied upon discussion with the NBB and in line with what prescribed in section 4.3.
49. In principle, no recalculation of the baseline is expected. The recalculation of the baseline position will be requested only in exceptional circumstances. This would apply where there has been a change in the undertaking's structure and/or valuation model that would materially affect the regulatory financial position and the outcome of the stress test exercise (e.g. a change in the perimeter of the entity through restructuring or mergers and acquisitions, a change in the risk model used for the calculation of the SCR — standard formula, undertaking-specific parameters or (partial)internal models — and major model changes). Any potential recalculation of the baseline will be assessed and discussed on a case-by-case basis in the pre-validation phase.
50. As mentioned, the Solvency II framework is taken as common ground for the exercise, hence, as LTG measures represent an integral element of the Solvency II framework, they will be included in the analysis of the 2024 ST. Participating entities are requested to apply any LTG and Transitional measures they used at reference date. The application of a transitional/LTG measure can only be used if an authorisation has been granted at the reference date.
51. The impact of the LTG and Transitional measures on the post-stress technical provisions, basic OF, eligible OF and SCR has to be calculated.
52. Calibration of the LTG measures should be assumed to be unchanged with respect to the baseline if not specified differently. However, if the shocks prescribed under the stress scenario trigger a material change in the LTG measures, their values are recalibrated in accordance with EIOPA's methodology. In detail:
- the impact, in absolute terms, of the transitional measure on the Technical Provisions should be calculated in the pre-stress scenario and then kept constant in the post-stress scenario;
 - the transitional measure on the risk-free interest rates should be re-evaluated under the stressed scenarios and applied consistently with the baseline case;
 - transitional measures on equity shall be applied consistently with the baseline scenario;
 - matching adjustments should be re-evaluated under stressed scenarios and applied consistently with the baseline case;
 - recalculated VA are provided by EIOPA under the stress scenario;
 - a symmetric adjustment mechanism for the equity risk charge under the stressed scenario is provided by EIOPA.
53. The consistency with the Solvency II framework will be granted also in the calibration of the Ultimate Forward Rate which will be the value to be used in 2024 for the calculation of the regular Solvency II position (3.30% for Euro, other currencies are treated accordingly). This approach is in line with the microprudential objective of the 2024 ST exercise and its strive to an increased

54. transparency (e.g. individual public disclosure of the results). Please note that no recalculation of the baseline is triggered by the change of the UFR between the baseline and the post stress situation.

4.2 Liquidity component

55. The methodology applied for the 2024 ST regarding the liquidity component is based on the second methodological paper¹⁶, the experience gained during the 2021 ST exercise and the ongoing EIOPA Liquidity monitoring exercise.

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

57. Liquid assets will be estimated both in the baseline and in the post-stress position via liquidity haircuts automatically applied to the different asset classes as reported in Figure 2. Therefore, the amounts of the assets should be reported in each scenario without application of haircuts.

Figure 2 - Classification of assets

		Weights
Assets (excluding assets held for UL/IL, MA portfolios and Ring Fenced Funds)		
S.1	Cash & Bank Deposits & Bank Commercial Paper/Certificates of Deposits	1.00
S.1.1	of which stemming from repo agreements	
S.2	Government-Related Securities (Central governments & affiliates)	
S.2.1	issued/guaranteed by EU member states (all CQSs) and issued by highly rated non-EU countries (CQS0/1)	0.95
S.2.1	Issued or guaranteed by highly rated non-EU countries (CQS2/3)	0.75
S.3	Exposures to ECB, Central banks, multilateral development banks & international organisations	
S.3.1	issued or guaranteed by ECB, EU central banks, supranational institutions (BIS, IMF, EC,..) or Multilateral Development Banks	0.95
S.3.2	issued or guaranteed by central banks of non-EU countries (CQS0/1)	0.85
S.4	High Quality Covered bonds	
S.4.1	Extremely high quality covered bonds - CQS0/1	0.65
S.4.2	High quality covered bonds - CQS2	0.60
S.5	Corporate bonds not issued by a financial institution or its affiliate	
S.5.1	Corporate debt securities (CQS0/1)	0.65
S.5.2	Corporate debt securities (CQS2/3)	0.60
S.6	Corporate bonds issued by a financial institution or its affiliate	
S.6.1	Corporate debt securities (CQS0/1)	0.55
S.6.2	Corporate debt securities (CQS2/3)	0.50
S.7	Listed Equity not issued by a financial institution or its affiliate	0.40
S.8	Listed Equity issued by a financial institution or its affiliate	0.30
S.9	Collateralised securities (CQS0/1)	0.55
S.10	Collective Investment Undertakings	
S.10.1	Liquid Collective Investment Undertakings	0.45
S.10.2	Illiquid Collective Investment Undertakings	0.20
S.11	Total Assets (excluding assets held for UL/IL, MA portfolios and Ring fenced Funds)	
S.12	Assets held for UL/IL	0.45
S.12.1	Cash for UL/IL	1.00
S.13	Assets held for matching adjustments portfolios and ring fenced funds	

58. Liquidity haircuts will be kept constant under baseline and stressed scenario and will be applied on the baseline and post stress reported exposure. The liquidity position is shocked in the adverse scenario through the reduction in the values of the assets against the prescribed market shocks. Haircuts for each bucket are calibrated according to the most recent standards defined at international level (e.g. IAIS17). Additionally, only unencumbered assets should be considered.

59. Net-flows should be computed over a time horizon of 90 days starting from the reference date 31 December 2023. Under this hypothesis the baseline net-flow position should be based on the actual in- and out-flows registered in the first quarter of 2024. The stressed net-flow should be estimated via the reassessment of cash in- and out-flows against the prescribed market and insurance specific shocks according to the provisions in section 5.

60. It is worth to be noted that the flow analysis is not based on detailed cash flows, but on the relevant flows registered over the 90 days time horizon (ref. to Figure 4 for an example limited to life business under baseline and adverse scenario).

Figure 3 - Exemplificative flow analysis for life business

Life (excluding UL/IL, MA portfolios and RFF) business		In 90 days Volume
C.1.1	Premium (written)*	
C.1.2	Claims and other technical outflows (excluding surrender)*	
C.1.3	Surrender	
C.1.4	Reinsurance inflows	
C.1.5	Reinsurance outflows	
C.1	Net Cash Flows	

61. In principle the assessment of the liquidity flows could be based on the present value of the cash in- and out-flows over the prescribed time horizon discounted at the risk-free rate curve. Given the short time horizon (90 days), a simple sum of the cash in- and out-flows is requested.

