

Consultation Paper

Guidelines on stress test scenarios under the MMF Regulation



Responding to this paper

ESMA invites comments on all matters in this paper and in particular on the specific questions summarised in Annex 1. Comments are most helpful if they:

1. respond to the question stated;
2. indicate the specific question to which the comment relates;
3. contain a clear rationale; and
4. describe any alternatives ESMA should consider.

ESMA will consider all comments received by **6 August 2026**.

All contributions should be submitted online under the related [consultation page](#).

Publication of responses

All contributions received will be published following the close of the consultation, unless you request otherwise. Please clearly and prominently indicate in your submission any part you do not wish to be publicly disclosed. A standard confidentiality statement in an email message will not be treated as a request for non-disclosure. A confidential response may be requested from us in accordance with ESMA's rules on access to documents. We may consult you if we receive such a request. Any decision we make not to disclose the response is reviewable by ESMA's Board of Appeal and the European Ombudsman.

Data protection

Information on data protection can be found at www.esma.europa.eu under the heading '[Legal Notice and Data protection](#)'.

Who should read this paper?

This document will be of interest to (i) MMF managers and their trade associations, (ii) alternative investment funds and UCITS managers and their trade associations, as well as (iii) institutional and retail investors (and associations of such investors) investing in MMFs.

Table of Contents

| | | |
|-----|--|----|
| 1 | Executive Summary | 4 |
| 2 | Background | 6 |
| 2.1 | Scope of the proposed changes of the Guidelines | 7 |
| 3 | Annex I: Summary of questions | 8 |
| 4 | Annex II: Legislative basis | 9 |
| 5 | Annex III: Cost-benefit analysis | 10 |
| | Annex IV: Draft Guidelines | 12 |
| | 1.Scope | 12 |
| | 2.Purpose | 12 |
| | 5. Calibration..... | 13 |
| 3. | Annex V: Mock-up of the contents of the draft ESMA webpage on the update of the MMF stress tests parameters | 15 |
| | Common reference parameters of the stress test scenarios in relation to hypothetical changes in the level of liquidity of the assets held in the portfolio of the MMF | 16 |
| | Common reference parameters of the stress test scenarios in relation to hypothetical changes in the level of credit risk of the assets held in the portfolio of the MMF, including credit events and rating events | 19 |
| | Common reference parameters of the stress test scenarios in relation to hypothetical movements of the interest rates | 22 |
| | Common reference parameters of the stress test scenarios in relation to hypothetical movements of the exchange rates | 26 |
| | Common reference parameters of the stress test scenarios in relation to hypothetical widening or narrowing of spreads among indexes to which interest rates of portfolio securities are tied..... | 30 |
| | Common reference parameters of the stress test scenarios in relation to hypothetical levels of redemption..... | 31 |
| | Common reference parameters of the stress test scenarios in relation to hypothetical macro systemic shocks affecting the economy as a whole..... | 33 |

1 Executive Summary

Reasons for publication

The MMF Regulation provides that ESMA shall develop guidelines with a view to establishing common reference parameters of the stress test scenarios to be included in the stress tests that MMFs or managers of MMFs are required to conduct (the “Guidelines”) and update them annually based on the input provided by the European Systemic Risk Board (ESRB).

ESMA is proposing to replace the annual update of the parameters included in the Guidelines (section 5 of the Guidelines that includes the calibrations) with an annual update of a dedicated page on the ESMA website where the parameters would be made available.

This new approach would streamline the update of the parameters, making them more easily accessible as they will be available on a single point of access on the ESMA website for all managers of MMFs in the EU. The new approach will also provide greater flexibility in terms of timing, as the new parameters will be immediately available on the dedicated ESMA webpage upon approval, and immediately applicable, without waiting for the translation of the Guidelines to be finalised. This Consultation Paper (CP) represents the first step in the development of the updated Guidelines and the establishment of a dedicated ESMA webpage. It sets out proposals on which ESMA is seeking the views of stakeholders.

Contents

Section 2 explains the background to our proposals and the interaction between the text of the Guidelines and the update of the parameters on the ESMA webpage, seeking stakeholders’ input through specific questions.

Annex I sets out the list of questions contained in this CP.

Annex II contains the legislative reference in the MMF Regulation in relation to the update of the Guidelines.

Annex III details ESMA’s initial Cost-Benefit Analysis (CBA).

Annex IV contains the full text of the updated Guidelines (updates in red).

Annex V contains a mock-up of the content of the draft ESMA webpage on the update of the MMF stress tests parameters.

Next Steps

ESMA will consider the feedback received to this consultation and expects to publish the corresponding final report in H2 2026, so that the new procedure for the update of the parameters described above applies from the next update of these parameters which is expected to happen at the end of 2026.

2 Background

1. Article 28(7) of the Money Market Funds Regulation (MMFR)¹ provides that the European Securities and Markets Authority (ESMA) shall develop guidelines with a view to establishing common reference parameters of the stress test scenarios to be included in the stress tests that Money Market Funds (MMFs) or managers of MMFs are required to conduct. These guidelines shall be updated at least every year taking into account the latest market developments.
2. The first iteration of the Guidelines was published in July 2019 and has resulted in the text of the Guidelines being updated every year with new parameters, and accordingly modified Guidelines, which need to be translated in all EU languages and are subject to the comply or explain mechanism associated with any set of guidelines published by ESMA.
3. Managers of MMFs are expected to include the results of the stress tests in the reports to be sent to National Competent Authorities (NCAs) through the reporting framework set in Article 37 of the MMF Regulation. The Guidelines include stress test scenarios in relation to hypothetical changes in the following:
 - a) MMFs' liquidity levels;
 - b) MMFs' credit and interest rate risks;
 - c) MMFs' redemptions levels;
 - d) widening/ narrowing of spreads among indexes to which interest rates of MMF portfolio securities are tied; and
 - e) macro-economic shocks.
4. ESMA published the last update of these Guidelines on 12 January 2026 ("the 2025 Guidelines").

