

# Adverse scenario for the 2024 European Securities and Markets Authority’s money market fund stress-testing guidelines

## Introduction

The European Supervisory Authorities, in cooperation with the European Systemic Risk Board (ESRB), are required by legislation to conduct stress tests to assess the resilience of financial institutions or financial market participants to adverse market developments. As part of this cooperation, the ESRB designs adverse economic and financial market scenarios.

This document sets out the adverse financial market scenario for the stress-testing exercise carried out by the European Securities and Markets Authority (ESMA). Specifically, ESMA has developed guidelines for managers of money market funds (MMFs), who are required to conduct internal stress tests and report the results to the national competent authorities and ESMA.<sup>1</sup> For this purpose, the ESRB, in collaboration with the European Central Bank and ESMA, has updated the calibration of stress parameters for the 2024 ESMA MMF guidelines.<sup>2</sup> The updated parameters were approved by the ESRB General Board on 29 November 2024 and transmitted to ESMA on 3 December 2024.

All assumptions about redemptions and the additional guidance on applying the scenario are provided by ESMA as part of its MMF stress-testing guidelines.

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<sup>1</sup> Article 28 of Regulation (EU) 2017/1131 of the European Parliament and of the Council of 14 June 2017 on money market funds (the MMF Regulation) provides that ESMA will issue guidelines that establish common reference parameters of the stress test scenarios to be included in the stress tests that managers of MMFs are required to conduct.

<sup>2</sup> The scenario presented in this document is not a forecast. It should not be interpreted as the ESRB’s expectations about future economic and financial developments, including monetary policy decisions and their impacts. It constitutes a severe hypothetical scenario.

## Scenario methodology and calibration

This section discusses the calibration methodology and the main sources of risk behind the adverse scenario, as well as the key features that ESMA considers relevant to the MMF sector. The scenario calibration has benefited from interactions with ESMA and discussions with ESRB member institutions.

### Calibration methodology

The methodology for the scenario calibration is based on the non-parametric application of a multivariate copula model, as used in previous ESMA MMF stress-testing guidelines.<sup>3</sup> The scenario is the outcome of several simulations based on a number of triggers that reflect the main sources of financial stability risks, focusing in particular on swap rates, corporate and government bond spreads, foreign exchange rates and securitisations in the European Union and other advanced economies. The calibration sample and probability of the triggering events have been set, in close collaboration with ESMA, to reflect the main features of the scenario as dictated by the current risk landscape, which was identified by the ESRB General Board. More precisely, the sample period chosen for the calibration spans from January 2008 to June 2024, and the probability of the triggering events is set over a horizon of one quarter for all the tables in the scenario, except for Table A.5 (on shocks to bid-ask spreads), which has been calibrated over a five-day horizon. The shocks reported should be interpreted as immediate and permanent shifts in asset prices relative to their cut-off date levels, as specified in ESMA's guidelines.

### Scenario

The scenario reflects the ESRB's assessment of prevailing sources of systemic risks identified for the EU financial system as of November 2024. These include: (i) the materialisation of macro risks resulting in balance sheet stress for non-financial corporations and households; (ii) disorderly market corrections, possibly amplified by the non-banking sector; (iii) deteriorating asset quality and funding risk for the banking sector; (iv) accumulated risks in the real estate sector; and (v) a re-emergence of sovereign financing risk and debt sustainability concerns.

The adverse scenario is calibrated to be severe, consistent with an increase in tail risks amid high geopolitical uncertainty stemming from multiple conflicts worldwide. These geopolitical events amplify trade disruptions and lead to a sharp rise in commodity prices, ultimately triggering fresh inflationary pressures. In turn, resurgent inflation prompts market participants to revise their expectations of monetary policy, causing a spike in risk-free rates.

The resulting tightening of financing conditions, combined with sluggish economic growth, drives up asset price volatility. Geopolitical instability and high levels of volatility cause

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<sup>3</sup> See "Technical note on the Financial Shock Simulator", ECB, Frankfurt am Main, February 2019.

significant disruptions in financial markets, with corporate and government bond spreads being particularly affected. This is because of the increased strain on corporate debt servicing capabilities and the elevated levels of government debt following the pandemic, exacerbated by high interest rates. The upward shifts in sovereign risk premia vary across countries due to differing macroeconomic and fiscal positions.

