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Institutional Paper 306

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Following modest growth of 0.4% in 2023, the Commission's 2024 autumn forecast projects real GDP to rise by 0.9% in 2024. Economic activity is expected to accelerate to 1.5% in 2025 driven by stronger consumption and a rebound in investment from its contraction in 2024. In 2026, the economy is projected to expand by 1.8% supported by sustained demand expansion.

The disinflationary process that started in late 2022 is set to continue, with EU headline inflation projected to fall from 6.4% in 2023 to 2.6% in 2024, 2.4% in 2025 and 2.0% in 2026.

Over the 2024-26 forecast horizon, the EU budget deficit is projected to decline moderately ...

The EU aggregate budget deficit fell from the historic peak of 6.7% of GDP in 2020, following the COVID-19 pandemic, to 3.2% in 2022. However, in 2023, it edged up slightly to 3.5% of GDP mainly due to weak economic growth and significant revenue shortfalls and despite the phasing-out of temporary COVID-19 emergency measures.

The Commission's 2024 autumn forecast projects a gradual decline of the EU deficit, reaching 3.1% of GDP in 2024, 3.0% in 2025 and 2.9% in 2026. In 2024, deficit reduction is driven by discretionary budgetary restraint and revenue windfalls, while subdued economic activity and rising interest expenditures continue to exert upward pressure. In 2025, additional fiscal tightening across national budgets is expected to support deficit reduction, though its impact will likely be largely offset by revenue shortfalls and other factors. In 2026, based on existing policy measures, the EU deficit is projected to decline slightly, primarily due to stronger economic momentum.

... while debt ratios are forecast to increase slightly

The EU aggregate debt-to-GDP ratio reached 82.1% in 2023, with a substantial decline of 9 percentage points between 2020 and 2023. This reduction was primarily driven by the strong post-pandemic economic recovery and high inflation, while high primary deficits kept exerting upward pressure on debt levels.

Looking ahead, based on existing policy measures, the EU debt-to-GDP ratio is projected to rise to 83.4% by 2026. This increase is largely driven by a weakening interest rate-growth differential ("snowball effect"), as debt servicing costs edge higher while nominal GDP growth slows due to easing inflation. In addition, persistent primary deficits and debt-increasing stock-flow adjustments are expected to further weigh on debt dynamics over 2024-2026.

By the end of 2026, most EU countries are expected to have lower debt ratios than in 2020. Despite this progress, six Member States (Belgium, France, Greece, Italy, Portugal and Spain) are projected to maintain debt levels above 90% of GDP.

However, if Member States were to fully implement the adjustment they committed to in their initial medium-term plans under the new EU governance framework, debt would decline over the medium term in all countries where it currently exceeds 60% of GDP. The plans suggests that, between 2024 and 2038 (or 2041 for countries opting for the extension of the adjustment period), debt would decline by on average around 28 percentage points in those countries where debt exceeded 90% of GDP in 2023 (Greece, Spain, France, Italy and Portugal), and around 24 percentage

points in those where debt stood between 60% and 90% of GDP (Cyprus, Croatia, Hungary, Slovenia and Finland) (see Box 2.3).

Financing conditions eased markedly

The European Central Bank has cut its policy rate four times by 25 basis points since the beginning of its loosening cycle in May 2024, lowering its deposit facility rate from 4% to 3% by the end of 2024. Outside the euro area, all central banks started to ease their monetary policy, with somewhat more significant cuts in Poland and especially Romania.

Ten-year government bond yields declined significantly in all EU countries since late 2023 due to lower inflation expectations and easier monetary policy. However, they remain elevated in 2024 compared to the last ten years, putting pressure on public finances. At the same time, the impact of elevated interest rates on government debt burdens is expected to be gradual in some Member States, as debt maturities have been lengthened over the past decade.

Sovereign yield spreads declined significantly in 2023 and eased slightly in 2024. Long-term foreign sovereign ratings have remained stable and favourable for most EU countries in 2024, reflecting overall resilience in sovereign creditworthiness.

The outlook remains highly uncertain, with risks largely tilted to the downside

Russia's protracted war of aggression against Ukraine and the intensified conflict in the Middle East fuel geopolitical risks and continued vulnerability of European energy security. A further increase in protectionist measures by trading partners could weigh on global trade, with negative impact on the EU's highly open economy. Low productivity and delays in the implementation of the RRF adds to a challenging environment. Climate risks and the increasing frequency of extreme weather events continue to pose threats.

2. THE USE OF THE COMMISSION'S FISCAL SUSTAINABILITY RISK FRAMEWORK FOR THE EU ECONOMIC SURVEILLANCE PROCESS

The new economic governance framework introduces risk-based surveillance

The new EU economic governance framework, which entered into force on 30 April 2024, aims to strengthen debt sustainability and promote sustainable and inclusive growth in all Member States. The framework is designed to help Member States reduce high public debt levels in a realistic, gradual and sustained manner. New medium-term fiscal structural plans (MTFSP or `plans') are at the centre of the new framework. The new framework introduces risk-based surveillance, with debt sustainability analysis playing a key role.

For the first round of plans, the plausibility of public debt declining in the medium term was based on the methodology described in the Debt Sustainability Monitor 2023. ([1]) A working group for debt sustainability analysis was established in 2024 under the Economic Financial Committee to "explore possible methodological improvements, including on underlying assumptions".

The first implementation of the new economic governance framework started

By February 2025, 23 Member States submitted their medium-term plans (Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Ireland, Greece, Hungary, Italy, Latvia, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden). Five Member States requested an extension of their medium-term plan from

([1]) European Commission (2023), Debt Sustainability Monitor 2023, Chapter II.1 The DSA methodology in the new economic governance framework, *European Economy Institutional Paper*, No. 271, March.

four to seven years (Finland, France, Italy, Romania and Spain). The extension is underpinned by a set of reform and investment commitments included in the plans. All the plans submitted by January 2025 were positively assessed by the Commission and endorsed by the Council, except for the Netherlands. For the Netherlands, the Commission recommended that the Council adopt a net expenditure path aligned with the prior guidance provided in June 2024. Bulgaria submitted its plan in late February 2025 and the assessment was ongoing at the time of publication of this report.

Four Member States had not yet submitted their plans as of February 2025 (Austria, Belgium, Germany and Lithuania). This can be explained by domestic factors such as elections and government transitions. Recognising the importance of national ownership, the new framework accommodates flexible submission timelines to adapt to domestic constraints without compromising its credibility.

The fiscal sustainability risk assessment presented here is highly relevant for the European Semester

The report plays a key role for the EU economic governance framework and surveillance under the European Semester by contributing to the monitoring of Member States' fiscal policies, identifying risks that require attention and supporting various policy assessments and recommendations, including structural-fiscal country-specific recommendations.