¹ Regulation (EU) 2017/1131 of the European Parliament and of the Council of 14 June 2017 on money market funds (OJ L 169, 30.06.2017, p. 8).

2.1 Scope of the proposed changes of the Guidelines

5. ESMA proposes to replace the annual update of the parameters² included in the Guidelines (section 5, Calibration) with an annual update published on a dedicated page on the ESMA website.
6. This change is intended to ease compliance obligations for market participants, as the frequency of the formal update might be reduced, and be more user-friendly by creating a single point of access to such updated parameters for all firms in the EU³.
7. From a supervisory perspective, it would allow market participants to use the new set of parameters closer to the publication of the related ESRB scenario⁴ and reduce the risk of discrepancies, whereby all market participants would not use the latest version of the scenario for the same reporting date.
8. This change is also intended to reduce burden and simplify the process for ESMA and NCAs, in line with the ESMA approach on Simplification and Burden Reduction (SBR)⁵. The proposal outlined in this CP meets ESMA's holistic approach in identifying an area where the proposed changes will reduce complexity, lead to a lean supervisory approach while targeting efficiency, reduction of duplication and inconsistencies.
9. The Guidelines will continue to define the framework and methodology for MMF stress testing, including the categories of scenarios to be considered (liquidity levels, credit and interest rate risks, redemption shocks, spread movements, and macroeconomic shocks).
10. The ESMA webpage will serve exclusively to publish the updated annual calibration of the parameters. NCAs and market participants will continue to rely on the Guidelines for the methodology of stress testing, while consulting the ESMA webpage for the latest calibrations.
11. Annex V contains a preliminary mock-up of the contents of this draft ESMA webpage on the update of the MMF stress tests parameters.

Q1: Do you agree with the proposal to publish the annual calibration parameters on the ESMA website instead of updating the Guidelines each year? If no, please explain why.

² The parameters are based on the input provided by the European Systemic Risk Board (ESRB)

³ As opposed to Guidelines translated in all EU languages.

⁴ Given the new parameters would be immediately available on the ESMA webpage, after these have been approved by ESMA, without having to wait for translations in all EU languages, as it is currently the case.

⁵ [Simplification & Burden Reduction \(SBR\)](#)

3 Annex I: Summary of questions

Q1: Do you agree with the proposal to publish the annual calibration parameters on the ESMA website instead of updating the Guidelines each year? If no, please explain why.

Q2: Do you agree with the draft CBA on the proposal to publish the annual calibration parameters on the ESMA website instead of updating the Guidelines each year?

4 Annex II: Legislative basis

Legislative reference to update the guidelines on stress scenarios under article 28 of the MMF Regulation

According to the article 28(7) of the MMF Regulation “*ESMA shall issue guidelines with a view to establishing common reference parameters of the stress test scenarios to be included in the stress tests taking into account the factors specified in paragraph 1. The guidelines shall be updated at least every year taking into account the latest market developments*”.

5 Annex III: Cost-benefit analysis

This consultation paper sets out proposals for the introduction of a new approach whereby the parameters of the MMF stress tests (ST) scenarios would be published on a dedicated page of the ESMA website.

This draft cost-benefit analysis (CBA) is qualitative by nature. Should relevant data be received through the consultation process, ESMA will take it into account when finalising the guidelines and will include it in the CBA accompanying the final report.

The following table summarises the potential costs and benefits resulting from the implementation of the proposed approach to publishing and updating the parameters on the ESMA website.

| | |
|---------------------------|--|
| Policy objective | Streamline the update process by moving from a guideline update to a regularly maintained online resource. |
| Baseline scenario | The baseline scenario should be understood for this CBA as the update of parameters annually through a formal revision of section 5 of the Guidelines. |
| Technical proposal | To replace the annual update of the Guidelines with an annual update of a dedicated page on the ESMA website which would contain the latest parameters (calibrations) relevant to MMF ST. |
| Benefit | <p>The proposed approach goes in the direction of simplification and cost saving.</p> <p>The main benefits of the proposal are therefore to ease compliance obligations for market participants by providing greater flexibility on the timing of the updates and to enhance user-friendliness by establishing a single-point of access to updated parameters for all firms in the EU.</p> <p>From a supervisory perspective, it would allow market participants to use the new set of parameters closer to the publication of the related ESRB scenario and reduce the risk of discrepancies, whereby all market participants would not use the latest version of the scenario for the same reporting date.</p> |

| | |
|--------------------------------|--|
| | <p>The proposal would also alleviate the burden on NCAs and ESMA by removing the translation cost which would represent significant savings in terms of resources.</p> |
| <p>Compliance costs</p> | <p>Compared with the current framework, the proposed approach would necessitate to set new steps and minor related implementation costs:</p> <ul style="list-style-type: none"> • Potential adjustments to internal compliance processes • NCAs may need to update internal processes <p>On the other hand, the implementation cost is expected to be minor and outweighed by the fact that stakeholders would have direct access to the parameters on a dedicated page, reducing the need to consult updated Guidelines, as information would be centralised.</p> |

Q2: Do you agree with the draft CBA on the proposal to publish the annual calibration parameters on the ESMA website instead of updating the Guidelines each year?

Annex IV: Draft Guidelines

Guidelines on MMF stress tests (updates **in red indicate additional text added** to the ESMA34-49-115 Guidelines)

1. Scope

Who?

1. These guidelines apply to competent authorities, money market funds and managers of money market funds as defined in the MMF Regulation⁶.

What?