The perceived risk on debt securities, together with highly volatile market conditions, causes an abrupt slowdown in market activity, as mirrored by a sharp reduction in instruments' market liquidity and a widening of bid-ask spreads. Lastly, such a market reaction would also lead to an abrupt revaluation of other financial asset and real estate prices, inducing substantial volatility for market participants and causing sharp increases in risk premia.



## Annex A

**Table A.1: Shocks to swap rates**

Shocks to swap rates Absolute changes (basis points)							
Geographical area	Country	Description	1M	3M	6M	1Y	2Y
EU	<b>Euro area</b>	Interest rate swap on the EUR (euro)	90	90	120	130	140
EU	<b>Bulgaria</b>	Interest rate swap on the BGN (Bulgarian lev)	120	140	160	170	180
EU	<b>Czech Republic</b>	Interest rate swap on the CZK (Czech koruna)	100	110	120	150	180
EU	<b>Denmark</b>	Interest rate swap on the DKK (Danish krone)	90	100	120	130	140
EU	<b>Hungary</b>	Interest rate swap on the HUF (Hungarian forint)	110	120	140	160	180
EU	<b>Poland</b>	Interest rate swap on the PLN (Polish zloty)	110	110	140	160	180
EU	<b>Romania</b>	Interest rate swap on the RON (Romanian leu)	120	140	160	170	180
EU	<b>Sweden</b>	Interest rate swap on the SEK (Swedish krona)	90	90	120	130	140
Rest of Europe	<b>United Kingdom</b>	Interest rate swap on the GBP (British pound)	100	100	120	130	140
Rest of Europe	<b>Norway</b>	Interest rate swap on the NOK (Norwegian krone)	100	100	120	130	140
Rest of Europe	<b>Russia</b>	Interest rate swap on the RUB (Russian rouble)	210	210	220	220	260
Rest of Europe	<b>Switzerland</b>	Interest rate swap on the CHF (Swiss franc)	80	90	110	130	140
Rest of Europe	<b>Türkiye</b>	Interest rate swap on the TRY (Turkish lira)	230	270	310	340	380
North America	<b>Canada</b>	Interest rate swap on the CAD (Canadian dollar)	100	110	130	140	150
North America	<b>United States</b>	Interest rate swap on the USD (US dollar)	100	110	130	140	150
Australia and Pacific	<b>Australia</b>	Interest rate swap on the AUD (Australian dollar)	100	130	130	150	160
Australia and Pacific	<b>New Zealand</b>	Interest rate swap on the NZD (New Zealand dollar)	100	130	140	150	160
South and Central America	<b>Chile</b>	Interest rate swap on the CLP (Chilean peso)	170	190	220	240	280
South and Central America	<b>Colombia</b>	Interest rate swap on the COP (Colombian peso)	230	250	250	260	270
South and Central America	<b>Mexico</b>	Interest rate swap on the MXN (Mexican peso)	160	180	200	220	250
Asia	<b>China</b>	Interest rate swap on the CNY (Chinese renminbi)	100	120	140	170	190
Asia	<b>Hong Kong</b>	Interest rate swap on the HKD (Hong Kong dollar)	110	130	150	170	190
Asia	<b>India</b>	Interest rate swap on the INR (Indian rupee)	120	140	160	180	200
Asia	<b>Japan</b>	Interest rate swap on the JPY (Japanese yen)	10	10	10	20	30
Asia	<b>South Korea</b>	Interest rate swap on the KRW (South Korean won)	100	120	130	170	200
Asia	<b>Malaysia</b>	Interest rate swap on the MYR (Malaysian ringgit)	40	60	80	110	120
Asia	<b>Singapore</b>	Interest rate swap on the SGD (Singapore dollar)	120	130	140	150	160
Asia	<b>Thailand</b>	Interest rate swap on the THB (Thai baht)	50	70	90	120	130
Africa	<b>South Africa</b>	Interest rate swap on the ZAR (South African rand)	150	160	160	190	220
EU	<b>All countries</b>	Default value for countries not included in the table	100	110	140	150	170
Other advanced economies	<b>All countries</b>	Default value for countries not included in the table	90	100	120	140	150
Emerging market economies	<b>All countries</b>	Default value for countries not included in the table	150	170	180	200	230