62. Participants are also requested to report the amount of securities traded in the 90-day time horizon under baseline and adverse scenarios under fixed and constrained balance sheet approach according to the granularity provided in Figure 4.

Figure 4 - Purchase and sales of assets

	Baseline (Actual flows for 90 days)		Stressed		Stressed with reactive management actions	
	Purchase of assets	Sales of assets	Purchase of assets	Sales of assets	Purchase of assets	Sales of assets
C.9. Government-Related Securities (Central governments & affiliates)	-	-	-	-	-	-
C.9.1. Issued/guaranteed by EU member states (all CQSs) and issued by highly rated non-EU countries (CQ50/1)						
C.9.2. Issued or guaranteed by highly rated non-EU countries (CQ52/3)						
C.9.3. Other Government-Related securities						
C.10. Exposures to ECB, Central banks, multilateral development banks & international organisations	-	-	-	-	-	-
C.10.1. Issued or guaranteed by ECB, EU central banks, supranational institutions (BIS, IMF, EC...) or Multilateral Development Banks						
C.10.2. Issued or guaranteed by central banks of non-EU countries (CQ50/1)						
C.11. High Quality Covered bonds	-	-	-	-	-	-
C.11.1. Extremely high quality covered bonds - CQ30/1						
C.11.2. High quality covered bonds - CQ52						
C.12. Other Covered bonds - CQ53/4/5	-	-	-	-	-	-
C.13. Corporate bonds not issued by a financial institution or its affiliate	-	-	-	-	-	-
C.13.1. Corporate debt securities (CQ50/1)						
C.13.2. Corporate debt securities (CQ52/3)						
C.13.3. Other Corporate debt securities (CQ54/5)						
C.14. Corporate bonds issued by a financial institution or its affiliate	-	-	-	-	-	-
C.14.1. Corporate debt securities (CQ50/1)						
C.14.2. Corporate debt securities (CQ52/3)						
C.14.3. Other Corporate debt securities (CQ54/5)						
C.15. Equity	-	-	-	-	-	-
C.15.1. Listed Equity not issued by a financial institution or its affiliate						
C.15.2. Listed Equity issued by a financial institution or its affiliate						
C.15.3. Unlisted Equity						
C.16. Collateralised securities (CQ50/1)	-	-	-	-	-	-
C.16.1. Collateralised securities (CQ52/3/4/5)						
C.18. Collective Investment Undertakings	-	-	-	-	-	-
C.18.1. Liquid Collective Investment Undertakings						
C.18.2. Illiquid Collective Investment Undertakings						
C.19. Other investments	-	-	-	-	-	-
C.20. Collateralized assets	-	-	-	-	-	-
C.21. Total Cash Flows	-	-	-	-	-	-

63. The calculation of the post-stress liquidity position should be performed under fixed balance sheet and constraint balance sheet assumptions, namely:

- in the first case no reactive management actions are allowed and the sales/purchases of assets should include only "business as usual" transactions, e.g. (i) transactions in line with the in-force investment plan (if any); (ii) transactions in line with the investment mandate for UL/IL business (if any). For example, in the case of purchases and sales of assets that have already been executed and reported in the "Baseline", the value to be reported should correspond to the value reported in the baseline shocked according to the related market shocks used in the capital component (refer to the Technical Information file in the worksheet "Market_Shocks"). In case of purchases/sales of assets that differ in terms of quantity / type from the assets of the actual flows executed in "Baseline" (and are done within the context of "business as usual"), the amount should reflect the price as of 2023 year end shocked according to the related market shocks used in the capital component (refer to the Technical Information file as above). If an asset is issued after 2023 year end, the 2023 year end price of a comparable asset shall be used.⁶
- in the second case the constraints will be relaxed, and the impact of the reactive management actions can be included. Any applied reactive management action should be consistent with the stressed scenario and documented.⁷

64. When re-estimating the price of the fixed income assets, participants are allowed to apply simplified approaches such as duration based approach or scaling approach. The approach taken should be discussed during the pre-validation phase and disclosed in section "simplification" of the qualitative information included in the liquidity template.

65. When computing the post stress liquidity position, companies shall not consider potential mitigation effects stemming from local micro- or macro-prudential regulatory regime e.g., temporary suspension of the redemption rights.

⁶ Example on equity:

Baseline: purchase of 100 EUR of stock X and sale of 150 of stock Y (both within the 90 days). The equity shock of 45% should be applied to the value of the stocks X and Y in line with the technical information but let's assume -40% for the shake of the example.

Case 1: The value of the stock X becomes $100 \times (1 - 40\%) = 60$ EUR and of the stock Y $150 \times (1 - 40\%) = 90$ EUR.

Case 2:

- If additional shares of stock X need to be purchased/sold:

In order to determine the purchase/selling price, the price of stock X as of the 2023 year end should be used, say 95 EUR. Then, the value shall be shocked based on the provided shock to equity (e.g. -40% for the shake of the example), resulting in $(1 - 40\%) \times 95 = 57$ EUR. This resulting value shall be used as purchase/selling price.

- If a different stock Z needs to be purchased:

Starting from the price of stock Z as of 2023 year end, say 80 EUR, then, the provided shock to equity (e.g. -40%) shall be applied resulting in $(1 - 40\%) \times 80 = 48$ EUR. This resulting value shall be used as purchase/selling price.

⁷ In principle, in the stress scenario without reactive management actions, participants are supposed to sell and purchase asset according to their day-to-day investment strategy. Therefore, they are not necessarily supposed to sell/purchase the same assets as in the baseline scenario if they do not deviate from the investment strategy that they use in their day-to-day business. The distinction between embedded and reactive management actions should be defined case by case and specifically discussed with the NBB. In principle, in the context of the liquidity exercise embedded management actions refer to automatic/predefined processes of investment/disinvestment operations. The effect of these actions should be reported in the liquidity template under the columns labelled as "Stressed". Any other action (e.g., actions aimed at changing the investment strategy or, actions aimed at postponing/delaying payments against the market conditions prescribed in the scenario, or actions aimed at raising cash using cash pooling agreements for entities belonging to groups that do not manage their liquidity centrally or using other liquidity sources like loans, credit lines, etc.) should be considered as reactive management actions and should be included in the liquidity template under the columns labelled as "Stressed with reactive management actions".

66. The assessment of the liquidity of the liabilities for life business is based on the classification of the best estimates according to a criterion based on the economic penalties (contractual and fiscal) to lapse as displayed in Figure . Specific reporting is requested for ring-fenced funds and matching portfolios.