2. These guidelines apply in relation to Article 28 of the MMF Regulation and establish common reference parameters for the stress test scenarios to be included in the stress tests conducted by MMFs or managers of MMFs in accordance with that Article.

When?

3. These guidelines apply from two months after the date of publication of the guidelines on ESMA's website in all EU official languages (**with respect to parts in red** – the other parts of the Guidelines already apply from the dates specified in Articles 44 and 47 of the MMF Regulation).

2. Purpose

(...) SECTIONS 2 to 4.8, as well as the appendix, REMAIN UNCHANGED⁷

⁶ Regulation (EU) 2017/1131 of the European Parliament and of the Council of 14 June 2017 on money market funds (OJ L 169, 30.06.2017, p. 8).

⁷ The full text of the currently applicable Guidelines on MMF stress tests can be found here: https://www.esma.europa.eu/sites/default/files/2026-01/ESMA50-481369926-30585_Final_Report_-_Guidelines_on_stress_test_scenarios_under_the_MMF_Regulation.pdf

5. Calibration

75. This section of the Guidelines includes the current calibration for the MMF stress tests the results of which have to be reported in accordance with Article 37 of the MMF Regulation, and which are detailed in section 4.8 above. This calibration for the MMF stress tests is located on a dedicated ESMA webpage⁸.

76. ESMA works in collaboration with the ESRB and the ECB for the annual calibration of the risk parameters. The parameters included on the abovementioned ESMA webpage are transmitted by the ESRB and updated every year. If managers need a parameter that is not indicated in this section, they may consult the adverse scenario on the ESRB website⁹.

77. The tables in the ESMA webpage specifically include common reference parameters of the stress test scenarios in relation to:

- common hypothetical changes in the level of liquidity of the assets held in the portfolio of the MMF
- hypothetical changes in the level of credit risk of the assets held in the portfolio of the MMF, including credit events and rating events
- hypothetical movements of the interest rates
- hypothetical movements of the exchange rates

78. When ESMA supplements the above-mentioned tables (containing parameters transmitted by the ESRB) with additional parameters, the figures are underlined. Unless otherwise specified, underlined figures are simple extrapolations of the parameters provided by the ESRB, for example an average of other parameters.

79. Finally, some parameters of the tables are calibrated by ESMA. Such calibrations are based on historical data and literature. Specifically, ESMA's work¹⁰ to assess the price impact of asset sales during a market stress is used as a reference for the development of a price impact function. In addition, certain specifications are aligned with other sectoral regulations for the sake of consistency. Those parameters are not updated on a regular basis and are not modified unless otherwise specified:

- The price impact parameters

⁸ Reference to the ESMA webpage to be created

⁹ [Stress testing](#)

¹⁰ [esma50-164-2458_stresi_report.pdf](#)

- The loss given default
- The asset classification
- The net outflows

3. Annex V: Mock-up of the contents of the draft ESMA webpage on the update of the MMF stress tests parameters¹¹

Calibration for the MMF stress tests the results of which have to be reported in accordance with Article 37 of the MMF Regulation

¹¹ Please consider this draft mock-up as a mere preliminary example of the ESMA webpage which would be developed. The numbers included in the tables are taken from the last (2025) version of the Guidelines on MMF stress tests published on the ESMA website: https://www.esma.europa.eu/sites/default/files/2026-01/ESMA50-481369926-30585_Final_Report_-_Guidelines_on_stress_test_scenarios_under_the_MMF_Regulation.pdf

Common reference parameters of the stress test scenarios in relation to hypothetical changes in the level of liquidity of the assets held in the portfolio of the MMF

Scope of the scenario

| MMFR Eligible assets | Typical assets | Liquidity | |
|--|--|-----------|---|
| | | Stressed | Parameters |
| (a) money market instruments | -Certificate of deposit (CD) | Yes | Table 3, 4 |
| | -Commercial Paper (CP) | Yes | Table 3, 4 |
| | -Government bonds, treasury and local authority bills | Yes | Table 1,2, 4 |
| | -Corporate bonds | Yes | Table 3, 4 |
| (b) eligible securitisations and asset-backed commercial paper (ABCPs) | -Eligible securitisations | Yes | Table 3, 4 |
| | -ABCPs | Yes | Table 3, 4 |
| (c) deposits with credit institutions | -Deposits, of which time deposits | No | |
| (d) financial derivative instruments | -Financial derivative instruments dealt in on a regulated market | No | |
| | -Financial derivative instruments dealt OTC | No | |
| (e) repurchase agreements | -Repos | Yes | 4 |
| (f) reverse repurchase agreements | -Reverse repos | Yes | 4 |
| (g) units or shares of other MMFs | -Shares issued by other MMFs | Yes | Extrapolation of the results to shares issued by other MMFs |

Table 1

| Liquidity discount factor - Sovereign bonds by residual maturity - Reference countries (in %) | | | | | |
|--|-----------|-----------|-----------|-------------|-----------|
| | 3M | 6M | 1Y | 1.5Y | 2Y |
| DE | 0.08 | 0.10 | 0.12 | <u>0.16</u> | 0.20 |
| ES | 0.10 | 0.17 | 0.21 | <u>0.25</u> | 0.29 |
| FR | 0.08 | 0.11 | 0.12 | <u>0.17</u> | 0.21 |
| IT | 0.09 | 0.15 | 0.17 | <u>0.22</u> | 0.26 |
| NL | 0.08 | 0.13 | 0.17 | <u>0.19</u> | 0.21 |