The Commission's assessment of fiscal sustainability risks in this report does not take into account Member States' commitments as outlined in the endorsed plans. In line with standard practice, it only incorporates fiscal measures that have been legislated or agreed for the first forecast year (2025 in this report) and assumes unchanged policy afterwards. Therefore, the sustainability risks identified in this report do not consider the impact of fully implementing the medium-term plans (see Box 2.3).

3. KEY ASSUMPTIONS AND RESULTS OF THIS REPORT: SOME COUNTRIES FACE HIGH RISKS

This report is based on the latest available information as of end December 2024 unless otherwise specified

The Debt Sustainability Monitor 2024 is based on the latest fully-fledged Commission forecast from autumn 2024. It uses the commonly agreed methodology of the Economic Policy Committee (EPC) for projecting medium-term GDP growth. ([2]) This methodology incorporates the expected impact of implemented reforms. In addition, the Debt Sustainability Monitor reflects the long-term economic and budgetary projections of the Ageing Report 2024, which was jointly prepared by the European Commission and the EPC. ([3]) These projections are integrated into both the medium-term and long-term fiscal sustainability analyses.

([2]) See Blondeau, F., Planas, C. and Rossi, A. (2021), Output gap estimation using the European Union's commonly agreed methodology: Vade mecum and manual for the EUCAM software, *European Commission Discussion Paper*, No. 148, October.

([3]) See European Commission (2023), 2024 Ageing Report, Volume 1, Underlying assumptions and projection methodologies, *Institutional Paper,* No. 257, 10 November. European Commission (2024), 2024 Ageing Report, Volume 2, Economic and budgetary projections for the EU Member States (2022-2070), *Institutional Paper*, No. 279, 18 April.

The key findings of the report can be summarised as follows:

Short-term fiscal risks are considered overall high in two countries

Chapter 1 shows that while overall short-term risks increased compared to the previous year, they remain well below the levels observed during the COVID-19 pandemic and the global financial crisis. The Commission's early warning indicator S0 signals high short-term risks for Romania and Slovakia for 2025 (see Tables 1 and 2 for an overview). Short-term risks stem primarily from macroeconomic and financial vulnerabilities, including tight financing conditions in 2024, high current account deficits, high net international investment positions and low household saving rates in 2023. Moreover, both countries faced fiscal vulnerabilities, particularly due to their relatively high government deficits in 2024. Latvia is a borderline case: while the country faces to some extent financial vulnerabilities, its cyclically-adjusted balance exceeded the critical threshold only by a very narrow margin. Without this specific trigger, Latvia would be considered at low risk. An assessment of the S0 sub-components shows that fiscal vulnerabilities exist in six EU countries and vulnerabilities in the financial-competitiveness domain in five EU countries.

In the EU on average, gross financing needs – an important predictor for short-term fiscal sustainability risks – are expected to remain broadly unchanged at relatively high levels between 2024 and 2026. Debt repayments, followed by budget deficits, are the main drivers of gross financing needs in 2024 for most countries, while stock-flow adjustments are important for some countries.

Different financial market indicators show that financing conditions in many EU countries eased somewhat in 2024, though remaining less favourable than prior to the last crises. Sovereign ratings are still favourable and stable on average across the EU, despite some differences across Member States.

Over the medium term, government debt is expected to increase

Chapter 2 shows that, for the EU as a whole, at unchanged fiscal policy, the debt-to-GDP ratio is projected to increase over the next 10 years, driven by gradual increases in the cost of ageing and in interest expenditure. In the baseline, the 'r-g' differential is assumed to remain only slightly negative by 2035, after increasing throughout the projection period mostly because of rising implicit interest rates. In the absence of fiscal consolidation, the favourable impact of this differential on debt dynamics – the 'snowball effect' – would therefore not be large enough to offset the increasing pressure from ageing costs on public finances. An alternative scenario shows that the increase in debt for the EU as a whole could be less pronounced if the structural primary balance converged back to the level of small deficit observed on average in the past 15 years (compared to the larger deficit assumed in the baseline). Conversely, a more limited fiscal adjustment, a less favourable 'r-g' differential or temporary financial stress would worsen the debt dynamics. The stochastic projections point to uncertainty around the baseline. With an 80% probability, debt will lie between 80% and 101% of GDP in the euro area as a whole by 2029, coming below its 2024 level (89.1% of GDP) with a 43% probability. In 2029, the debt ratio could stand above or below 91% with equal probability. High uncertainty in some countries reflects historically volatile macro-financial and fiscal conditions.

Medium-term risks are high in eleven Member States and medium in another nine countries

Eleven Member States are found to be at high fiscal sustainability risk in the medium term (Belgium, Greece, Spain, France, Italy, Hungary, Austria, Poland, Romania, Slovakia and Finland). The high-risk classification is mainly driven by the debt dynamics under the no-fiscal-policy-change baseline, due either to currently high and still increasing debt ratios

(Belgium, Spain, France and Italy), debt increasing beyond 90% of GDP (Austria, Poland, Romania, Slovakia and Finland), or debt declining but remaining at a high level and with only moderate room for additional consolidation by historical standards (Greece). In several cases, the stochastic analysis confirms the high risk of higher debt in 5 years' time (Belgium, Spain, France, Italy, Austria and Finland) and shows significant uncertainty surrounding the baseline projections (Greece, Hungary and Romania). Vulnerability to more adverse assumptions, in particular in case of less favourable macro-financial conditions, also explains the classification (Hungary). Projected financing needs suggest that countries with the highest debt ratios could also be potentially exposed to liquidity challenges.

At unchanged fiscal policy, medium-term fiscal sustainability risks are medium in nine Member States (Bulgaria, Czechia, Germany, Croatia, Cyprus, Latvia, Lithuania, Portugal and Slovenia). In five of these countries, debt is on an overall increasing trend and projected to reach by 2035 levels above 60% of GDP in the baseline (in Germany, Croatia, Latvia and Slovenia) and/or under more adverse conditions (in Lithuania, where stochastic analysis also points to a likely increase in debt). In two more countries – Bulgaria and Czechia – debt, although increasing, would remain under 60% of GDP under all scenarios but with either only moderate fiscal consolidation space by historical standards (Czechia) or high uncertainty on debt dynamics in the next 5 years, based on historical volatility (Bulgaria). Finally, two countries, namely Cyprus and Portugal, are deemed at medium risk despite a projected steady decline in debt. In the case of Cyprus, debt would fall well below 60% of GDP but subject to high uncertainty. For Portugal, the risk stems from the still elevated level of debt and the limited fiscal consolidation space by historical standards.

In the remaining seven Member States (Denmark, Estonia, Ireland, Luxembourg, Malta, the Netherlands and Sweden), medium-term fiscal sustainability risks are low, but with debt approaching 60% of GDP in some scenarios in the case of the Netherlands.