Figure 5 - Classification of the life best estimate liabilities⁸

Liabilities		Weights
Life (excluding UL/IL, MA portfolios and RFF portfolios)		
S.11.1	Without surrender option	0.00
S.11.2	Surrender value equal to or bigger than the 100% of best estimates/statutory reserves	0.50
S.11.3	Surrender value between 100% (exclusively) and 80% of the best estimates/statutory reserves	0.25
S.11.4	Surrender value lower than 80% of the best estimates/statutory reserves	0.05
S.11	Total	
UL/IL		
S.12.1	Without surrender option	0.00
S.12.2	Surrender value equal to or bigger than the 100% of best estimates/statutory reserves	0.75
S.12.3	Surrender value between 100% (exclusively) and 80% of the best estimates/statutory reserves	0.50
S.12.4	Surrender value lower than 80% of the best estimates/statutory reserves	0.10
S.12	Total	
MA portfolio/Ring fenced funds		
S.13.1	Without surrender option-MA	0.00
S.13.2	With surrender value limited to the value of the assets- MA	0.50
S.13.3	Without surrender option -RFF	0.00
S.13.4	Surrender value equal to or bigger than the 100% of best estimates/statutory reserves -RFF	0.50
S.13.5	Surrender value between 100% (exclusively) and 80% of the best estimates/statutory reserves -RFF	0.25
S.13.6	Surrender value lower than 80% of the best estimates/statutory reserves- RFF	0.05
S.13	Total	

67. Specific liquidity weights are automatically applied to each bucket; therefore, the amounts of the liabilities should be reported in each scenario without application of liquidity weights. Weights will be kept unchanged in the pre and post stress scenario.

68. The liquidity component does not require the calculation of the post-stress standard Solvency II metrics (e.g., Excess of Assets over Liabilities or SCR).

4.3 Simplifications and approximations

69. EIOPA stress test exercises are based on the Solvency II framework and hence on a full balance sheet approach. Participants are expected to re-evaluate their balance sheet items against the provided shocks. In principle, shocks should be applied to the entire business in force, hence to the full balance sheet (assets and liabilities), and to each element of the solvency position. The same applies for the liquidity position, subject to its different scope and other specificities. Simplifications and approximations can be allowed within the limits and the provisions described in this section.

70. All approximations and simplifications used for the calculation of the post-stress results (that go beyond those used for the pre-stress calculations) should be clearly identified, and detailed (e.g., why is this simplification needed? What is the exact simplification and how is it applied?).

71. The participants should also be able to give a quantitative or at least qualitative indication of the materiality of the deviations created using the simplification. This information should allow the supervisor to judge the suitability of each of the simplifications and will be evaluated on a case-by-case basis. This refers in particular to the following aspects.

72. Calculation of specific balance sheet items:

⁸ Detailed instruction on the information to be provided for each item can be found in the liquidity template tab. I.Information.

- Deferred tax assets and liabilities: The preferred approach should be the same as the method already applied in the baseline. Proxies could be considered especially for companies operating in different jurisdictions. As an example, with respect to the classification of the DTA based on the enacted tax regime, it can be assumed that all impacts which relates to cash outflows on the economic balance sheet are directly transferred into income tax payable and receivable, while all other elements are transferred to deferred tax assets or liabilities.
- Best Estimates: in case the best estimate is calculated via regression techniques⁹ the parameters used in the baseline scenario can be kept constant also for the estimations in the post-stress scenario. Companies should be able to provide credible quantitative or qualitative arguments that the approximations are appropriate with regard to the quality of the results. This information should form a central component of the pre-validation process. This dialogue should happen at an early stage of the 2024 ST process.
- Risk margin¹⁰: Solvency II allows different methodologies for this calculation based on a hierarchy of four methods going from the full computation to the scaling approach (calculating the risk margin as a percentage of the best estimates). To ensure comparability with the baseline, the post-stress risk margin should be computed, as a default option, using the same method used for the calculation of the 2023 balance sheet. As a simplification, i) for life liability portfolios, participants are allowed to recalculate the post-stress risk margin using a more simplified method, namely dropping one notch down in the hierarchy of methods provided in EIOPA guideline 61¹¹ with respect to the method used in the baseline calculation; ii) for the non-life liability portfolios participants are allowed to apply a scaling approach independently by the method used in the regular reporting.

73. The post-stress SCR shall be calculated following the same approach used for the calculation of the regular Solvency II submission and specifically the submission of the 2023 year-end reporting used as a reference for this exercise.

74. All the simplifications and approximations shall be subject to the conditions prescribed for the recalculation of the balance sheet position.

75. Additionally, simplification for SCR recalculation concerns the loss absorbing capacity of the deferred taxes. Participants are expected to fully recalculate their LACDT position according to the standard procedure, however, if not, undertakings should calculate LACDT at a level of granularity that reflects all relevant regulations in all applicable tax regimes. When determining the tax consequences of the loss, an approach based on average tax rates might be used, provided that those average tax rates are determined at an appropriate level.¹²

76. In the case that an undertaking would not pursue a full recalculation, it is allowed either to set the post-stress LACDT at zero or to approximate it with reference to the value of post stress net DTL, namely:

⁹ For the regression technique related simplifications please refer to section 5.4.3 of the Methodological principle for insurance stress testing (EIOPA-BoS_19/568).

¹⁰ For the post stress risk margin related simplifications please refer to section 5.4.5 of the Methodological principle for insurance stress testing (EIOPA-BoS_19/568).

¹¹ EIOPA, 2015, 'Guidelines on valuation of technical provisions' (guideline 61). Available at: https://www.eiopa.europa.eu/content/guidelines-valuation-technical-provisions_en.

¹² For the LACDT please refer to section 5.4.2 of the Methodological principle for insurance stress testing (EIOPA-BoS_19/568)

- if the post-stress net DTL is greater than zero, then participants are allowed to apply a reduction in LACDT by this amount in the calculation of the post-stress SCR;
- if the post-stress net DTL is negative, then this reduction can be set to zero.

77. This approach is formalised in the following equation:

$$LACDT_{post-stress} = \max(0, netDTL_{post-stress})$$

78. Undertakings should be able to provide evidence to support their approach to LACDT post-stress calculations and its appropriateness.

4.4 Management actions

79. Consistently with its micro- and macro-prudential objectives 2024 exercise requires participants to calculate their post-stress capital and liquidity position under two assumptions:

- Fixed balance sheet (microprudential dimension);
- Constrained balance sheet (macroprudential dimension).