Table 2

| Liquidity discount factor - Sovereign bonds by rating and residual maturity (in %) | | | | | |
|---|-------------|-------------|-------------|-------------|-------------|
| | 3M | 6M | 1Y | 1.5Y | 2Y |
| AAA | <u>0.08</u> | <u>0.11</u> | <u>0.14</u> | <u>0.17</u> | <u>0.20</u> |
| AA | <u>0.08</u> | <u>0.11</u> | <u>0.12</u> | <u>0.17</u> | <u>0.21</u> |
| A | <u>0.10</u> | <u>0.17</u> | <u>0.21</u> | <u>0.25</u> | <u>0.29</u> |
| BBB | <u>0.10</u> | <u>0.17</u> | <u>0.21</u> | <u>0.25</u> | <u>0.29</u> |
| Below BBB or unrated | <u>0.12</u> | <u>0.22</u> | <u>0.27</u> | <u>0.33</u> | <u>0.38</u> |

Table 3

| Liquidity discount factor - Corporate bonds by rating and residual maturity | | | | | |
|--|-------------|-------------|-------------|-------------|-------------|
| | 3M | 6M | 1Y | 1.5Y | 2Y |
| AAA | <u>0.39</u> | <u>0.42</u> | <u>0.45</u> | <u>0.49</u> | <u>0.53</u> |
| AA | <u>0.41</u> | <u>0.43</u> | <u>0.45</u> | <u>0.49</u> | <u>0.53</u> |
| A | <u>0.41</u> | <u>0.44</u> | <u>0.48</u> | <u>0.52</u> | <u>0.56</u> |
| BBB | <u>0.41</u> | <u>0.47</u> | <u>0.50</u> | <u>0.53</u> | <u>0.56</u> |
| Below BBB or unrated | <u>0.54</u> | <u>0.62</u> | <u>0.64</u> | <u>0.69</u> | <u>0.73</u> |

Table Option 4: Price impact parameter

| Price impact parameter (%) | |
|-----------------------------------|---------|
| Cash and deposits | - |
| Sovereign bonds | 1E-13 |
| Corporate bonds (non-financial) | 4.3E-13 |
| Corporate bonds (financial) | 8E-13 |
| Securitisation and ABCPs | 4E-13 |
| Shares issued by other MMFs | 2.7E-13 |
| Other (incl. repos) | 4.7E-13 |

Common reference parameters of the stress test scenarios in relation to hypothetical changes in the level of credit risk of the assets held in the portfolio of the MMF, including credit events and rating events

Scope of the scenario

| MMFR Eligible assets | Typical assets | Credit (credit spreads) | | Credit (2 main counterparties) | |
|--|--|----------------------------|---|-----------------------------------|---|
| | | Stressed | Parameters | Stressed | Parameters |
| (a) money market instruments | -Certificate of deposit (CD) | Yes | Table 6 | Yes | Table 7 |
| | -Commercial Paper (CP) | Yes | Table 6 | Yes | Table 7 |
| | -Government bonds, treasury and local authority bills | Yes | Table 5 | Yes | Table 7 |
| | -Corporate bonds | Yes | Table 6 | Yes | Table 7 |
| (b) eligible securitisations and asset-backed commercial paper (ABCPs) | -Eligible securitisations | Yes | Table 6 | Yes | Table 7 |
| | -ABCPs | Yes | Table 6 | Yes | Table 7 |
| (c) deposits with credit institutions | -Deposits, of which time deposits | No | | No | |
| (d) financial derivative instruments | -Financial derivative instruments dealt in on a regulated market | No | | No | |
| | -Financial derivative instruments dealt OTC | No | | No | |
| (e) repurchase agreements | -Repos | No | | No | |
| (f) reverse repurchase agreements | -Reverse repos | No | | No | |
| (g) units or shares of other MMFs | -Shares issued by other MMFs | Yes | Extrapolation of the results to shares issued by other MMFs | Yes | Extrapolation of the results to shares issued by other MMFs |

Table 5: Shocks to government bond credit spreads

| Credit Spread by residual maturity - Government bonds (absolute changes - basis points) | | | | | |
|--|---|-----------|-----------|-----------|-----------|
| Geographic Area | Country | 3M | 6M | 1Y | 2Y |
| EU | Austria | 28 | 32 | 41 | 50 |
| EU | Belgium | 40 | 46 | 57 | 70 |
| EU | Bulgaria | 37 | 42 | 54 | 68 |
| EU | Croatia | 34 | 39 | 50 | 63 |
| EU | Cyprus | 37 | 42 | 54 | 68 |
| EU | Czech Republic | 28 | 32 | 41 | 51 |
| EU | Denmark | 21 | 25 | 32 | 40 |
| EU | Finland | 28 | 32 | 41 | 51 |
| EU | France | 44 | 52 | 65 | 74 |
| EU | Germany | 25 | 29 | 37 | 47 |
| EU | Greece | 59 | 72 | 91 | 110 |
| EU | Hungary | 56 | 69 | 87 | 105 |
| EU | Ireland | 25 | 29 | 37 | 48 |
| EU | Italy | 55 | 67 | 81 | 100 |
| EU | Latvia | 37 | 42 | 54 | 68 |
| EU | Lithuania | 28 | 32 | 41 | 51 |
| EU | Luxembourg | 21 | 25 | 33 | 41 |
| EU | Malta | 29 | 33 | 43 | 53 |
| EU | Netherlands | 23 | 27 | 35 | 43 |
| EU | Poland | 51 | 59 | 69 | 80 |
| EU | Portugal | 50 | 57 | 67 | 77 |
| EU | Romania | 56 | 68 | 85 | 102 |
| EU | Slovakia | 34 | 39 | 50 | 63 |
| EU | Slovenia | 32 | 36 | 47 | 59 |
| EU | Spain | 51 | 60 | 69 | 81 |
| EU | Sweden | 21 | 25 | 33 | 41 |
| EA (weighted averages) | EA (weighted averages) | 38 | 45 | 55 | 67 |
| EU (weighted averages) | EU (weighted averages) | 38 | 45 | 55 | 66 |
| Advanced economies | United Kingdom | 32 | 40 | 52 | 66 |
| Advanced economies | Switzerland | 25 | 31 | 33 | 37 |
| Advanced economies | Norway | 30 | 37 | 39 | 47 |
| Advanced economies | United States | 42 | 54 | 61 | 79 |
| Advanced economies | Japan | 11 | 13 | 19 | 21 |
| Advanced economies | Advanced economies non EU and non US | 25 | 30 | 36 | 43 |
| Emerging markets | | 95 | 120 | 135 | 144 |