Long-term risks are high in four and medium in fourteen EU countries

Chapter 3 concludes that, at unchanged fiscal policy, four Member States face overall high long-term fiscal sustainability risks (Belgium, Luxembourg, Malta and Slovakia). The high-risk classification reflects a significant increase in ageing costs for all countries. For Belgium and Slovakia, also the unfavourable initial budgetary position contributes to the high fiscal effort required to ensure debt sustainability in the long term. Compared to the 2023 DSM, Slovenia improves from high to medium risk.

For fourteen Member States, long-term fiscal sustainability risks are assessed as medium. Risks are primarily driven by the projected increase in ageing costs (Czechia, Germany, Ireland, Spain, Lithuania, Hungary, the Netherlands, and Slovenia), an unfavourable initial budgetary position (France, Poland and Romania) or both factors (Austria and Finland). In the case of Italy risks stem from the large fiscal adjustment that would be needed to reduce the debt-to-GDP ratio to 60% by 2070. Compared to the 2023 DSM, Bulgaria goes from medium to low risk.

The nine remaining Member States are considered to have low fiscal sustainability risks in the long term.

Several additional factors need to be taken into account in a balanced assessment of fiscal sustainability risks

Chapter 4 analyses additional risk factors as a complement to the quantitative results of the framework to ensure a balanced overall assessment of fiscal sustainability risks.

Risk aggravating factors include the rising share of short-term debt, which, after increasing in many Member States due to the COVID-19 pandemic, has continued to grow in most countries and remains non-negligible in some cases. In addition, some non-euro area Member States are exposed to foreign exchange rate risks. Simulations based on the Commission's SYMBOL model show that risks concerning government contingent liabilities appear overall limited.

Risk mitigating factors include the general trend of lengthening debt maturities in some Member States, which helps reduce refinancing risks. In addition, many countries continue to benefit from a large and diversified investor base. The Eurosystem's asset purchase programmes in past years have significantly increased the share of government debt held by central banks. Finally, some Member States hold (large) stocks of financial assets, which contribute to mitigating fiscal sustainability risks, as reflected by a broad-based decline in net debt levels in recent years.

Table 1: **Fiscal sustainability risk classification by Member States (if different, the risk classification from the DSM 2023 is shown in brackets)**

	Overall SHORT-TERM risk category	Overall MEDIUM-TERM risk category	Overall LONG-TERM risk category
BE	LOW	HIGH	HIGH
BG	LOW	MEDIUM	LOW (MEDIUM)
CZ	LOW	MEDIUM	MEDIUM
DK	LOW	LOW	LOW
DE	LOW	MEDIUM	MEDIUM
EE	LOW	LOW	LOW
IE	LOW	LOW	MEDIUM
EL	LOW	HIGH	LOW
ES	LOW	HIGH	MEDIUM
FR	LOW	HIGH	MEDIUM
HR	LOW	MEDIUM	LOW
IT	LOW	HIGH	MEDIUM
CY	LOW	MEDIUM	LOW
LV	BORDERLINE (LOW)	MEDIUM (LOW)	LOW
LT	LOW	MEDIUM	MEDIUM
LU	LOW	LOW	HIGH
HU	LOW	HIGH (MEDIUM)	MEDIUM
MT	LOW	LOW (MEDIUM)	HIGH
NL	LOW	LOW	MEDIUM
AT	LOW	HIGH (MEDIUM)	MEDIUM
PL	LOW	HIGH (MEDIUM)	MEDIUM
PT	LOW	MEDIUM (HIGH)	LOW
RO	HIGH (LOW)	HIGH	MEDIUM
SI	LOW	MEDIUM	MEDIUM (HIGH)
SK	HIGH (LOW)	HIGH	HIGH
FI	LOW	HIGH	MEDIUM
SE	LOW	LOW	LOW

Source: Commission services.

Table 2: **Summary heat map of fiscal sustainability risks**

SHORT-TERM RISKS	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE
Overall SHORT-TERM risk category	**LOW**	**LOW**	**LOW**	**LOW**	**LOW**	**LOW**	**LOW**	**LOW**	**LOW**	**LOW**	**LOW**	**LOW**	**LOW**	**BORDER-LINE**	**LOW**	**LOW**	**LOW**	**LOW**	**LOW**	**LOW**	**LOW**	**LOW**	**HIGH**	**LOW**	**HIGH**	**LOW**	**LOW**
S0 indicator	0.35	0.20	0.20	0.28	0.18	0.43	0.22	0.39	0.37	0.38	0.41	0.43	0.25	0.48	0.29	0.22	0.44	0.21	0.24	0.31	0.36	0.40	0.49	0.25	0.48	0.34	0.27