80. While all the other elements, as discussed in the section 4, remain the same under both assumptions, the use of the management actions is treated differently as specified below.

81. Fixed balance sheet: to achieve a level playing field and to ensure that the results after stress reflect the instantaneous nature of the stresses, 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). That said, only the embedded management actions should be considered, and the reactive post-stress management actions should not be applied.¹³

82. Constrained balance sheet: the inclusion of the management actions, which implies the relaxation of the fixed balance sheet assumption towards a constrained balance sheet approach where, within specific boundaries, reactive management actions should be taken into account in the calculation of the post-stress balance sheet and, if required in the calculation of the post stress solvency and liquidity position (e.g. de-risking strategies and any future action taken in the context of a recovery plan).¹⁴

83. The estimation of the post stress position under constrained assumptions should be in line with the Solvency II approach (as for the baseline and fixed balance sheet assumption). This implies that no new business should be taken into account.

84. The applied reactive management actions should be part of the governance framework adopted by the participating entity (e.g., risk management plans, investment strategies, recovery plans) and not specifically defined and implemented in this specific exercise.

85. Any already planned and approved distribution of dividends has to be included in the fixed BS approach, and it can only be relaxed in the constrained BS approach.

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 Reassessment of the “foreseeable dividends or other foreseeable distributions” under stressed scenario is included in the allowed actions.

86. The reactive management actions applied by the participants shall be appropriate and plausible and their assessment should form a central component of the pre-validation and validation process. Reactive post-stress management actions need to be realistic and proportionate and take account of the time needed to implement them and any expenses arising from them.¹⁵ Companies should be able to provide credible explanations on whether and how the post-stress management action could actually be implemented under the adverse conditions of the stress scenario, also taking into account any potential secondary consequences (e.g. availability of assets on the market and potential drop in prices against widespread selling).

87. Against this:

- an external recapitalization through the emission of new equity or debt, even if included in the recovery plan of the participant, is not allowed to be implemented in the stressed scenario. More general, regarding market-based operations, only repo contracts which have been negotiated before the launch of the Stress Test exercise can be utilized. No new agreements should be considered;
- intragroup operations shall be discussed in the pre-validation phase;
- any management action that requires approvals outside the governing bodies of the participants (e.g., approval from the supervising authorities) shall not be considered as a reactive management action.

88. The applied management actions shall be clearly documented qualitatively through the information to be provided directly in the templates for the data collection of the liquidity and capital component, and quantitatively providing information on the size of the actions and on their marginal impacts to the post stress balance sheet, solvency and liquidity positions (ref to section 6).

89. In case of liquidity managed at solo level potential liquidity related intragroup transaction should be considered as a reactive management action, therefore included in the constrained balance sheet approach. In case liquidity is managed at group level intragroup transactions are considered embedded management actions therefore to be accounted in the fixed balance sheet approach.

90. If a participant considers that reactive management actions are not necessary, the exercise can be limited to the fixed-balance sheet assumption. In this respect, if the company's SCR ratio falls below the target solvency ratio explicitly linked or derived from risk management framework of the participant (e.g., risk appetite), it is expected that reactive management actions will be implemented to possibly restore the situation. This applies both for the capital and liquidity component. For the latter, RMA are expected to be implemented in case of breach of any metric / level specifically defined in the risk management framework, e.g., liquidity management plan, contingency funding plan. It should be noted that the RMAs can differ in the capital and liquidity component.

5 Scenario, shocks and their application

91. The scenario converts the narrative of re-intensification or prolongation of geopolitical tensions (refer to section 2.3) into a consistent set of market and insurance specific shocks.

92. The scenario is the outcome of several simulations based on a number of triggers that reflect the main sources of financial stability risks, with a special focus on swap rates,

¹⁵ Management actions enforced in the capital component should have an effect over a time horizon of 1 year, in line with the SCR estimation. Impacts of the management actions enforced in the liquidity component should materialise in the first quarter, in line with the prescribed time horizon.

corporate and government credit spreads, equity and funds prices, commodities, infrastructure securities, and real estate prices in the European Union and other advanced economies. The sample period chosen for the calibration spans from January 2008 to December 2023. The applied approach ensures that the scenario embodies the required characteristics of economic consistency and severity/plausibility.¹⁶

93. Section 7 provides detailed information on the shocks and their application for the calculation of the capital and liquidity post stress positions. Deviations from what is described in the next two sections shall be raised, discussed and agreed upon during the pre-validation period (please refer to section 7).

5.1 Market shocks

94. Market shocks are assumed to represent one-off, instantaneous, and simultaneous shifts in asset prices relative to their end-2023 levels.

95. A detailed overview of the market stress parameters is contained in the technical information file, which accompanies these specifications.

96. The market stress parameters refer to the following risk drivers:

- swap rates (nominal and inflation linked);
- sovereign bond spreads;
- corporate bond and covered bond spreads;
- equity prices;
- real estate prices (residential and office & commercial);
- residential mortgage-backed securities spreads (RMBS);
- investments in infrastructure (equity, corporate bonds, other);
- other assets prices (private equity, hedge funds, real estate investment trusts (REITs), commodities).

97. Shocks to swaps are utilised to derive the EIOPA risk-free rate (RFR) curves via the Smith-Wilson model according to the EIOPA methodology (also included in the technical information file) following parameters:

- a. last liquid point (LLP) defined coherently with the LLP used for the definition of the EIOPA risk-free interest rate term structures;¹⁷
- b. the ultimate forward rate (UFR) is set at 3.30% for Euro in line with the current Solvency II regulation for 2024. The same approach will be used for the other currencies where the curves will be produced using their 2024 UFR levels.;

¹⁶ The overall probability of materialisation of the market risk shocks depends on several factors, including the probabilities of the triggering events and their level of correlation. The market risk scenario has been calibrated on triggering events whereby the 1-year euro swap rate and the euro swap curve slope (defined as the difference between the EUR Swap 1Y and the EUR Swap 10Y) shocks are assumed to reach a given thresholds (168 bps and 122 bps, respectively). The latter have been set so that the marginal probabilities for each trigger (the probability that each trigger in isolation takes values at least as large the threshold considered) is 8% and 5% respectively. Based on the individual probabilities of the triggering events, and considering their sample correlation, the likelihood of the joint materialisation of the triggers is estimated at 4.5%. The overall likelihood of the scenario can also be gauged by the probabilities of the shocks simulated for each response variable jointly with the historical probability of the trigger events. These joint probabilities vary across the different categories of financial assets, ranging between 0.03% and 0.5%.