Table 6: Shocks to corporate bond and ABS credit spreads (all maturities)

| Rating | Corporate credit spreads (absolute changes - basis points) | | | |
|--------|--|-------------------|-----------|------------|
| | Non-financial | Financial covered | Financial | ABS |
| AAA | 116 | 87 | 111 | 110 |
| AA | 128 | 104 | 129 | 126 |
| A | 154 | 116 | 156 | 187 |
| BBB | 196 | 157 | 194 | 254 |
| BB | 273 | 224 | 271 | <u>356</u> |
| B | 342 | 284 | 339 | <u>356</u> |
| ≤CCC | 385 | 322 | 382 | <u>356</u> |

Table 7: Loss given default

| Loss given default (%) | |
|------------------------|----|
| Senior exposure | 45 |
| Subordinated exposure | 75 |

Common reference parameters of the stress test scenarios in relation to hypothetical movements of the interest rates

Scope of the scenario

| MMFR Eligible assets | Typical assets | IR (Interest rate swap) | |
|--|--|----------------------------|---|
| | | Stressed | Parameters |
| (a) money market instruments | -Certificate of deposit (CD) | Yes | Table 8, 9 |
| | -Commercial Paper (CP) | Yes | Table 8, 9 |
| | -Government bonds, treasury and local authority bills | Yes | Table 8, 9 |
| | -Corporate bonds | Yes | Table 8, 9 |
| (b) eligible securitisations and asset-backed commercial paper (ABCPs) | -Eligible securitisations | Yes | Table 8, 9 |
| | -ABCPs | Yes | Table 8, 9 |
| (c) deposits with credit institutions | -Deposits, of which time deposits | Yes | Table 8, 9 |
| (d) financial derivative instruments | -Financial derivative instruments dealt in on a regulated market | Yes | Table 8, 9 |
| | -Financial derivative instruments dealt OTC | Yes | Table 8, 9 |
| (e) repurchase agreements | -Repos | No | |
| (f) reverse repurchase agreements | -Reverse repos | Yes | Table 8, 9 |
| (g) units or shares of other MMFs | -Shares issued by other MMFs | Yes | Extrapolation of the results to shares issued by other MMFs |

Table 8: Shocks to swap rates

| Interest rate yield shocks absolute changes (basis points) | | | | | | | |
|---|-----------------------|--|-----|-----|-----|-----|-----|
| Geographic Area | Country | Description | 1M | 3M | 6M | 1Y | 2Y |
| EU | Euro area | Interest rate swap on the EUR (euro) | 83 | 88 | 97 | 100 | 106 |
| EU | Bulgaria | Interest rate swap on the BGN (Bulgarian lev) | 143 | 154 | 166 | 174 | 180 |
| EU | Czech Republic | Interest rate swap on the CZK (Czech koruna) | 104 | 110 | 123 | 130 | 136 |
| EU | Denmark | Interest rate swap on the DKK (Danish krone) | 86 | 93 | 100 | 103 | 108 |
| EU | Hungary | Interest rate swap on the HUF (Hungarian forint) | 115 | 123 | 137 | 152 | 170 |
| EU | Poland | Interest rate swap on the PLN (Polish zloty) | 121 | 129 | 138 | 148 | 159 |
| EU | Romania | Interest rate swap on the RON (Romanian leu) | 143 | 154 | 166 | 174 | 180 |
| EU | Sweden | Interest rate swap on the SEK (Swedish krona) | 84 | 91 | 100 | 106 | 112 |
| Rest of Europe | United Kingdom | Interest rate swap on the GBP (British pound) | 95 | 100 | 109 | 127 | 137 |
| Rest of Europe | Norway | Interest rate swap on the NOK (Norwegian krone) | 95 | 98 | 102 | 106 | 110 |
| Rest of Europe | Russia | Interest rate swap on the RUB (Russian ruble) | 231 | 257 | 286 | 319 | 355 |

| | | | | | | | |
|---------------------------|----------------------|--|-----|-----|-----|-----|-----|
| Rest of Europe | Switzerland | Interest rate swap on the CHF (Swiss franc) | 56 | 66 | 78 | 88 | 97 |
| Rest of Europe | Türkiye | Interest rate swap on the TRY (Turkish lira) | 114 | 122 | 132 | 141 | 152 |
| North America | Canada | Interest rate swap on the CAD (Canadian dollar) | 102 | 108 | 116 | 132 | 141 |
| North America | United States | Interest rate swap on the USD (US dollar) | 118 | 122 | 128 | 140 | 164 |
| Australia and Pacific | Australia | Interest rate swap on the AUD (Australian dollar) | 101 | 107 | 114 | 125 | 138 |
| Australia and Pacific | New Zealand | Interest rate swap on the NZD (New Zealand dollar) | 101 | 107 | 118 | 126 | 135 |
| South and Central America | Chile | Interest rate swap on the CLP (Chilean peso) | 164 | 180 | 198 | 206 | 213 |
| South and Central America | Colombia | Interest rate swap on the COP (Colombian peso) | 237 | 255 | 268 | 274 | 289 |
| South and Central America | Mexico | Interest rate swap on the MXN (Mexican peso) | 164 | 180 | 198 | 206 | 213 |
| Asia | China | Interest rate swap on the CNY (Chinese yuan) | 35 | 40 | 44 | 46 | 51 |
| Asia | Hong Kong | Interest rate swap on the HKD (Hong Kong dollar) | 114 | 122 | 131 | 140 | 144 |
| Asia | India | Interest rate swap on the INR (Indian rupee) | 114 | 130 | 143 | 150 | 168 |
| Asia | Japan | Interest rate swap on the JPY (Japanese yen) | 8 | 9 | 16 | 19 | 25 |
| Asia | Korea | Interest rate swap on the KRW (South Korean won) | 97 | 103 | 109 | 112 | 122 |
| Asia | Malaysia | Interest rate swap on the MYR (Malaysian ringgit) | 108 | 110 | 113 | 124 | 130 |
| Asia | Singapore | Interest rate swap on the SGD (Singapore dollar) | 101 | 103 | 107 | 116 | 129 |
| Asia | Thailand | Interest rate swap on the THB (Thai baht) | 102 | 103 | 107 | 117 | 125 |