MEDIUM-TERM RISKS	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE
Overall MEDIUM-TERM risk category	**HIGH**	**MEDIUM**	**MEDIUM**	**LOW**	**MEDIUM**	**LOW**	**LOW**	**HIGH**	**HIGH**	**HIGH**	**MEDIUM**	**HIGH**	**MEDIUM**	**MEDIUM**	**MEDIUM**	**LOW**	**HIGH**	**LOW**	**LOW**	**HIGH**	**HIGH**	**MEDIUM**	**HIGH**	**MEDIUM**	**HIGH**	**HIGH**	**LOW**
Baseline (no-fiscal-policy-change scenario)	HIGH	LOW	MEDIUM	LOW	MEDIUM	LOW	LOW	HIGH	HIGH	HIGH	MEDIUM	HIGH	LOW	MEDIUM	LOW	LOW	MEDIUM	LOW	LOW	HIGH	HIGH	MEDIUM	HIGH	MEDIUM	HIGH	HIGH	LOW
Debt level (2035)	126	39	53	17	66	30	13	119	112	142	63	157	34	65	58	21	85	46	50	98	95	74	106	68	96	96	26
Debt peak year	2035	2035	2035	2024	2035	2035	2024	2024	2035	2035	2035	2035	2024	2035	2035	2025	2035	2025	2035	2035	2035	2024	2035	2035	2035	2035	2024
Fiscal consolidation space (1-percentile rank of avg SPB 2025-	91%	95%	42%	71%	73%	62%	44%	45%	68%	100%	74%	66%	29%	81%	69%	73%	70%	90%	75%	96%	96%	17%	100%	52%	100%	87%	81%
Stochastic projections	HIGH	MEDIUM	LOW	LOW	LOW	LOW	LOW	MEDIUM	HIGH	HIGH	LOW	HIGH	MEDIUM	MEDIUM	MEDIUM	LOW	MEDIUM	LOW	LOW	HIGH	LOW	MEDIUM	MEDIUM	LOW	MEDIUM	HIGH	LOW
Probability of debt in 2029 > debt in 2024	78%	60%	61%	13%	47%	64%	16%	18%	48%	94%	52%	69%	14%	69%	79%	38%	54%	47%	66%	72%	99%	23%	92%	33%	90%	74%	23%
Difference between the 10th and 90th percentile in 2029 (p.p. of GDP)	28	51	25	17	15	29	35	53	29	21	29	32	46	45	29	21	43	36	16	29	22	46	44	26	27	25	11
'Historical SPB' scenario	HIGH	LOW	MEDIUM	LOW	LOW	LOW	LOW	HIGH	HIGH	HIGH	LOW	HIGH	LOW	MEDIUM	LOW	LOW	MEDIUM	LOW	LOW	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM	HIGH	LOW
Debt level (2035)	116	26	57	13	58	31	44	99	117	140	54	151	47	64	57	18	86	36	50	87	88	89	85	68	89	97	22
Debt peak year	2035	2030	2035	2024	2025	2035	2035	2024	2035	2035	2024	2035	2024	2035	2035	2025	2035	2025	2035	2035	2035	2024	2035	2035	2035	2035	2024
Fiscal consolidation space (1-percentile rank of avg SPB 2025-	89%	84%	45%	68%	50%	62%	79%	29%	72%	97%	57%	60%	42%	79%	68%	68%	72%	76%	73%	86%	90%	41%	100%	54%	84%	88%	77%
'Adverse r-g' scenario	HIGH	LOW	MEDIUM	LOW	MEDIUM	LOW	LOW	HIGH	HIGH	HIGH	MEDIUM	HIGH	LOW	MEDIUM	MEDIUM	LOW	HIGH	LOW	LOW	HIGH	HIGH	MEDIUM	HIGH	MEDIUM	HIGH	HIGH	LOW
Debt level (2035)	136	42	57	18	71	32	15	128	121	154	68	171	37	70	62	23	93	50	54	105	102	81	114	72	102	103	28
Debt peak year	2035	2035	2035	2024	2035	2035	2024	2024	2035	2035	2035	2035	2024	2035	2035	2025	2035	2026	2035	2035	2035	2024	2035	2035	2035	2035	2025
Fiscal consolidation space (1-percentile rank of avg SPB 2025-	91%	95%	42%	71%	73%	62%	44%	45%	68%	100%	74%	66%	29%	81%	69%	73%	70%	90%	75%	96%	96%	17%	100%	52%	100%	87%	81%
'Financial stress' scenario	HIGH	LOW	MEDIUM	LOW	MEDIUM	LOW	LOW	HIGH	HIGH	HIGH	MEDIUM	HIGH	LOW	MEDIUM	LOW	LOW	MEDIUM	LOW	LOW	HIGH	HIGH	MEDIUM	HIGH	MEDIUM	HIGH	HIGH	LOW
Debt level (2035)	128	40	54	17	66	30	14	122	113	145	64	162	34	65	58	21	86	47	50	98	95	75	107	68	96	97	26
Debt peak year	2035	2035	2035	2024	2035	2035	2024	2024	2035	2035	2035	2035	2024	2035	2035	2025	2035	2025	2035	2035	2035	2024	2035	2035	2035	2035	2025
Fiscal consolidation space (1-percentile rank of avg SPB 2025-	91%	95%	42%	71%	73%	62%	44%	45%	68%	100%	74%	66%	29%	81%	69%	73%	70%	90%	75%	96%	96%	17%	100%	52%	100%	87%	81%
'Lower SPB' scenario	HIGH	LOW	MEDIUM	LOW	MEDIUM	LOW	LOW	HIGH	HIGH	HIGH	MEDIUM	HIGH	LOW	MEDIUM	LOW	LOW	MEDIUM	LOW	LOW	HIGH	HIGH	MEDIUM	HIGH	MEDIUM	HIGH	HIGH	LOW
Debt level (2035)	127	40	54	26	67	32	17	122	114	150	64	159	36	65	60	23	87	50	55	99	96	75	107	69	102	99	27
Debt peak year	2035	2035	2035	2024	2035	2035	2024	2024	2035	2035	2035	2035	2024	2035	2035	2025	2035	2026	2035	2035	2035	2024	2035	2035	2035	2035	2024
Fiscal consolidation space (1-percentile rank of avg SPB 2025-	91%	95%	43%	90%	73%	63%	48%	46%	71%	100%	75%	67%	33%	81%	72%	76%	73%	100%	82%	97%	100%	18%	100%	56%	100%	90%	81%

LONG-TERM RISKS	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE
Overall LONG-TERM risk category	**HIGH**	**LOW**	**MEDIUM**	**LOW**	**MEDIUM**	**LOW**	**MEDIUM**	**LOW**	**MEDIUM**	**MEDIUM**	**LOW**	**MEDIUM**	**LOW**	**LOW**	**MEDIUM**	**HIGH**	**MEDIUM**	**HIGH**	**MEDIUM**	**MEDIUM**	**MEDIUM**	**LOW**	**MEDIUM**	**MEDIUM**	**HIGH**	**MEDIUM**	**LOW**
S2 indicator	6.7	2.0	5.4	-0.5	2.1	0.2	2.2	-0.8	5.7	3.4	1.0	-0.1	1.0	1.5	4.6	7.3	6.0	8.7	3.4	4.2	4.8	-2.0	4.7	6.0	7.8	3.1	1.0
S1 indicator	5.4	1.2	3.6	-1.7	1.4	-0.3	-0.2	0.9	5.1	4.0	0.7	2.4	-0.3	1.6	3.5	2.2	4.2	3.7	1.9	3.5	4.4	0.0	5.8	4.4	6.5	1.8	-0.8

Source: Commission services.

INTRODUCTION

The Debt Sustainability Monitor (DSM) provides the European Commission's annual assessment of fiscal sustainability risks in EU Member States. This introduction presents the Commission's fiscal sustainability risk framework (Section 1) and outlines the structure of this report (Section 2).

1. THE COMMISSION'S FRAMEWORK FOR ASSESSING FISCAL SUSTAINABILITY RISKS

1.1. Main features

The Commission assesses fiscal sustainability risks using a well-established, comprehensive and multi-dimensional framework. This framework integrates findings from the debt sustainability analysis (DSA) and the fiscal sustainability indicators (S0, S1 and S2 – see below). It offers a comprehensive view of fiscal sustainability risks over the short-, medium-, and long-term horizons across countries based on a set of transparent criteria and assumptions. Key results are summarised in an overall summary heat map of fiscal sustainability risks per time horizon. By identifying the size, nature and timing of risks, this framework plays a critical role in monitoring risks at Member State level and has a crucial role in the reformed EU economic governance framework to guide appropriate policy responses.

The assessment focuses on four elements (see Graph 1)

1/ Short-term fiscal sustainability risks (see Chapter 1)

The Commission uses its early warning indicator S0 to identify potential fiscal stress in the year ahead. The S0 is a composite indicator that combines 25 fiscal, financial and competitiveness variables that have proven historically effective in predicting emerging fiscal stress. The S0 can be divided into two sub-components: fiscal risks and financial-competitiveness risks.

In addition, the Commission analyses gross financing needs in greater detail over the short term, as they are an important predictor of short-term risks. Finally, sovereign financing conditions are assessed using high-frequency financial data to provide early insights into emerging adverse fiscal sustainability developments.