**Table A.2: Shocks to government bond spreads**

Shocks to government bond spreads Absolute changes (basis points)					
Geographical area	Country	3M	6M	1Y	2Y
EU	Austria	35	45	55	60
EU	Belgium	30	40	55	60
EU	Bulgaria	50	60	75	95
EU	Croatia	40	50	65	70
EU	Cyprus	40	50	65	70
EU	Czech Republic	55	70	95	105
EU	Denmark	15	35	45	50
EU	Finland	30	40	50	60
EU	France	15	30	40	45
EU	Germany	10	20	30	35
EU	Greece	60	80	95	110
EU	Hungary	55	80	95	115
EU	Ireland	25	35	50	55
EU	Italy	55	70	85	105
EU	Latvia	45	60	75	85
EU	Lithuania	45	55	70	85
EU	Luxembourg	15	25	35	50
EU	Malta	45	50	50	85
EU	Netherlands	15	25	35	40
EU	Poland	45	60	70	85
EU	Portugal	35	45	55	65
EU	Romania	40	55	65	80
EU	Slovakia	40	45	70	75
EU	Slovenia	30	35	50	55
EU	Spain	50	60	70	75
EU	Sweden	15	25	35	40
<b>Euro Area (weighted averages)</b>	<b>Euro Area (weighted averages)</b>	<b>25</b>	<b>35</b>	<b>50</b>	<b>60</b>
<b>EU (weighted averages)</b>	<b>EU (weighted averages)</b>	<b>30</b>	<b>40</b>	<b>50</b>	<b>60</b>
Advanced economies	United Kingdom	15	30	40	45
Advanced economies	Switzerland	25	35	40	40
Advanced economies	Norway	15	30	35	45
Advanced economies	United States	15	25	30	40
Advanced economies	Japan	30	30	35	40
<b>Other advanced economies</b>	<b>Advanced economies excl. EU and United States</b>	<b>20</b>	<b>30</b>	<b>35</b>	<b>40</b>
Advanced economies	Advanced economies (weighted average)	20	30	40	45
Emerging market economies	Emerging markets	85	110	145	200
World	World	55	70	90	120

Notes: The weighted averages are based on real GDP and some missing values have been interpolated. “Advanced economies excluding the EU and the United States” refers to all other advanced economies (as defined by the International Monetary Fund).