| | | | | | | | |
|--------|---------------------|--|-----|-----|-----|-----|-----|
| Africa | South Africa | Interest rate swap on the ZAR (South African rand) | 147 | 160 | 171 | 189 | 219 |
|--------|---------------------|--|-----|-----|-----|-----|-----|

Table 9 Shocks to swap rates (default values for countries not included in table 8)

| Interest rate yield shocks absolute changes (basis points) | | | | | | |
|---|---|-----------|-----------|-----------|-----------|-----------|
| Geographic Area | Description | 1M | 3M | 6M | 1Y | 2Y |
| EU | Default value for countries not included in table 8 | 110 | 118 | 129 | 136 | 144 |
| Other advanced economies | Default value for countries not included in table 8 | 84 | 89 | 96 | 105 | 114 |
| Other emerging markets | Default value for countries not included in table 8 | 153 | 166 | 180 | 192 | 207 |

Common reference parameters of the stress test scenarios in relation to hypothetical movements of the exchange rates

Scope of the scenario

| MMFR Eligible assets | Typical assets | FX (Appreciation of the EUR) | | FX (Depreciation of the EUR) | |
|--|--|---------------------------------|---|---------------------------------|---|
| | | Stressed | Parameters | Stressed | Parameters |
| (a) money market instruments | -Certificate of deposit (CD) | Yes | Table 10 | Yes | Table 11 |
| | -Commercial Paper (CP) | Yes | Table 10 | Yes | Table 11 |
| | -Government bonds, treasury and local authority bills | Yes | Table 10 | Yes | Table 11 |
| | -Corporate bonds | Yes | Table 10 | Yes | Table 11 |
| (b) eligible securitisations and asset-backed commercial paper (ABCPs) | -Eligible securitisations | Yes | Table 10 | Yes | Table 11 |
| | -ABCPs | Yes | Table 10 | Yes | Table 11 |
| (c) deposits with credit institutions | -Deposits, of which time deposits | Yes | Table 10 | Yes | Table 11 |
| (d) financial derivative instruments | -Financial derivative instruments dealt in on a regulated market | Yes | Table 10 | Yes | Table 11 |
| | -Financial derivative instruments dealt OTC | Yes | Table 10 | Yes | Table 11 |
| (e) repurchase agreements | -Repos | No | | No | |
| (f) reverse repurchase agreements | -Reverse repos | Yes | Table 10 | Yes | Table 11 |
| (g) units or shares of other MMFs | -Shares issued by other MMFs | Yes | Extrapolation of the results to shares issued by other MMFs | Yes | Extrapolation of the results to shares issued by other MMFs |

Table 10

| FX shocks (appreciation of the EUR against the USD) | | | |
|--|--|---------------------------|--------------|
| relative changes (%) | | | |
| Geographic Area | Description | Exchange rate name | Shock |
| EU | EURCZK represents 1 EUR per x CZK (Czech koruna) | EURCZK | 6 |
| EU | EURHUF represents 1 EUR per x HUF (Hungarian forints) | EURHUF | 18 |
| EU | EURPLN represents 1 EUR per x PLN (Polish zloty) | EURPLN | 15 |
| EU | EURRON represents 1 EUR per x RON (Romanian leu) | EURRON | 3 |
| EU | EURSEK represents 1 EUR per x SEK (Swedish krona) | EURSEK | 11 |
| Rest of Europe | EURRSD represents 1 EUR per x RSD (Serbian dinar) | EURRSD | 2 |
| Rest of Europe | EURNOK represents 1 EUR per x NOK (Norwegian krone) | EURNOK | 9 |
| Rest of Europe | EURGBP represents 1 EUR per x GBP (British pound) | EURGBP | 10 |
| Rest of Europe | EURCHF represents 1 EUR per x CHF (Swiss franc) | EURCHF | 5 |
| Rest of Europe | EURRUB represents 1 EUR per x RUB (Russian ruble) | EURRUB | 45 |
| Rest of Europe | EURTRY represents 1 EUR per x TRY (Turkish lira) | EURTRY | 21 |
| North America | USDCAD represents 1 USD per x CAD (Canadian dollar) | USDCAD | -6 |
| North America | EURUSD represents 1 EUR per x USD (US dollar) | EURUSD | 9 |
| Australia and Pacific | AUDUSD represents 1 AUD per x USD (Australian dollar) | AUDUSD | 9 |
| Australia and Pacific | NZDUSD represents 1 NZD per x USD (New Zealand dollar) | NZDUSD | 8 |
| South and Central America | USDARS represents 1 USD per x ARS (Argentine peso) | USDARS | -17 |
| South and Central America | USDBRL represents 1 USD per x BRL (Brazilian real) | USDBRL | -18 |