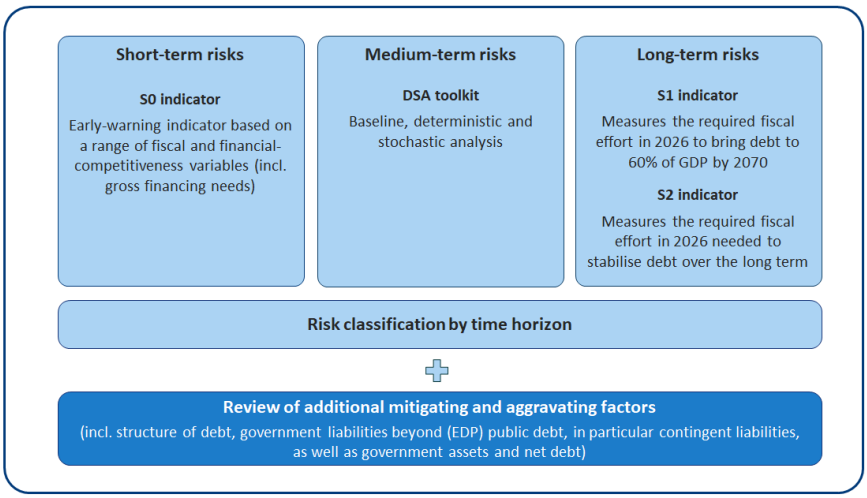
2/ Medium-term fiscal sustainability risks (see Chapter 2)

The Commission primarily uses its comprehensive debt sustainability analysis toolkit to assess medium-term fiscal sustainability risks. The DSA combines three components:

- *A 'no-fiscal-policy-change' baseline* over a 10-year horizon (up to 2035 in this report): these projections serve as a reference scenario at unchanged fiscal policies.
- *Deterministic debt projections* over a 10-year horizon (up to 2035): these projections assess the impact of alternative scenarios to explore the sensitivity of the baseline to the following shocks: (i) reverting to past fiscal behaviour, (ii) implementing only part of the expected fiscal structural adjustment, (iii) experiencing a less favourable interest-growth rate differential ('r-g'), and (iv) facing temporary turmoil in financial markets.
- *Stochastic projections* over a five-year horizon (up to 2029): these projections simulate a broad range of potential shocks based on the historical volatility of each Member State and the correlation of such shocks, ensuring a robust assessment of medium-term risks. They play a crucial role in accounting for uncertainty.

The assessment is complemented by an analysis of potential liquidity challenges, based on government's gross financing needs over the medium term.

Graph 1: **Key elements of the Commission's fiscal sustainability risk framework**



Source: Commission services.

3/ Long-term fiscal sustainability risks (see Chapter 3)

The Commission uses two complementary fiscal gap indicators:

- The S1 indicator measures the required fiscal effort in 2026 to bring the government debt-to-GDP ratio to 60% by 2070. It complements the S2 indicator by also accounting for vulnerabilities related to high debt levels.
- The S2 indicator measures the required fiscal effort in 2026 to stabilise public debt over the long term.

The analysis includes four stress tests to capture uncertainties surrounding the fiscal gap indicators: (i) lower productivity growth, (ii) higher health and long-term care expenditure notably due to technological progress, (iii) a less favourable interest-growth rate differential ('r-g'), and (iv) a reversion to past fiscal behaviour.

4/ Additional aggravating or mitigating risk factors (see Chapter 4)

The Commission also considers additional qualifying aggravating or mitigating risk factors to complement the quantitative results and risk classifications of the short-, medium- and long-term fiscal sustainability assessment. This ensures a more balanced and comprehensive assessment of fiscal sustainability risks. These factors include the structure of debt, government liabilities beyond (EDP) public debt, in particular contingent liabilities, as well as government assets and net debt.

The importance of these factors, which are sometimes qualitative (e.g., institutional factors) and often country specific, requires careful judgement to reach at a final assessment of fiscal sustainability risks. This approach has been a key element of the Commission's DSA framework since 2014 and is in line with practices of other international institutions.

1.2. Data and assumptions

The assessment presented in this Debt Sustainability Monitor is based on the latest available data information as of 31 December 2024 unless otherwise indicated. This report is based on the latest Commission forecast from autumn 2024. It uses the commonly agreed methodology of the Economic Policy Committee (EPC) for projecting medium-term GDP growth. ([4]) This methodology incorporates the expected impact of already implemented reforms. In addition, this report reflects the long-term economic and budgetary projections of the Ageing Report 2024, which was jointly prepared by the European Commission and the EPC. These projections are integrated into both the medium-term and long-term fiscal sustainability analyses. ([5])

2. OUTLINE OF THIS REPORT

The rest of the report is structured in three parts.

Part I summarises the main findings of the Commission's fiscal sustainability risk framework. Chapter 1 presents the short-term fiscal sustainability risk analysis, focusing on the early warning indicator for fiscal stress, S0. Chapter 2 analyses the medium-term fiscal sustainability risk assessment, mainly based on the Commission's DSA. Chapter 3 assesses the long-term fiscal sustainability risk analysis, focusing on the fiscal gap indicators S1 and S2. Finally, Chapter 4 reviews additional aggravating and mitigating risk factors that influence fiscal sustainability risks.

Part II presents country fiches, offering a detailed fiscal sustainability risk assessment for each Member State. These fiches provide insights into fiscal sustainability risks over the short, medium and long term, highlight key aggravating and mitigating factors and include tables and charts with further details.

Part III describes the methodological framework underpinning the report and includes the statistical annex. The methodological annexes remain largely unchanged from last year's edition, except for minor editorial refinements. The statistical annex provides detailed tables on the debt dynamics and on alternative scenarios and stress tests of the medium-term fiscal sustainability analysis.

([4]) See Blondeau, F., Planas, C. and Rossi, A. (2021), Output gap estimation using the European Union's commonly agreed methodology: Vade mecum and manual for the EUCAM software, *European Commission Discussion Paper*, No. 148, October.

([5]) European Commission (2023), 2024 Ageing Report, Volume 1, Underlying assumptions and projection methodologies, *European Economy Institutional Paper*, 257, 10 November. European Commission (2024), 2024 Ageing Report, Volume 2, Economic and budgetary projections for the EU Member States (2022-2070), *European Economy Institutional Paper*, No. 279, 18 April.

Part I

Fiscal sustainability analysis

1. SHORT-TERM FISCAL SUSTAINABILITY ANALYSIS

Main takeaways

Commission's early-warning indicator for fiscal stress (S0) (see Section 1.1)

- While overall short-term risks increased compared to the previous year, they remain well below the levels observed during the COVID-19 pandemic and the global financial crisis.
- At face value, the Commission's S0 indicator signals elevated short-term risks of fiscal stress for Romania and Slovakia for 2025. These stem primarily from macroeconomic and financial vulnerabilities, including tight financing conditions in 2024, high current account deficits, high net international investment positions and low household saving rates in 2023. Moreover, the countries faced fiscal vulnerabilities, particularly due to their relatively high government deficits in 2024. Latvia is a borderline case, as its cyclically-adjusted balance exceeded the critical threshold only by a very narrow margin. Without this trigger, Latvia would be considered at low risk.
- An assessment of the S0 sub-components shows that fiscal vulnerabilities exist in six EU countries and vulnerabilities in the financial-competitiveness domain in five EU countries.