¹⁷ Technical documentation of the methodology to derive EIOPA's risk-free interest rate term structures. Available at: [RFR Technical Documentation \(europa.eu\)](https://www.europa.eu).

c. Credit risk adjustment is kept unchanged with respect to the baseline.

98. RFR curves that are not based on swaps are also estimated consistently with the EIOPA methodology and are included in the technical information file.

99. RFR curves, with and without VA, are provided for most of the currencies. Currencies not included in the corresponding table of technical information file are not supposed to be stressed, therefore for these currencies baseline figures shall be used to reevaluate the technical provisions in the post stress situation.

100. Post stress interest rate swaps (IRS), provided in the technical information, shall further be used as input to:

- Reevaluate post stress position of fixed income assets and other interest rate sensitive positions. For example, for fixed income type of assets the technical information file provides the shocks to spreads, in which case to reach the shock to yields the IRS shock should be taken into account. This is illustrated in more detail in a subsequent paragraph;
- Reevaluate other asset classes (e.g., derivatives). With specific reference to the liquidity component, the liquidity needs stemming from the net IRS position would have to be estimated based on the prescribed shocks to IRS;
- The shocks to swaps are also used to derive the RFR curves to be used in the SCR in the interest rate risk following the delegated regulation 2015/35 provisions.

101. This paragraph is relevant for fixed income type of assets (among others) and it provides a way to derive the corresponding changes in the yields, from the information provided in the technical information file (which refers to change in spreads against the baseline). The following example illustrates the process for the example of a bond:

- a. The stressed level EUR swap rates is given by the following equation, assuming the same tenors are considered: $SWAP_t^{Stress} = SWAP_t^{Base} + \Delta SWAP_level_t$;
- b. The yield level of a bond generally includes a spread on top of the swap curve. Therefore, the yield of a bond with a specific maturity can be expressed as $Yield_level_t = SWAP_level_t + Spread_level_t$ (where the swap term equals the maturity of the bond);
- c. The shock levels for spreads and swaps (i.e., delta) is what is shown in the technical information file. The change in yields can then be derived as follows, with the right hand side implied by the shocks in the technical information file: $\Delta Yield_level_t = \Delta SWAP_level_t + \Delta Spread_level_t$
- d. In order to provide an illustrative example to reach the yield shock of 10Y Belgian government bond (i.e. $\Delta Yield_level_{10}$ using the notation above), the $\Delta SWAP_level_{10}$ can be retrieved directly from the technical information file which amounts to 46 bps, and also the $\Delta Spread_level_{10}$ for the 10Y which amounts to 80 bps. Finally, the $\Delta Yield_level_{10} = 126$ bps.

102. Shocks to sovereign bonds spreads and IRS for maturities not provided in the technical information file should be derived:

- by interpolation (e.g., spline) for maturities that are not explicitly provided and that are not exceeding the last maturity provided with an explicit shock;
- by keeping the shock constant for all maturities exceeding the last maturity provided with an explicit shock.

103. Sovereign bonds issued by countries non-explicitly covered shall be treated with shocks to other advanced economies or emerging markets according to the IMF classification.

104. The classification and stressing of Municipal/Local Authority bonds should be consistent with how they would be treated under the Solvency II Standard Formula guidance.

105. No specific shock to spreads is provided to bonds issued by EU or non-EU supranational institutions. The post stress value of these securities should be calculated only taking into account the change in the IRS.

106. The technical information file also provides shocks to corporate bonds spreads, split by credit worthiness, financial / non-financial¹⁸ and region (or country)/advanced/emerging markets¹⁹.

107. Similar structure, but with different granularity, is provided for covered bonds and residential mortgage back securities (RMBS).

108. Shocks to corporate bonds²⁰, covered or RMBS shall be applied as prescribed for the government bonds. Shocks to spreads should be applied homogeneously to all the maturities.

109. For structured notes the spread shocks to corporate bonds shall be applied.

110. Additional specifications should be followed for bonds wherever applicable:

- Bonds issued by corporations based in non-explicitly covered geographical areas shall be shocked with shocks to other advanced economies or emerging markets according to the IMF classification²¹;
- The shocks to CCC rating class shall also be applied to corporate bonds with lower ratings;
- Unrated bonds shall be shocked according to the shocks prescribed to the BBB-rated bonds.

111. The shocks for equities are provided in terms of percentage changes in the stock prices per geographical area and should be applied to the Solvency II value of the equity at the reference date. For unlisted equities the same shock application shall be followed.

112. Own shares (held directly) and holdings in related undertakings, including participations, should be treated as listed equities. For participation please also refer to section 4.1 for more details.

113. Equities in geographical areas whose shocks are not prescribed shall be shocked according to the average shocks provided for larger geographical areas, e.g. other advanced economies, and emerging markets. This applies to listed equities, unlisted equities, own shares, and participations.

¹⁸ EIOPA applies ESA 2010 definition for "Financials" which includes the sectors "Central bank", "Deposit-taking corporations except the central bank", "Money market funds", "Non-MMF investment funds", "Other financial intermediaries, except insurance corporations and pension funds (excluding financial vehicle corporations engaged in securitization transactions)", "Financial auxiliaries", "Captive financial institutions and money lenders", "Financial vehicle corporations engaged in securitization transactions", "Insurance corporations" and "Pension funds". All other positions would be assigned to "Non-Financials"

¹⁹ A reference list for "advanced economies" and "emerging markets" can be retrieved from the IMF World Economic Outlook, October 2023 - statistical appendix - Report available at: [World Economic Outlook, October 2023: Navigating Global Divergences \(imf.org\)](https://www.imf.org/en/Publications/WEO/Issues/2023/10/World-Economic-Outlook-October-2023-Navigating-Global-Divergences)

²⁰ Also for private credit.

²¹ Please refer to the following publication [World Economic Outlook, October 2023: Navigating Global Divergences \(imf.org\)](https://www.imf.org/en/Publications/WEO/Issues/2023/10/World-Economic-Outlook-October-2023-Navigating-Global-Divergences).

114. In the case of equity of companies listed in more than one stock exchange, the average shock over all areas where the equity is listed shall be applied (only the areas for which a shock has been specified as a part of the scenario description should be taken into account).