**Table A.3: Shocks to foreign exchange rates (EUR appreciation against USD)**

Shocks to FX (appreciation of the EUR against the USD) Relative changes (%)			
Geographical Area	Description	Exchange rate name	Shock
EU	EUR/BGN represents 1 EUR per x BGN (Bulgarian lev)	EUR/BGN	
EU	EUR/CZK represents 1 EUR per x CZK (Czech koruna)	EUR/CZK	6.00
EU	EUR/HUF represents 1 EUR per x HUF (Hungarian forint)	EUR/HUF	16.00
EU	EUR/PLN represents 1 EUR per x PLN (Polish zloty)	EUR/PLN	10.00
EU	EUR/RON represents 1 EUR per x RON (Romanian leu)	EUR/RON	3.00
EU	EUR/SEK represents 1 EUR per x SEK (Swedish krona)	EUR/SEK	11.00
Rest of Europe	EUR/RSD represents 1 EUR per x RSD (Serbian dinar)	EUR/RSD	2.00
Rest of Europe	EUR/NOK represents 1 EUR per x NOK (Norwegian krone)	EUR/NOK	9.00
Rest of Europe	EUR/GBP represents 1 EUR per x GBP (British pound)	EUR/GBP	10.00
Rest of Europe	EUR/CHF represents 1 EUR per x CHF (Swiss franc)	EUR/CHF	6.00
Rest of Europe	EUR/RUB represents 1 EUR per x RUB (Russian rouble)	EUR/RUB	46.00
Rest of Europe	EUR/TRY represents 1 EUR per x TRY (Turkish lira)	EUR/TRY	20.00
North America	USD/CAD represents 1 USD per x CAD (Canadian dollar)	USD/CAD	-5.00
North America	EUR/USD represents 1 EUR per x USD (US dollar)	EUR/USD	6.00
Australia and Pacific	AUD/USD represents 1 AUD per x USD (Australian dollar)	AUD/USD	8.00
Australia and Pacific	NZD/USD represents 1 NZD per x USD (New Zealand dollar)	NZD/USD	7.00
South and Central America	USD/ARS represents 1 USD per x ARS (Argentine peso)	USD/ARS	-17.00
South and Central America	USD/BRL represents 1 USD per x BRL (Brazilian real)	USD/BRL	-18.00
South and Central America	USD/MXN represents 1 USD per x MXN (Mexican peso)	USD/MXN	-8.00
Asia	USD/CNY represents 1 USD per x CNY (Chinese renminbi)	USD/CNY	-3.00
Asia	USD/HKD represents 1 USD per x HKD (Hong Kong dollar)	USD/HKD	-1.00
Asia	USD/INR represents 1 USD per x INR (Indian rupee)	USD/INR	-2.00
Asia	USD/JPY represents 1 USD per x JPY (Japanese yen)	USD/JPY	-6.00
Asia	USD/KRW represents 1 USD per x KRW (South Korean won)	USD/KRW	-9.00
Asia	USD/MYR represents 1 USD per x MYR (Malaysian ringgit)	USD/MYR	-4.00
Asia	USD/SGD represents 1 USD per x SGD (Singapore dollar)	USD/SGD	-4.00
Asia	USD/THB represents 1 USD per x THB (Thai baht)	USD/THB	-5.00
Asia	USD/TWD represents 1 USD per x TWD (New Taiwan dollar)	USD/TWD	-3.00
Africa	USD/ZAR represents 1 USD per x ZAR (South African rand)	USD/ZAR	-11.00

Notes: The grey cell indicates where data are unavailable. A positive figure denotes an appreciation of the first currency against the second.

