



# National Bank of Belgium

## Insurance Stress Test 2022

### Technical Specifications v1.0

<b>Version</b>	<b>Date</b>	<b>Major changes</b>
v1.0	April 2022	Initial version of the Technical Specifications

# TABLE OF CONTENTS

- TABLE OF CONTENTS ..... 2
- INTRODUCTION..... 3
- NBB INSURANCE STRESS TEST 2022 – General considerations..... 3
  - Information Session ..... 3
  - Process and timeline..... 3
  - Communication and disclosure ..... 4
- NBB INSURANCE STRESS TEST 2022 – low yield Scenarios..... 4
  - Impact on flashing light provision ..... 5
- TECHNICAL SPECIFICATIONS for Low Yield scenario ..... 5
- REPORTING TEMPLATES for Low Yield scenario..... 7
- CONTACT ..... 8
- ANNEX 1 - Overview of templates ..... 9

## INTRODUCTION

1. Stress testing is an appropriate tool to identify vulnerabilities of the financial system and to assess the potential impact of risks on the stability of the financial system in general and the insurance sector more specifically. Stress testing also helps to identify those undertakings that may pose a risk to the stability of the financial system or the insurance sector. The NBB can, after the analysis of the stress test results, issue recommendations to be implemented by the insurance undertakings in order to contribute to the stability of the financial system.
2. The NBB provides additional guidance on the use of stress tests in its *Communication NBB\_2017\_06 on the stress test framework for the insurance sector*. The framework makes a distinction between microprudential stress tests that are *proper to the undertaking* (e.g. stress tests for the purpose of the ORSA) and stress tests which are *initiated by the NBB* and can have either a microprudential objective (e.g. focus on a specific exposure which is present only in a few undertakings) or a macroprudential objective.
3. The design and features of these NBB stress tests are flexible and depend on the objective of the exercise. However, to limit the impact for the undertakings, the NBB stress tests will leverage – to the extent possible – on the experience built during previous (EIOPA/NBB) stress tests. Under normal circumstances, there should be a yearly stress test initiated by either EIOPA and/or the NBB. The NBB stress tests for insurance are based on articles 322 and 467 of the law of 13 March 2016 on the legal status and supervision of insurance or reinsurance companies.
4. For 2022, NBB will initiate its own stress test exercise. For the NBB stress test, two scenarios are foreseen. The first one will be based on a **Low Yield scenario** while the second one will be based on a series of **cyber underwriting scenarios**. Information on the cyber scenarios can be found in the cyber underwriting technical specifications.

## NBB INSURANCE STRESS TEST 2022 – General considerations

### Information Session

5. Participating undertakings are kindly invited to an NBB **information session** covering all aspects of the NBB Insurance Stress Test 2022. This will take place on **19 April 2022 from 15:00 till 17:00** via online conference call. Each participant will receive an invitation email and the necessary information to log in. Please confirm your participation by sending an email to [ist@nbb.be](mailto:ist@nbb.be) with the name of the participants before **15 April 2022**.
6. A dedicated insurance stress test webpage ([www.nbb.be/insurancestresstest](http://www.nbb.be/insurancestresstest)) can be found on the NBB website and contains all relevant information for this year's stress test exercise.

### Process and timeline

7. The NBB Insurance Stress Test 2022 will be launched on **16 May 2022**. The results will have to be submitted to the NBB no later than **12 August 2022**. The results must be transmitted electronically via the OneGate application of the NBB (domain CPA). The data can be entered manually, or the reporting can be automated by making use of files generated in a CSV or XML format. Please refer to Annex 1 for the exact list of templates to be submitted.

8. The following table gives an overview of the detailed timeline of the NBB Insurance Stress Test 2022.

Date	Activity
19 April 2022	Pre-launch to participants: Transmission to the participants of technical specifications, technical information, and templates 19 April 2022 – 15h00 – Online information session
19 April – 29 April 2022	Questions and Answers process
16 May 2022	Official launch of the NBB Insurance Stress Test 2022 (OneGate)
Mid-June 2022	Discussion with undertakings concerning silent cyber
12 August 2022	Submission of the results
August/September 2022	Validation (resubmission) and analysis of the results
December 2022	Publication of NBB stress test results

9. For information purposes only, a mock spreadsheet containing all reporting templates is available on the NBB stress test webpage (NBB IST 2022 reporting templates). 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.
10. After the submission of the results, a thorough validation will take undertaken by the NBB. Undertakings should be able to explain the main drivers behind the impact of a scenario on their balance sheet and solvency. The analysis of the results could lead to a request for further clarifications and/or resubmission of the results.