| | | | |
|---------------------------|---|---------------|-----|
| South and Central America | USDMXN represents 1 USD per x MXN (Mexican peso) | USDMXN | -7 |
| Asia | USDCNY represents 1 USD per x CNY (Chinese yuan renminbi) | USDCNY | -4 |
| Asia | USDHKD represents 1 USD per x HKD (Hong Kong dollar) | USDHKD | -1 |
| Asia | USDINR represents 1 USD per x INR (Indian rupee) | USDINR | -2 |
| Asia | USDJPY represents 1 USD per x JPY (Japanese yen) | USDJPY | -8 |
| Asia | USDKRW represents 1 USD per x KRW (South Korean won) | USDKRW | -10 |
| Asia | USDMYR represents 1 USD per x MYR (Malaysian ringgit) | USDMYR | -5 |
| Asia | USDSGD represents 1 USD per x SGD (Singapore dollar) | USDSGD | -5 |
| Asia | USDTHB represents 1 USD per x THB (Thai baht) | USDTHB | -6 |
| Asia | USDTWD represents 1 USD per x TWD (New Taiwan dollar) | USDTWD | -3 |
| Africa | USDZAR represents 1 USD per x ZAR (South African rand) | USDZAR | -11 |

Table 11

| FX shocks (depreciation of the EUR against the USD) relative changes (%) | | | |
|---|---|---------------------------|--------------|
| Geographic Area | Description | Exchange rate name | Shock |
| EU | EURCZK represents 1 EUR per x CZK (Czech koruna) | EURCZK | -5 |
| EU | EURHUF represents 1 EUR per x HUF (Hungarian forints) | EURHUF | -7 |
| EU | EURPLN represents 1 EUR per x PLN (Polish zloty) | EURPLN | -4 |
| EU | EURRON represents 1 EUR per x RON (Romanian leu) | EURRON | -2 |
| EU | EURSEK represents 1 EUR per x SEK (Swedish krona) | EURSEK | -2 |
| Rest of Europe | EURRSD represents 1 EUR per x RSD (Serbian dinar) | EURRSD | -1 |
| Rest of Europe | EURNOK represents 1 EUR per x NOK (Norwegian krone) | EURNOK | -8 |

| | | | |
|---------------------------|---|---------------|-----|
| Rest of Europe | EURGBP represents 1 EUR per x GBP (British pound) | EURGBP | -5 |
| Rest of Europe | EURCHF represents 1 EUR per x CHF (Swiss franc) | EURCHF | -9 |
| Rest of Europe | EURRUB represents 1 EUR per x RUB (Russian ruble) | EURRUB | -40 |
| Rest of Europe | EURTRY represents 1 EUR per x TRY (Turkish lira) | EURTRY | -4 |
| North America | USDCAD represents 1 USD per x CAD (Canadian dollar) | USDCAD | 9 |
| North America | EURUSD represents 1 EUR per x USD (US dollar) | EURUSD | -12 |
| Australia and Pacific | AUDUSD represents 1 AUD per x USD (Australian dollar) | AUDUSD | -13 |
| Australia and Pacific | NZDUSD represents 1 NZD per x USD (New Zealand dollar) | NZDUSD | -13 |
| South and Central America | USDARS represents 1 USD per x ARS (Argentine peso) | USDARS | 18 |
| South and Central America | USDBRL represents 1 USD per x BRL (Brazilian real) | USDBRL | 14 |
| South and Central America | USDMXN represents 1 USD per x MXN (Mexican peso) | USDMXN | 12 |
| Asia | USDCNY represents 1 USD per x CNY (Chinese yuan renminbi) | USDCNY | 7 |
| Asia | USDHKD represents 1 USD per x HKD (Hong Kong dollar) | USDHKD | 1 |
| Asia | USDINR represents 1 USD per x INR (Indian rupee) | USDINR | 8 |
| Asia | USDJPY represents 1 USD per x JPY (Japanese yen) | USDJPY | 14 |
| Asia | USDKRW represents 1 USD per x KRW (South korean won) | USDKRW | 11 |
| Asia | USDMYR represents 1 USD per x MYR (Malaysian ringgit) | USDMYR | 6 |
| Asia | USDSGD represents 1 USD per x SGD (Singapore dollar) | USDSGD | 5 |
| Asia | USDTHB represents 1 USD per x THB (Thai baht) | USDTHB | 9 |
| Asia | USDTWD represents 1 USD per x TWD (New Taiwan dollar) | USDTWD | 7 |
| Africa | USDZAR represents 1 USD per x ZAR (South African rand) | USDZAR | 17 |

Common reference parameters of the stress test scenarios in relation to hypothetical widening or narrowing of spreads among indexes to which interest rates of portfolio securities are tied

Scope of the scenario

| MMFR Eligible assets | Typical assets | IR (Interest rate swap) | |
|--|--|----------------------------|---|
| | | Stressed | Parameters |
| (a) money market instruments | -Certificate of deposit (CD) | Yes | Table 8, 9 |
| | -Commercial Paper (CP) | Yes | Table 8, 9 |
| | -Government bonds, treasury and local authority bills | Yes | Table 8, 9 |
| | -Corporate bonds | Yes | Table 8, 9 |
| (b) eligible securitisations and asset-backed commercial paper (ABCPs) | -Eligible securitisations | Yes | Table 8, 9 |
| | -ABCPs | Yes | Table 8, 9 |
| (c) deposits with credit institutions | -Deposits, of which time deposits | Yes | Table 8, 9 |
| (d) financial derivative instruments | -Financial derivative instruments dealt in on a regulated market | Yes | Table 8, 9 |
| | -Financial derivative instruments dealt OTC | Yes | Table 8, 9 |
| (e) repurchase agreements | -Repos | No | |
| (f) reverse repurchase agreements | -Reverse repos | Yes | Table 8, 9 |
| (g) units or shares of other MMFs | -Shares issued by other MMFs | Yes | Extrapolation of the results to shares issued by other MMFs |