**Table A.4: Shocks to foreign exchange rates (EUR depreciation against USD)**

FX shocks (depreciation of the EUR against the USD) Relative changes (%)			
Geographical Area	Description	Exchange rate name	Shock
EU	EUR/BGN represents 1 EUR per x BGN (Bulgarian lev)	EUR/BGN	
EU	EUR/CZK represents 1 EUR per x CZK (Czech koruna)	EUR/CZK	-6.00
EU	EUR/HUF represents 1 EUR per x HUF (Hungarian forint)	EUR/HUF	-9.00
EU	EUR/PLN represents 1 EUR per x PLN (Polish zloty)	EUR/PLN	-5.00
EU	EUR/RON represents 1 EUR per x RON (Romanian leu)	EUR/RON	-2.00
EU	EUR/SEK represents 1 EUR per x SEK (Swedish krona)	EUR/SEK	-3.00
Rest of Europe	EUR/RSD represents 1 EUR per x RSD (Serbian dinar)	EUR/RSD	-2.00
Rest of Europe	EUR/NOK represents 1 EUR per x NOK (Norwegian krone)	EUR/NOK	-9.00
Rest of Europe	EUR/GBP represents 1 EUR per x GBP (British pound)	EUR/GBP	-5.00
Rest of Europe	EUR/CHF represents 1 EUR per x CHF (Swiss franc)	EUR/CHF	-10.00
Rest of Europe	EUR/RUB represents 1 EUR per x RUB (Russian rouble)	EUR/RUB	-44.00
Rest of Europe	EUR/TRY represents 1 EUR per x TRY (Turkish lira)	EUR/TRY	-7.00
North America	USD/CAD represents 1 USD per x CAD (Canadian dollar)	USD/CAD	10.00
North America	EUR/USD represents 1 EUR per x USD (US dollar)	EUR/USD	-12.00
Australia and Pacific	AUD/USD represents 1 AUD per x USD (Australian dollar)	AUD/USD	-15.00
Australia and Pacific	NZD/USD represents 1 NZD per x USD (New Zealand dollar)	NZD/USD	-15.00
South and Central America	USD/ARS represents 1 USD per x ARS (Argentine peso)	USD/ARS	18.00
South and Central America	USD/BRL represents 1 USD per x BRL (Brazilian real)	USD/BRL	14.00
South and Central America	USD/MXN represents 1 USD per x MXN (Mexican peso)	USD/MXN	11.00
Asia	USD/CNY represents 1 USD per x CNY (Chinese renminbi)	USD/CNY	7.00
Asia	USD/HKD represents 1 USD per x HKD (Hong Kong dollar)	USD/HKD	1.00
Asia	USD/INR represents 1 USD per x INR (Indian rupee)	USD/INR	8.00
Asia	USD/JPY represents 1 USD per x JPY (Japanese yen)	USD/JPY	16.00
Asia	USD/KRW represents 1 USD per x KRW (South Korean won)	USD/KRW	12.00
Asia	USD/MYR represents 1 USD per x MYR (Malaysian ringgit)	USD/MYR	6.00
Asia	USD/SGD represents 1 USD per x SGD (Singapore dollar)	USD/SGD	5.00
Asia	USD/THB represents 1 USD per x THB (Thai baht)	USD/THB	10.00
Asia	USD/TWD represents 1 USD per x TWD (New Taiwan dollar)	USD/TWD	7.00
Africa	USD/ZAR represents 1 USD per x ZAR (South African rand)	USD/ZAR	20.00

Notes: The grey cells indicate where data are unavailable. A positive figure denotes an appreciation of the first currency against the second.



**Table A.5: Shocks to bid-ask spreads**

Shocks to bid-ask prices of government bonds					
Absolute changes (EUR)					
	Country	3M	6M	1Y	2Y
DE	Germany	0.19	0.23	0.27	0.47
ES	Spain	0.23	0.40	0.44	0.61
FR	France	0.21	0.27	0.28	0.48
IT	Italy	0.20	0.30	0.32	0.51
NL	Netherlands	0.21	0.34	0.33	0.48
	Other	0.21	0.31	0.33	0.51

Shocks to bid-ask prices of corporate bonds			
Absolute changes (EUR)			
	Country	1Y	2Y
DE	Germany	1.13	1.33
ES	Spain	1.18	1.35
FR	France	1.16	1.36
IT	Italy	1.21	1.35
NL	Netherlands	1.19	1.34
	Other	1.17	1.35

Note: Bid-ask shocks are calibrated over a five-day horizon.

**Table A.6: Shocks to residential mortgage-backed securities (RMBS) spreads**

Shocks to RMBS spreads				
Absolute changes (basis points)				
Geographical Area	AAA	AA	A	BBB
EU	120	130	180	230
North America	110	140	200	240
Asia	120	150	210	250
All	110	140	200	240



**Table A.7: Shocks to corporate bond spreads**

Shocks to general corporate credit spreads (1-3Y)				
Absolute changes (basis points)				
	Non-financial	Financial covered	Financial	All
AAA	110	90	120	100
AA	120	110	130	120
A	150	140	160	150
BBB	190	180	220	200
BB	270	260	300	280
B	340	310	350	330
≤CCC	380	360	410	380
Investment grade	140	130	160	140
High yield	330	310	360	330
All	240	220	260	240

Shocks to credit default swap indices (CDSIs)		
Absolute changes (basis points)		
Geographical Area	Index	1Y
EU	iTraxx Overall 5Y	120
	iTraxx Crossover 5Y	460
	iTraxx Main HiVol 5Y	190
	iTraxx Non-Financials 5Y	130
	iTraxx Subordinated Financials 5Y	200
US	Investment grade CDS	110
	High yield CDS	440