## Communication and disclosure

11. 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.
12. The undertakings participating at the stress test cannot disclose, discuss, or comment on any of their individual results.

## NBB INSURANCE STRESS TEST 2022 – low yield Scenarios

13. The NBB Insurance Stress Test 2022 – Low Yield scenario assumes a persistent low interest rate environment and combines a stressed risk-free rate curve with a new calibration for the SCR interest rate risk as proposed in the Opinion on the 2020 review of Solvency II (EIOPA-20/749) published by EIOPA on the 17 December 2020.
14. Further information, regarding the technical specifications and the templates for the NBB Insurance Stress Test 2022 - Low Yield scenario, can be found below.

## Impact on flashing light provision

15. The Low Yield stress test is a bottom-up exercise focussed on solo insurers. All companies wishing to apply for exemption from the compulsory contribution to the provision on flashing lights must participate to this NBB Insurance Stress Test 2022 - Low Yield Scenario.
16. The companies participating in the low yield stress test are those that have explicitly confirmed to the NBB that they wish to apply for exemption from the compulsory contribution to the provision on flashing lights.
17. The general conditions to be exempted from the set-up of the flashing light provision are outlined in article 34<sup>quinquies</sup> § 4 of the royal decree of 17 November 1994 on the **statutory account** of insurance and reinsurance undertakings and the circular letter NBB\_2016\_39. In summary:
  - a. All undertakings should submit to the NBB a formal request for exemption of the mandatory contribution to the flashing light provision.
  - b. The undertaking's own funds should cover its capital requirements without the use of transitional measures as in articles 668 and 669 of the insurance supervisory law<sup>1</sup>.
  - c. In addition, the NBB can impose additional conditions for the recognition or preservation of the exemption, when necessitated by the condition of the undertaking and the market.
18. Following condition a), undertakings must explicitly confirm to the NBB if they wish to ask for the exemption from the mandatory contribution to the flashing light provision by sending an email to [ist@nbb.be](mailto:ist@nbb.be) before **29 April 2022**.
19. Following condition c), the results of the low yield scenario of the 2022 stress test will determine whether or not an exemption from the mandatory contribution to the so-called flashing light provision can be obtained.

## TECHNICAL SPECIFICATIONS for Low Yield scenario

20. The reference date for the stress test exercise is 31 December 2021. Shocks prescribed in the stressed scenario shall be applied to the entire in-force business at the reference date. Measures, actions or risk mitigating strategies that rely on taking future actions after the reference date should not be taken into account.
  21. The scenario is designed as an instantaneous shock. The entire balance sheet including Unit-Linked / Index Linked assets and liabilities are subject to the prescribed shocks.
  22. All interest rate sensitive assets and liabilities shall be revalued using the stressed interest rate term structures.
  23. The shocks to be applied for the (re)calculation of the SCR interest rate risk according to the new methodology follow the principles of the EIOPA SII review (based on the *Opinion on the 2020 review of Solvency II*). These shocks are derived according to the process described below:
    - The increased term structure for a given currency is equal to:  $r_t^{up}(m) = r_t(m)(1 + s_m^{up}) + b_m^{up}$  where  $r_t(m)$  denotes the risk-free interest rate in the corresponding currency,  $m$  denotes the maturity and  $b_m^{up}$  and  $s_m^{up}$  are the calibrated maturity dependent up-shock components.
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- The decreased term structure for a given currency is equal to:  $r_t^{down}(m) = r_t(m)(1 - s_m^{down}) - b_m^{down}$  where  $r_t(m)$  denotes the risk-free interest rate in the corresponding currency,  $m$  denotes the maturity and  $b_m^{down}$  and  $s_m^{down}$  are the calibrated maturity dependent down-shock components.
- For maturities between 1 and 20 years, the shock components are as follows (the resulting curves can be found in the Excel file: *2022 ST - Technical Information*):