115. Stock indices should be treated according to geographical criteria.

116. The symmetric adjustment for this scenario is set at -10%.

117. The technical information file provides the shocks to office & commercial and residential real estates for different countries. Investments in real estates located in countries that are not explicitly included shall be shocked according to the average shocks provided to the closest geographical areas, e.g., EU, EA, other advanced economies, and emerging markets.

118. Shocks to real estate should be also partially applied to the balance-sheet item "property plant & equipment held for own use". Specifically, commercial properties for own use (including offices) should be treated in line with the office & commercial real estate held for investment purposes and property for own use classified as residential should be treated with the shocks to residential real estate held for investment purpose. Equipment should be kept constant with respect to the baseline.

119. Property other than for own use should be fully shocked according to the shocks provided to the area where they are located.²²

120. Loans and mortgage portfolios (i.e., collateralised loans or mortgages to individuals and other collateralised loans and mortgages), should be revaluated according to the spread shocks provided to residential and mortgage-backed securities (RMBS). The technical information file provides the relevant shocks for geographical areas and credit ratings. Only in case the rating quality of the (different) portfolio(s) cannot be determined, the following approach can be followed:

- a. In case information of the LTV of the portfolio is available, for portfolios with $LTV < 80\%$ an A rating quality has to be assumed; for portfolios with $LTV \geq 80\%$ a BBB rating quality has to be assumed
- b. In case LTV information is not available, the non-rated portfolios a BBB rating quality has to be assumed.²³

121. For loans on policies no shocks should be applied.

122. The post stress value of CLO, CMBS and ABS exposures (or other collateralized securities) shall also be in line with the RMBS shocks.

123. The participating entities shall apply the shock to other asset as percentage of change in the baseline Solvency II value according to the asset (private equity, hedge funds, commodities) and the geographical area (EU, global).

124. Derivatives other than IRS (specified above) should be shocked in line with the corresponding shocks to the underlying asset where possible or kept constant (e.g. FX derivatives).

125. Other assets classes not specified (e.g. CIC 0 or CICX²⁴ - Other) shall be kept constant in value with respect to the baseline.

²² For rural estate exposures, the residential real estate shock should be applied.

²³ The rationale for this treatment is that when insurers are forced to sell their portfolio of mortgages in a stressed situation, change in RMBS is considered the best proxy for the stressed values.

²⁴ Where "X" denotes the CIC category with $X=1, \dots, 9$.

126. In general, assets denominated in a currency other than the currency of the country of issuance should be first shocked according to the country shock and then, the resulting amount shall be transformed into the reporting currency by applying the exchange rate registered at the reference date. Example for government bonds: "Country A" currency is EUR and it issues two bonds: "bond 1" denominated in EUR and "bond 2" denominated in USD. Both bonds shall be treated according to the shock prescribed to "Country A" and, where needed, converted in the reporting currency of the participant.

5.2 Insurance specific shocks

127. The exercise encompasses a set of insurance shocks to be applied to specific business lines as presented in Figure 6.

Figure 6- Insurance specific shocks and their application

Shock	Life	Non-life
Mass lapse	$X_{C,L}$	
Cost of claims	$X_{C,L(\text{health SLT})}$	$X_{C,L}$
Expenses	$X_{C,L}$	$X_{C,L}$
Reinsurance recoverables/receivables	X_L	X_L
Reduction in written premia	X_L	X_L

C=capital component; L=liquidity component

128. The marginal impact of the insurance specific shocks to the TP, excess of assets over liabilities and to the OF shall be reported separately.

129. Subsections provide details on the definition and the application of the shocks therein for the capital component and the liquidity component of the exercise.

5.2.1 Mass Lapse shock

130. The scenario assumes a sudden non-permanent discontinuance of the in-force insurance policies as in Art.142.1 c) of the delegated regulation 2015/35.

131. Participating entities shall apply the lapse shock to the non-mandatory insurances of their in-force life portfolio, excluding pension schemes (e.g., Defined Benefits and Defined Contributions based products) as specified in Figure 7.²⁵

Figure 7- Product classification for lapse shock

Characteristic of product	Instantaneous discontinuance
Build-up of capital. This includes traditional products (e.g., endowment) as well as products in which the return is linked to the return of a capital market product such as an index (e.g., unit linked). At any case, products either with or without guarantees shall be considered. Combination with protection against mortality or longevity risk possible	20%
Products such as term insurance, annuities (deferral or pay-out phase), disability insurance and health insurance should be excluded.	-

132. In case a participating entity applies a dynamic lapse model, the prescribed immediate shocks shall overrule the dynamic adjustment of the lapses potentially

²⁵ Example: in case the best estimate lapse assumption of the insurer for an endowment is 4%, the instantaneous discontinuance shall be applied as 20% (taken from Figure 7) and not as 4% + 20% = 24%.

generated by the set of prescribed market shocks, namely any dynamic adjustment shall be neutralized.²⁶

133. The shock shall be applied to any kind of policyholder lapse option as specified in Art. 142 of the delegated regulation 2015/35.

134. The shocks should be applied to individual contracts only i.e., excluding the collective contracts. Mandatory coverage according to national laws included in the business lines identified in the two first lines of Figure 7 shall also be excluded from the mass lapse shock.

135. When applying the shocks, companies shall not take into account potential mitigation effects stemming from local micro or macro prudential regulatory regime e.g., temporary suspension of the redemption rights.

136. The mass lapse stress parameters are contained in the technical information file.

5.2.1.1 *Application in the capital component*

137. The impact of the instantaneous lapse shock shall be reflected only in a change of the technical provisions with no impact on the assets side (only prescribed market shocks shall be applied, no fire-sales against the lapses). This approach, inspired by article 142 of the delegated regulation 2015/35, shall be applied independently of the approach used by participating entities for the assessment of their capital position. (Partial)internal model, USP, standard formula users shall apply the approach based on article 142 of the delegated regulation 2015/35 for the aim of comparability of the results in the stress test exercise.

5.2.1.2 *Application in the liquidity component*

138. For the purposes of the liquidity exercise, all the payments resulting from the discontinuance of the policies are supposed to be paid within the 90 days' time horizon. Payments for surrenders shall take into account penalties and other characteristics included in the contracts.