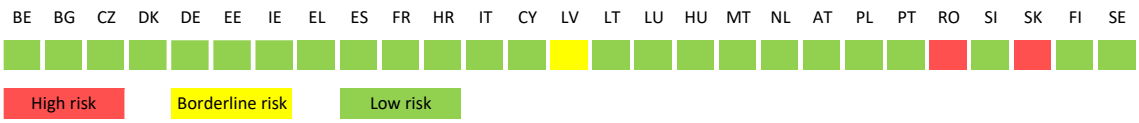
Government gross financing needs (see Section 1.2)

- In the EU on average, gross financing needs – an important predictor for short-term fiscal sustainability risks – are expected to remain broadly unchanged at relatively high levels between 2024 and 2026.
- At the country level, gross financing needs remain elevated in five countries in 2024 (Italy, France, Belgium, Finland and Austria) and are projected to be on average elevated in six countries over 2025 to 2026 (Italy, France, Belgium, Austria, Spain and Finland).
- Debt repayments, followed by budget deficits, are the main drivers of gross financing needs in 2024 for most countries, while stock-flow adjustments are important for some countries. Over the 2024-26 forecast horizon, declining primary deficits are forecast to be offset by higher interest payments.

Financial market trends and sovereign risks (see Section 1.3)

- All EU central banks eased monetary policy since 2023 in response to receding inflationary pressures and subdued economic growth. The pace and extent of monetary easing varied significantly across EU central banks, reflecting differences in inflation and growth dynamics.
- Ten-year government bond yields declined significantly in all EU countries since late 2023 due to lower inflation and easier monetary policy. However, they remained elevated in 2024 compared to the last ten years, putting pressure on public finances. Sovereign yield spreads also declined significantly in 2023 and eased slightly in 2024. The European Central Bank's composite indicator of systemic sovereign stress, known as the SovCISS, indicates that stress in euro area sovereign debt markets declined significantly until mid-2024, but slightly increased thereafter.
- Long-term foreign sovereign ratings have remained stable and favourable for most EU countries in 2024, reflecting overall resilience in sovereign creditworthiness.

Table 1.1: **Overview of overall short-term risk classification**



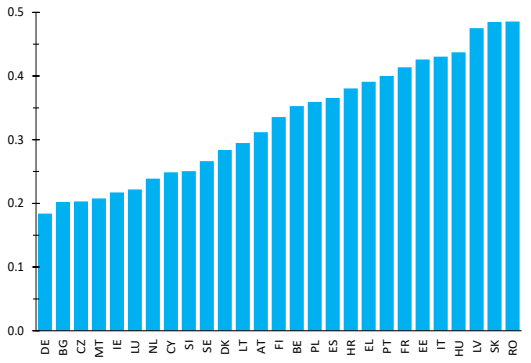
Source: Commission services.

1.1. SHORT-TERM FISCAL SUSTAINABILITY RISKS: THE S0 INDICATOR

This section assesses short-term fiscal sustainability risks using the Commission's early warning indicator S0. ([6]) S0 is a composite indicator that combines fiscal, financial and competitiveness variables to identify potential risks of fiscal stress in the coming year using an empirical method known as the signalling approach. It is based on a set of 25 contemporaneous and lagged indicators that have proven to be good predictors of emerging fiscal stress in the past (see Annex A2 for more details). It can be further divided into two sub-components: fiscal risks and financial-competitiveness risks. S0 differs in nature from other indicators used in this report, such as those assessing short-term fiscal sustainability risks from a financial market perspective (see Section 1.3) or those focused on long-term fiscal sustainability risks, including the Commission's fiscal gap indicators S1 and S2 (see Chapter 3).

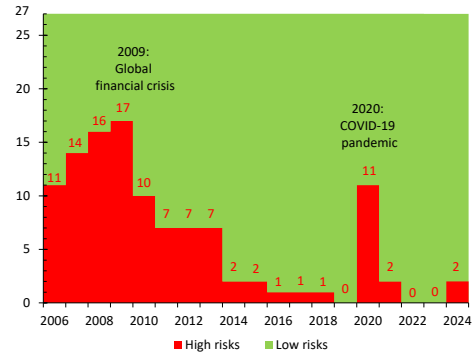
The S0 indicator exceeds the critical threshold in Romania and Slovakia, indicating overall high risks of fiscal stress in 2025 (see Graph 1.1). This risk is primarily driven by macroeconomic and financial vulnerabilities. ([7]) In particular, countries still experienced relatively tight financing conditions in 2024 as reflected by the yield curve. In addition, the countries recorded high current account deficits, high net international investment positions and low household saving rates in 2023. Moreover, fiscal vulnerabilities also contributed to the risk, particularly due to their relatively high government deficits in 2024. Latvia is a borderline case, as its cyclically-adjusted balance exceeded the critical threshold by less than 0.1 percentage points. Without this trigger, Latvia would be considered at low risk.

Graph 1.1: **S0 indicator for EU countries (2024)**



Source: Commission services.

Graph 1.2: **Evolution of the S0 risk classification in EU countries (2006-2024)**



Source: Commission services.

While short-term risks, as measured by the S0 indicator, increased in 2024 compared to the year before, they have remained much lower than during the challenging years of the COVID-19 pandemic and the global financial crisis (see Graph 1.2). In 2009, the S0 indicator identified short-term fiscal risks in seventeen countries, mainly due to severe risks to macroeconomic stability. In 2020, eleven countries faced short-term fiscal risks due to a combination of fiscal and financial-competitiveness factors. ([8]) Yet, supportive monetary policy until 2022, together with decisive

([6]) For more information about the S0 indicator, see Box A2.1 or Berti, K., Salto, M. and Lequien M. (2012), An early-detection index of fiscal stress for EU countries, *European Economy Economic Paper*, No. 475, and Pamies Sumner, S. and Berti, K. (2017), A complementary tool to monitor fiscal stress in European economies, *European Commission Discussion Paper*, No. 49.

([7]) Since the S0 indicator is constructed using a combination of contemporaneous and lagged variables, careful consideration of the time dimension is crucial when interpreting its results. All fiscal variables are included as contemporaneous indicators, meaning that changes in these variables in 2024 directly impact the S0 indicator in the same year. Conversely, all financial-competitiveness indicators, with the exception of the yield curve, are included as lagged variables. This means that changes in these variables in 2023 influence the S0 indicator in 2024 (see Annex A2 for more details).