Maturity M [years]	$s_m^{down}$	$b_m^{down}$	$s_m^{up}$	$b_m^{up}$
1	58 %	1.16 %	61 %	2.14 %
2	51 %	0.99 %	53 %	1.86 %
3	44 %	0.83 %	49 %	1.72 %
4	40 %	0.74 %	46 %	1.61 %
5	40 %	0.71 %	45 %	1.58 %
6	38 %	0.67 %	41 %	1.44 %
7	37 %	0.63 %	37 %	1.30 %
8	38 %	0.62 %	34 %	1.19 %
9	39 %	0.61 %	32 %	1.12 %
10	40 %	0.61 %	30 %	1.05 %
11	41 %	0.60 %	30 %	1.05 %
12	42 %	0.60 %	30 %	1.05 %
13	43 %	0.59 %	30 %	1.05 %
14	44 %	0.58 %	29 %	1.02 %
15	45 %	0.57 %	28 %	0.98 %
16	47 %	0.56 %	28 %	0.98 %
17	48 %	0.55 %	27 %	0.95 %
18	49 %	0.54 %	26 %	0.91 %
19	49 %	0.52 %	26 %	0.91 %
20	50 %	0.50 %	25 %	0.88 %

- For maturities shorter than one year the value of  $b_m^{up}$  and  $s_m^{up}$  are equal to 2.14 % and 61 % respectively. For maturities shorter than one year the value of  $b_m^{down}$  and  $s_m^{down}$  are equal to 1.16 % and 58 %.
- For maturities between 20 and 90 years, the value of  $s_m^{up}$  is linearly interpolated. For maturities of 90 years and up the value of  $s_m^{up}$  is 20 %. For maturities between 20 and 60 years the value of  $b_m^{up}$  is linearly interpolated. For maturities of 60 years and up the value of  $b_m^{up}$  is 0 %.
- For maturities between 20 and 90 years, the value of  $s_m^{down}$  is linearly interpolated. For maturities of 90 years and up the value of  $s_m^{down}$  is 20 %. For maturities between 20 and 60 years the value of  $b_m^{down}$  is linearly interpolated. For maturities of 60 years and up the value of  $b_m^{down}$  is 0 %.
- The shocked interest rates in the downward scenario should not be lower than -1.25 %.

24. The final base and stressed interest rate risk curves which need to be applied are to be found in the Excel file: *2022 ST - Technical Information* (available on NBB's stress test webpage). These interest rate curve include:
  - Basic RFR curves for the reference date 31/12/2021 (with and without VA).
  - NBB Stress test 2022 curves (with and without VA).
  - NBB Stress test 2022 curves to calculate the SCR IRR shock upwards/downwards (with and without VA) after stress according to the new proposed methodology.
25. In case no stressed interest rate term structures are provided for a scenario or a particular currency, participating groups shall use the relevant term structures used for the base case at the reference date as published by EIOPA.
26. The look-through approach should be applied when calculating the impact of the scenario.
27. Simplifications in the calculation of the stress test can be used only if they have an insignificant economic impact. Undertakings applying simplifications should inform, via [IST@nbb.be](mailto:IST@nbb.be), the NBB prior to the submission of results.
28. The post-stress figures shall be generated coherently with the model(s) applied 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.
29. The long-term guarantee (LTG) and Transitional measures are part of the stress test framework, in alignment with Solvency II. Hence, undertakings are requested to apply any LTG and Transitional measures they used at reference date:
  - a. LTG and Transitional measures can only be used insofar approval at reference date has been granted.
  - b. The impact of the LTG and Transitional measures on the post-stress technical provisions, basic own funds, eligible own funds and SCR have to be calculated.
  - c. Transitional measures on Equity shall be applied consistently with the baseline scenario.

## REPORTING TEMPLATES for Low Yield scenario

30. All data should be reported in units (incl. ratios and percentages) and no blank cells are allowed.
31. Participants shall submit their results through OneGate. For information purposes only, a mock spreadsheet (NBB *quantitative reporting templates*) containing all reporting templates is provided. The templates are grouped in three main section:
  - a. Base case situation (0)
  - b. Low Yield (LY) scenario
32. The templates are based on the Solvency II annual reporting. Annex 1 gives an overview of the templates covered in the spreadsheet and indicates which template must be completed and be submitted to the NBB.
33. **Balance sheet** (0.BS, LY.BS). The base case balance sheet (0.BS) equals the 2021 annual SII balance sheet and will not be collected again. The LY balance sheet (LY.BS) asks for a lower granularity on the asset side.