139. In case the post stress projected value of surrenders is lower than the actual value of surrenders paid over the 90 days horizon, the actual value should be used as post-stress value. In case the post stress projected value is higher than the actual value, the actual value should be replaced by the post stress projected value. For example:

$$Surrender_{post-stress} = \max(Surrender_{Actual}, Surrender_{post-stress,projected})$$

140. No changes to actual claims, actual premia, and actual reinsurance flows should be applied.

141. Shock to lapse should be applied only to the in-force portfolio.

142. No recalculation of the technical provisions over the time horizon is requested.

5.2.2 Increase of cost of claims

143. The scenario assumes simultaneously an increase in cost of claims based on the shocks provided in Figure 8.

144. The shock applies for all in-force non-life insurances and SLT health insurance.²⁷

²⁶ Only in case the model used in the regular reporting does not allow to switch the dynamic lapse off for the first year, then participants are allowed to keep it always on to grant consistency with the baseline. In case this applies, it should be signalled during the pre-validation phase.

²⁷ Shocks to inflation refer to gross BE. Reinsurance recoveries should be considered (if relevant) given the shocked BE cash flows.

Figure 8 - Product classification for lapse shock

Tenor	Excess claims inflation assumption (based on forward rates)
1Y	5.00%
2Y	3.50%
3Y	2.50%
4Y	1.50%
5Y	1.00%
6Y	0.50%
7Y	0.50%
8Y	0.25%
9Y	0.25%
10Y	0.00%

5.2.2.1 Application in the capital component

145. The impact of claims inflation should be fully reflected into the technical provisions of the non-life business and SLT health business lines, by revaluating their BE given an increase in claims inflation.

146. Assuming a baseline undiscounted cash-flow at time t , noted as $CF_t^{baseline}$, the corresponding shocked cashflow should be estimated as the formula below specifies. For cashflows later than 10Y, the shock of the 10Y should be assumed. The formula for the stressed undiscounted cash-flow at time t shall be estimated as:

$$CF_t^{Shocked} = CF_t^{baseline} * \prod_{i=1}^t (1 + X_i)$$

Where X_i is the excess claims inflation assumption as reported in Figure 8.

147. The cash-flows mentioned above refer to C0010 and C0050 from S.18.01.01, and C0211 and C0251 from S.13.01.01 for non-life and for SLT health business.

5.2.2.2 Application in the liquidity component

148. In the liquidity component participants shall apply the shock to claims inflation for both the actual payments that take place during the 90-day time horizon (i.e., claims incurred up to 2023 year-end and claims incurred afterwards).

149. Participants shall apply the shocks prescribed for tenor 1Y in Figure 8.

150. For example, assuming a relevant actual claims outflow paid of 100 the post stress outflow should be calculated as $100 * (1 + 5.00\%)$. The same applies for the projected outflows.

151. No changes in the reinsurance flows should be applied.

5.2.3 Increase of life and non-life expenses

152. The scenario assumes simultaneously an increase in cost of life and non-life expenses as specified in Figure 9.

153. The shock affects all in-force life and non-life insurances.

Figure 9 - Application of shock to life and non-life expenses

Tenor	Excess expense inflation assumption (based on forward rates)
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1Y	1.50%
2Y	0.80%
3Y	0.20%
4Y	0.20%
5Y	0.20%
6Y	0.15%
7Y	0.10%
8Y	0.00%
9Y	0.00%
10Y	0.00%

5.2.3.1 *Application in the capital component*

154. The impact of expense inflation should be fully reflected into the technical provisions of the life and non-life business lines, by revaluating their BE (claims provisions) since an increase in expense inflation.

155. The application shall be the same as the one for claims inflation. Expenses covered by existing contracts on costs (e.g., outsourcing expenses) based on fixed fees (i.e., not linked to inflation), shall be excluded from the application of the shock.

156. The relevant cash-flows refer to C0020 and C0060 from S.18.01.01, and C0020, C0060, C0100, C0140, C0180, C0220, C0260 from S.13.01.01.

5.2.3.2 *Application in the liquidity component*

157. In the liquidity component participants shall apply the shock to expense for both the actual expenses that take place during the 90-day time horizon.

158. Participants shall apply the shocks to expense inflation prescribed for tenor 1Y in Figure 9. Expenses covered by existing contracts on costs (e.g., outsourcing expenses) based on fixed fees (i.e., not linked to inflation), shall be excluded from the application of the shock.

159. For example, assuming a relevant actual expense outflow paid of 100, the post stress amount should be calculated as $100 \times (1 + 1.50\%)$. The same applies for the projected expenses.

160. No changes in the reinsurance flows should be applied.

5.2.4 Shock to reinsurance in-flows

161. The general economic environment and its impact on corporate sector is also reflected to deterioration of the credit worthiness of reinsurers. In order to reflect this effect on the flows of insurers, the amount of actual reinsurance in-flows shall be shocked based on a flat haircut of 5.00%.

5.2.4.1 *Application in the capital component*

162. The shock to reinsurance recoverable should not be applied in the calculation of the post-stress balance sheet and solvency position, given its non-material impact.

5.2.4.2 *Application in the liquidity component*

163. The prescribed haircut shall be applied to the actual in-flows (e.g., reinsurers' share in sum of claims paid, reinsurers' share in sum of expenses paid) notwithstanding whether these in-flows stem from treaties in place at the reference date or purchased afterwards. For example, assuming a relevant actual inflow of 100 the post stress inflow should be calculated as $100 \times (1 - 5.00\%)$.

5.2.5 Reduction in written premia

164. The scenario assumes a decrease by the 10.00% of the total cash-in premiums with respect to the actual baseline figures for all non-mandatory in-force and new business (both life and non-life). Pension schemes (Defined Benefits and Defined Contributions based products) are excluded from the application of the shock.

165. No changes to other flows should be applied.

5.2.5.1 Application in the capital component

166. Given that the reduction of premia due to the lapse shock is already captured in the recalculation of the life technical provisions and that the shock related to the new business is marginally captured by the Solvency II framework, for the sake of simplicity and to reduce the burden of the exercise, the impact of the shock on the capital component is neglected.

5.2.5.2 Application in the liquidity component

167. The actual cash-in flows related to premiums observed in the 90 days should be recalculated reflecting the decrease of the written premia to be received in the 90-day time horizon. For example, assuming a relevant actual inflow of 100 the post stress inflow should be calculated as $100 \cdot (1 - 10.00\%)$.

6 Reporting Templates

168. The set of templates to report the results under baseline and stressed scenarios are broadly based on the Solvency II QRT reporting. Guidance on the content of the templates can be retrieved from the Supervisory Reporting Annex II.

169. The reporting templates are designed in spreadsheets, and they are split for the two components of the exercise (capital and liquidity).

170. For information purposes only, a mock spreadsheet containing all reporting templates is available on the NBB Insurance stress test webpage. The reporting templates have been developed with the intention to be as consistent as possible with the corresponding Solvency II QRTs and previous year's stress test templates.