Common reference parameters of the stress test scenarios in relation to hypothetical levels of redemption

Scope of the scenario

| MMFR Eligible assets | Typical assets | Redemption (reverse liquidity ST) | | Redemption (weekly liquidity ST) | | Redemption (2 main investors) | |
|--|--|--------------------------------------|-----------------|-------------------------------------|--------------|----------------------------------|------------|
| | | Stressed | Parameters | Stressed | Parameters | Stressed | Parameters |
| (a) money market instruments | -Certificate of deposit (CD) | Yes | Self-assessment | Yes | Table 12, 13 | Yes | Table 12 |
| | -Commercial Paper (CP) | Yes | Self-assessment | Yes | Table 12, 13 | Yes | Table 12 |
| | -Government bonds, treasury and local authority bills | Yes | Self-assessment | Yes | Table 12, 13 | Yes | Table 12 |
| | -Corporate bonds | Yes | Self-assessment | Yes | Table 12, 13 | Yes | Table 12 |
| (b) eligible securitisations and asset-backed commercial paper (ABCPs) | -Eligible securitisations | Yes | Self-assessment | Yes | Table 12, 13 | Yes | Table 12 |
| | -ABCPs | Yes | Self-assessment | Yes | Table 12, 13 | Yes | Table 12 |
| (c) deposits with credit institutions | -Deposits, of which time deposits | Yes | Self-assessment | Yes | Table 12, 13 | Yes | Table 12 |
| (d) financial derivative instruments | -Financial derivative instruments dealt in on a regulated market | Yes | Self-assessment | Yes | Table 12, 13 | Yes | Table 12 |
| | -Financial derivative instruments dealt OTC | Yes | Self-assessment | Yes | Table 12, 13 | Yes | Table 12 |
| (e) repurchase agreements | -Repos | Yes | Self-assessment | No | Table 12, 13 | No | Table 12 |
| (f) reverse repurchase agreements | -Reverse repos | Yes | Self-assessment | Yes | Table 12, 13 | Yes | Table 12 |
| (g) units or shares of other MMFs | -Shares issued by other MMFs | Yes | Self-assessment | Yes | Table 12, 13 | Yes | Table 12 |

Table 12

| Assets | Article | CQS |
|---|----------------|-----|
| Assets referred to in Article 17(7) which are highly liquid and can be redeemed and settled within one working day and have a residual maturity of up to 190 days | 17(7) | 1 |
| Cash which is able to be withdrawn by giving prior notice of five working days without penalty | 24(1) 25(1) | |
| Weekly maturing assets | 24(1) 25(1) | |
| Reverse repurchase agreements which are able to be terminated by giving prior notice of five working days | 24(1) 25(1) | |
| x100% = Weekly liquid assets (bucket 1) | | |
| Assets referred to in Article 17(7) which can be redeemed and settled within one working week | 17(7) | 1,2 |
| Money market instruments or units or shares of other MMFs which they are able to be redeemed and settled within five working days | 24(1) 25(1) | 1,2 |
| Eligible securitisations and asset-backed commercial paper (ABCPs) | 9(1)(b) | 1 |
| x85% = Weekly liquid assets (bucket 2) | | |

Table 13

| Net outflows (%) | |
|-----------------------|----|
| Professional investor | 40 |
| Retail investor | 30 |

Common reference parameters of the stress test scenarios in relation to hypothetical macro systemic shocks affecting the economy as a whole

Scope of the scenario

| MMFR Eligible assets | Typical assets | Macro | |
|--|--|----------|--------------------------------------|
| | | Stressed | Parameters |
| (a) money market instruments | -Certificate of deposit (CD) | Yes | Tables 1,2,3,4,5,6,7,8,10,11, 12, 14 |
| | -Commercial Paper (CP) | Yes | Tables 1,2,3,4,5,6,7,8,10,11, 12, 14 |
| | -Government bonds, treasury and local authority bills | Yes | Tables 1,2,3,4,5,6,7,8,10,11, 12, 14 |
| | -Corporate bonds | Yes | Tables 1,2,3,4,5,6,7,8,10,11, 12, 14 |
| (b) eligible securitisations and asset-backed commercial paper (ABCPs) | -Eligible securitisations | Yes | Tables 1,2,3,4,5,6,7,8,10,11, 12, 14 |
| | -ABCPs | Yes | Tables 1,2,3,4,5,6,7,8,10,11, 12, 14 |
| (c) deposits with credit institutions | -Deposits, of which time deposits | Yes | Tables 1,2,3,4,5,6,7,8,10,11, 12, 14 |
| (d) financial derivative instruments | -Financial derivative instruments dealt in on a regulated market | Yes | Tables 1,2,3,4,5,6,7,8,10,11, 12, 14 |
| | -Financial derivative instruments dealt OTC | Yes | Tables 1,2,3,4,5,6,7,8,10,11, 12, 14 |
| (e) repurchase agreements | -Repos | No | Tables 1,2,3,4,5,6,7,8,10,11, 12, 14 |
| (f) reverse repurchase agreements | -Reverse repos | Yes | Tables 1,2,3,4,5,6,7,8,10,11, 12, 14 |
| (g) units or shares of other MMFs | -Shares issued by other MMFs | Yes | Tables 1,2,3,4,5,6,7,8,10,11, 12, 14 |

Table 14

| Net outflows (%) | |
|------------------------------|----|
| Professional investor | 20 |
| Retail investor | 10 |