34. Impact of **long-term guarantees measures and transitionals** (0.LTG, LY.LTG). The base case LTG template (0.LTG) equals the 2021 annual SII LTG template and will not be collected again. Only the data of the overall impact of all LTG and Transitional measures on the technical provisions, basic own funds, eligible own funds to meet the SCR and the SCR is required for the post-stress LTG template.
35. **Own Funds** (0.OF, LY.OF). The base case own funds template (0.OF) equals the 2021 annual SII own funds template and will not be collected again. The LY own funds template (LY.OF) reflects the fact that no MCR recalculation is required and it does not ask for the information on the expected profits.
36. Templates devoted to collect data on the **Solvency Capital Requirement** (SCR.SF, SCR.PIM, SCR.IM) are mutually exclusive. Undertakings shall report the SCR.SF in case there is no authorisation to use a full or partial internal model at reference date. SCR.PIM or SCR.IM shall be reported in case an authorisation for respectively a partial internal model or a full internal model was granted by the NBB at reference date. The MCR should not be recalculated after stress.
37. The base case SCR templates (0.SCR.SF, 0.SCR.PIM, 0.SCR.IM) equals the 2021 annual SII SCR template and will not be collected again. The undertakings are required to recalculate their SCR after applying the Low Yield scenario - including the SCR recalculation with the new calibration for the SCR interest rate risk as proposed in the Opinion on the 2021 review of Solvency II (LY.SCR.SF, LY.SCR.PIM, LY.SCR.IM).
38. The base case **SCR Market risk** templates (0.SCR.MKT) equals the 2021 annual SII SCR template and will not be collected again. For the base case with the recalculated interest rate risk sub-module, within the SCR market risk module, only changes in the SCR interest rate risk, diversification effects between SCR market risk submodules and loss absorbing capacity of technical provisions and deferred taxes need to be recalculated. When calculating the SCR, all parameters not asked in the reporting are to be considered as unaffected by the interest rate shock recalculation.

## CONTACT

Email [ist@nbb.be](mailto:ist@nbb.be)  
Webpage [www.nbb.be/insurancestresstest](http://www.nbb.be/insurancestresstest)

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## ANNEX 1 - Overview of templates

Templates				Scenario
Content	Title	Origin	Prefilled	Low Yield
<b>Information</b>				
General information	Information	IST2021 specific	Not prefilled	
Overview of sheets	Index	IST2021 specific	Not prefilled	
<b>Participant information</b>				
Participating entity information	Participant.Basics	IST2021 specific	Not prefilled	<b>X</b>
<b>Base case (pre-stress)</b>				
Balance sheet	0.BS	QRT-based	Prefilled	
Long-term Guarantees	0.LTG	QRT-based	Prefilled	
Own funds	0.OF	QRT-based	Prefilled	
SCR - for undertakings using SF	0.SCR.SF	QRT-based	Prefilled	
SCR - for undertakings using PIM	0.SCR.PIM	QRT-based	Prefilled	
SCR - for undertakings using full IM	0.SCR.IM	QRT-based	Prefilled	
SCR - Market risk	0.SCR.MKT	QRT-based	Prefilled	
<b>Low Yield (LY) scenario</b>				
Balance sheet	LY.BS	QRT-based	Not prefilled	<b>X</b>
Long-term Guarantees	LY.LTG	QRT-based	Not prefilled	<b>X</b>
Own funds	LY.OF	QRT-based	Not prefilled	<b>X</b>
SCR - for undertakings using SF	LY.SCR.SF	QRT-based	Not prefilled	<b>X</b>
SCR - for undertakings using PIM	LY.SCR.PIM	QRT-based	Not prefilled	<b>X</b>
SCR - for undertakings using full IM	LY.SCR.IM	QRT-based	Not prefilled	<b>X</b>
SCR - Market risk	LY.SCR.MKT	QRT-based	Not prefilled	<b>X</b>