6.1 Capital component

171. Participating entities shall fill in the reporting templates in the provided spreadsheet. The reporting templates are structured in three sections:

- a. Baseline scenario (pre-filled);
- b. Stress scenario;
- c. Stress scenario with reactive management actions (only applicable if reactive management actions are taken - see section 4.3)

172. The structure of the reporting templates is provided in below:

Description	Baseline (0)	Scenario without reactive management actions - Fixed Balance Sheet (FBS)	Scenario with reactive management actions - Constrained Balance Sheet (CBS)
General information	Participant		
Balance sheet reporting template as per QRT data for Groups	0.BS	FBS.BS	CBS.BS
Impact of long term guarantees measures and transitionals as per QRT data for Groups	0.LTG	FBS.LTG	CBS.LTG
Own funds as per QRT data for Groups	0.OF	FBS.OF	CBS.OF
Calculation of Solvency Capital Requirement as per QRT data for Groups	0.SCR.SF	FBS.SCR.SF	CBS.SCR.SF
Solvency Capital Requirement - for groups using the standard formula and partial internal model as per QRT data for Groups	0.SCR.PIM	FBS.SCR.PIM	CBS.SCR.PIM
Solvency Capital Requirement - for groups on Full Internal Models as per QRT data for Groups	0.SCR.FIM	FBS.SCR.FIM	CBS.SCR.FIM

173. Balance sheet ([0.BS, FBS.BS, CBS.BS])

The balance sheet fully replicates the QRT template (S.02.01). Solvency II figures shall be reported under the baseline, stress scenario and stress scenario with reactive management actions. The template shall be used to report balance sheet data of all the participating entities.

174. Impact of the long term guarantees measures and transitionals ([0.LTG, FBS.LTG, CBS.LTG])

The templates replicate the S.22.01 and require the application of the step-by-step approach on the impact of LTG and transitionals on technical provisions, basic and eligible OF and SCR. The templates shall be filled according to the guidance provided by the log-file of the S.22.01.

175. Own Funds ([0.OF, FBS.OF, CBS.OF])

Information on the OF is collected under each scenario via template S.23.01.

176. Solvency Capital Requirement ([0.SCR.SF, FBS.SCR.SF, CBS.SCR.SF, 0.SCR.PIM, FBS.SCR.PIM, CBS.SCR.PIM, 0.SCR.FIM, FBS.SCR.FIM, CBS.SCR.FIM])

Information on capital requirement shall be provided according to the approach used by the participant in their regular reporting. Participants shall fill in only the template in line with the approach they regularly utilise to report the capital position. Participants calculating their SCR via standard formula or USP should fill-in templates [0.SCR.SF, FBS.SCR.SF, CBS.SCR.SF]. Participants calculating their SCR via partial internal model should fill-in templates [0.SCR.PIM, FBS.SCR.PIM, CBS.SCR.PIM]. Participants calculating their SCR via full internal model should fill-in templates [0.SCR.FIM, FBS.SCR.FIM, CBS.SCR.FIM].

6.2 Liquidity component

177. The reporting templates are structured as follows:

- a. Flows template (baseline and stressed scenarios results);
- b. Stocks template (baseline and stressed scenarios results);
- c. Questionnaire (qualitative information).

6.2.1 Quantitative information

178. The set of templates to report the results under baseline and stressed scenarios are based on the second methodological paper as well as on the experience gained during the EIOPA liquidity monitoring exercise and the 2021 EIOPA Insurance stress test exercise.

179. The flows template collects a set of information on the net cash position of the undertakings over 90-day (3 months) time horizon starting from QRT S.05.01 focusing on the inflows and outflows stemming from:

- life business (excluding UL/IL business);
- UL/IL business;
- MA and ring fenced portfolios;
- non-life business;
- investments;
- other flows.

Allocation by type of business should follow the following principles.

- Undertakings pursuing both life and non-life insurance activity - article 73 (2) (a) should allocate all under the life business;
- Undertakings pursuing both life and non-life insurance activity - article 73 (2) (b) should allocate all under the non-life business;
- Undertakings pursuing both life and non-life insurance activity - article 73 (5) should split the health business according to the treatment of the technical provision.
- Health business should be allocated following the principle used in the allocation of the Technical Provisions in the regular Solvency II reporting. In case of life undertakings and non-life undertakings the allocation of the health follows the type

of business run by the undertaking. For composite undertakings it should be followed the split explained above.

- Reinsurers should follow the same principle of Undertakings pursuing both life and non-life insurance activity - article 73 (5).

180. The template collects also information on the impact of the investment flows on the asset allocation of the participants.

181. The stock template contains *i)* detailed information on the assets allocation for life, non-life, MA / ring fenced portfolios and UL/IL business (based on QRT S.06.02); *ii)* a breakdown of the life best estimates into traditional life, UL/IL, MA and ring-fenced funds²⁸ and should be filled in using the post stress values from the capital component. As specified in paragraph 142 no recalculation of the technical provisions is required specifically for the liquidity component. The amounts of assets and liabilities should be reported in each scenario without application of haircuts.

182. Given the absence of a reference framework, the file includes detailed instruction on how to populate the templates (tab I.Information).

183. A tab labelled "Status of the template" contains a set of automatic checks on the formatting and consistency of the data filled in the template.

6.2.2 Qualitative information

184. The aim of the questionnaire, embedded in the liquidity template, is to collect information on the management of the liquidity position with specific reference to:

- other sources of liquidity;
- reactive management actions taken against the prescribed shocks to liquidity;
- cash management;
- liquidity governance;
- simplifications.

185. Additionally, information on the existence (plus short description) of a liquidity risk management plan and a contingency funding plan and the inclusion of liquidity stress test in the ORSA report is requested.

²⁸ Potential simplification on the split of assets between life and non-life portfolios should be discussed with the NBB.

7 Timeline

186. The NBB Insurance Stress Test 2024 will be launched on 2 April 2024. The results must be submitted to the NBB no later than 9 August 2024.

187. The following table provides an overview of the detailed timeline of the NBB Insurance Stress Test 2024.

Date	Activity
2 April 2024	Official launch to participants: Transmission to the participants of technical specifications, technical information, and templates
2 April – 30 April 2024	Questions and Answers process
19 of April	Opening of OneGate for the low yield Stress Test 2024
9 August 2024	Submission of the results
September 2024	Validation (resubmission) and analysis of the results