([8]) See European Commission (2022), Fiscal Sustainability Report 2021, *European Economy Institutional Paper*, No. 171.

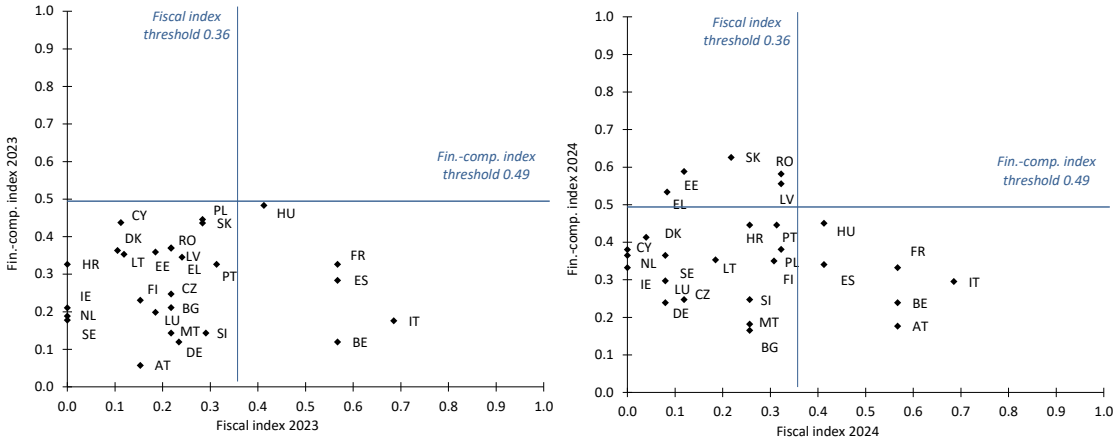
EU action, including the adoption of the NextGenerationEU package in 2020, ([9]) contributed to improving sovereign financing conditions and reducing the risks of short-term fiscal stress.

The two sub-components of the S0 point to vulnerabilities in some countries in 2024:

Fiscal vulnerabilities slightly increased in the EU on average in 2024 compared with the previous year and exist in six countries (Italy, Austria, Belgium, France, Spain and Hungary, see Graph 1.3, Table 1.2). The vulnerabilities are primarily driven by declining but still elevated government deficits in 2024. Government debt also contributed to fiscal vulnerabilities as it declined but remained elevated in 2024 in nine countries, exceeding 100% of GDP in five countries. The interest rate-growth differential supported debt reduction, but to a lesser extent than in previous years. Government gross financing needs remained high in 2024 in five countries, even though the lengthening of average debt maturities in recent years mitigated short-term risks in several countries.

Financial-competitiveness vulnerabilities increased in the EU on average compared with the previous year and exist in five countries (Slovakia, Estonia, Romania, Latvia and Greece, see Graph 1.3, Table 1.3). A key driver of these vulnerabilities are the tight financial conditions in 2024, as evidenced by the negative yield curve observed in almost all countries. Additionally, the current account in 2023 exceeded the critical threshold in six countries on account of large deficits. ([10]) While large negative net international investment positions narrowed in most countries during 2023, they remained substantial in roughly half of the Member States. Furthermore, low household saving rates contributed to vulnerabilities in ten countries. The increase in nominal unit labour costs surpassed the critical threshold in nearly all countries in 2023, driven by a marked acceleration in nominal wages following resurging inflation in 2022, while headline productivity experienced a slight decline.

Graph 1.3: **Fiscal and financial-competitiveness sub-components of S0 (2023 and 2024)**



Source: Commission services.

([9]) Earlier decisive actions include the creation of the SURE in 2020, as well as the activation of the ESM Pandemic Crisis Support facility.

([10]) The critical thresholds are determined based on the Commission's signalling approach (see Annex A2 for more details).

Table 1.2: **Fiscal variables used in the S0 indicator (2024)**

	S0 sub-component fiscal	Headline balance (%GDP)	Primary balance (%GDP)	Cycl. adj. balance (%GDP)	Stabil. primary balance (%GDP)	Gross debt (%GDP)	Change gross debt (%GDP)	Short-term debt (%GDP)	Net debt (%GDP)	Gross financing needs (%GDP)	Interest-rate growth differential	Change in govt. expend. (%GDP)	Change in govt. consump. (%GDP)
BE	0.57	-4.7	-2.4	-4.3	-1.6	103.4	0.2	8.8	91.4	17.9	-1.6	0.6	0.2
BG	0.26	-2.6	-2.0	-2.7	-1.0	24.5	1.6	0.1	15.8	4.9	-4.5	1.7	1.1
CZ	0.12	-2.5	-1.1	-1.7	-0.7	43.4	1.0	1.0	29.9	6.3	-1.6	-0.6	0.7
DK	0.04	2.3	3.0	2.8	-0.7	31.0	-2.6	2.6	-0.1	4.7	-2.1	1.1	0.7
DE	0.08	-2.2	-1.1	-1.4	-0.7	63.0	0.1	5.5	45.6	14.6	-1.1	0.5	0.5
EE	0.12	-3.0	-2.4	-0.7	-0.1	23.2	3.0	1.6	9.5	5.0	-0.5	1.5	0.6
IE	0.00	4.4	5.1	5.5	-0.5	41.6	-1.7	5.3	34.6	2.0	-1.2	1.2	0.5
EL	0.08	-0.6	2.9	-1.5	-5.3	153.1	-10.8	9.4	:	10.7	-3.4	-0.8	-0.2
ES	0.41	-3.0	-0.5	-3.8	-3.5	102.3	-2.9	5.5	85.3	15.9	-3.6	0.0	-0.2
FR	0.57	-6.2	-4.1	-6.2	-1.4	112.7	2.8	9.2	104.1	21.7	-1.3	0.5	0.2
HR	0.26	-2.1	-0.6	-3.1	-4.4	57.3	-4.5	3.0	47.4	8.9	-7.8	1.0	1.3
IT	0.69	-3.8	0.1	-4.2	0.9	136.6	1.8	16.8	126.6	24.7	0.7	-3.1	0.0
CY	0.00	3.5	4.7	2.2	-3.8	66.4	-7.2	0.6	39.0	4.6	-5.5	-1.7	0.0
LV	0.32	-2.8	-1.7	-2.6	0.0	48.1	3.1	1.4	36.4	8.0	0.0	2.2	2.1
LT	0.18	-2.0	-1.3	-1.1	-1.3	38.3	0.9	0.2	34.6	6.6	-3.6	2.2	0.6
LU	0.08	-0.6	-0.2	1.1	-0.9	27.5	1.9	0.5	-3.4	3.3	-3.8	0.8	0.5
HU	0.41	-5.4	-0.4	-4.7	-0.4	74.5	1.1	5.5	59.6	15.9	-0.6	-1.5	-0.1
MT	0.26	-4.0	-2.8	-3.8	-2.2	49.8	2.3	5.0	38.7	11.1	-5.0	0.6	0.7
NL	0.00	-0.2	0.6	0.3	-1.8	43.3	-1.8	4.0	36.3	8.6	-4.1	0.2	0.4
AT	0.57	-3.6	-2.1	-2.8	-1.2	79.5	1.0	5.3	60.4	16.3	-1.6	1.6	0.5
PL	0.32	-5.8	-3.5	-5.2	-1.0	54.7	4.9	0.8	43.7	14.2	-2.1	2.5	1.0
PT	0.31	0.6	2.6	0.4	-3.1	95.7	-2.2	18.6	90.3	7.5	-3.3	0.5	0.1
RO	0.32	-8.0	-6.0	-7.2	-2.7	52.2	3.3	3.1	44.5	12.7	-6.0	2.6	1.7
SI	0.26	-2.4	-1.0	-3.0	-1.5	67.1	-1.3	3.1	51.5	7.1	-2.3	1.2	1.7
SK	0.22	-5.8	-4.4	-5.5	-2.2	58.9	2.8	0.3	52.5	10.5	-4.2	-1.3	0.4
FI	0.31	-3.7	-2.5	-1.8	0.4	82.6	5.4	10.0	37.3	17.3	0.5	1.4	0.6
SE	0.08	-1.9	-1.3	-0.6	-0.2	32.8	1.3	9.4	13.8	8.5	-0.5	1.3	0.4
Threshold	0.36	-9.6	0.2	-2.5	2.3	68.4	8.1	13.2	59.5	15.9	4.8	1.9	0.6
Safety	<	>	>	>	<	<	<	<	<	<	<	<	<

Note: Fields highlighted in blue indicate vulnerabilities, implying that the variables exceed or fall short of the critical threshold as defined by the Commission's signalling approach. All fiscal variables are included as contemporaneous indicators, meaning that changes in these variables in 2024 directly impact the S0 indicator in 2024.

Source: Commission services.

Table 1.3: **Financial-competitiveness variables used in the S0 indicator (2024)**

	S0 sub-component financial competitiv.	Yield curve (t)	Real GDP growth (t-1)	GDP per capita (PPP, USD, t-1)	NIIP (t-1)	HH net savings (%GDP, t-1)	Private debt (%GDP, t-1)	Private credit flow (%GDP, t-1)	Short debt NFC (%GDP, t-1)	Short debt HH (%GDP, t-1)	construc-tion (% value added, t-1)	Current account (%GDP, t-1)	Change in REER (t-1)	Change in nom. ULC (t-1)
BE	0.24	-0.7	1.1	86.3	51.5	4.3	153.6	0.9	23.9	1.1	5.4	-0.1	-1.2	15.8
BG	0.17	:	2.4	47.5	-6.8	:	71.9	6.2	10.4	1.2	4.4	-0.9	8.1	26.9
CZ	0.25	-1.0	1.0	66.7	-13.4	7.1	72.8	1.5	11.2	0.7	5.4	-2.1	2.8	17.2
DK	0.41	-1.2	2.4	93.4	51.3	1.4	196.9	5.4	39.0	4.8	5.1	10.1	-7.7	5.7
DE	0.24	-1.3	-0.1	83.2	70.8	6.1	110.6	0.6	15.8	1.3	5.4	5.7	-4.1	11.0
EE	0.59	0.0	-1.0	58.3	-21.1	-0.8	91.3	4.0	6.5	0.7	6.2	-3.1	7.8	32.5
IE	0.33	-0.9	-0.5	148.6	-101.4	2.8	138.6	-5.7	21.5	2.4	2.6	9.7	-12.4	11.9
EL	0.53	-0.2	2.1	50.3	-139.3	-5.5	93.3	1.8	8.2	2.3	2.1	-7.7	12.3	-1.8
ES	0.34	-0.4	3.0	65.3	-51.7	5.1	112.0	-2.3	6.1	2.5	5.9	1.3	1.0	10.0
FR	0.33	-0.6	1.1	73.5	-28.1	6.7	154.5	1.7	25.2	1.1	5.6	-0.6	-3.8	9.5
HR	0.45	-0.3	3.6	56.2	-26.0	0.9	72.9	4.0	3.9	2.6	6.9	-0.6	-1.3	17.1
IT	0.30	0.1	0.7	71.3	7.4	1.5	95.3	-0.7	11.0	2.1	5.8	0.1	-4.2	5.0
CY	0.38	-0.4	3.6	73.0	-92.7	2.9	194.5	2.2	14.0	2.2	5.0	-6.7	-12.9	3.7
LV	0.56	-0.3	0.0	49.3	-26.0	2.1	54.4	1.2	4.3	1.4	7.1	-4.5	-0.4	25.8
LT	0.35	-0.7	2.2	64.2	-4.6	1.8	51.1	4.3	4.8	0.4	7.3	-1.2	-1.6	37.3
LU	0.30	-0.8	1.2	169.6	33.1	4.8	341.1	-12.7	85.5	1.3	5.7	7.9	-2.6	20.9
HU	0.45	-0.7	0.6	55.0	-36.8	8.3	72.4	1.8	11.3	1.4	6.0	-3.9	-1.4	35.4
MT	0.18	-0.2	5.0	80.0	93.4	3.6	118.7	11.2	20.1	2.3	4.2	5.0	-10.3	1.3
NL	0.37	-1.0	0.8	96.1	52.9	3.6	208.8	-0.5	36.0	4.5	5.0	8.8	4.9	9.2
AT	0.18	-0.7	-0.6	86.0	16.6	4.9	116.3	0.2	8.7	1.5	6.7	0.7	-2.7	10.3
PL	0.38	-0.3	3.0	58.9	-32.6	:	55.9	1.0	6.3	1.4	7.1	-0.6	1.7	23.8
PT	0.45	-0.6	1.7	58.4	-72.3	-0.8	125.8	-0.6	13.0	1.6	4.8	-0.7	1.1	11.0
RO	0.58	0.6	1.4	57.6	-41.4	:	40.8	2.0	8.6	0.7	8.3	-7.8	4.2	27.5
SI	0.25	-0.5	1.4	66.8	2.3	4.1	58.6	0.4	6.4	1.6	7.0	2.4	-0.6	15.2
SK	0.63	-0.1	2.2	53.8	-54.9	0.3	85.4	2.1	8.2	0.9	8.4	-5.4	2.8	17.8
FI	0.35	-0.7	-0.3	75.4	12.1	0.7	140.2	-1.2	11.6	4.1	6.2	-0.9	-0.3	14.9
SE	0.37	-1.3	0.3	81.9	38.5	8.1	201.6	1.5	39.5	13.6	6.7	6.1	-10.0	11.2
Threshold	0.49	0.6	-0.7	72.7	-19.8	2.6	164.7	11.7	15.4	2.9	7.5	-2.5	9.7	7.0
Safety	<	>	>	>	>	>	<	<	<	<	<	>	<	<

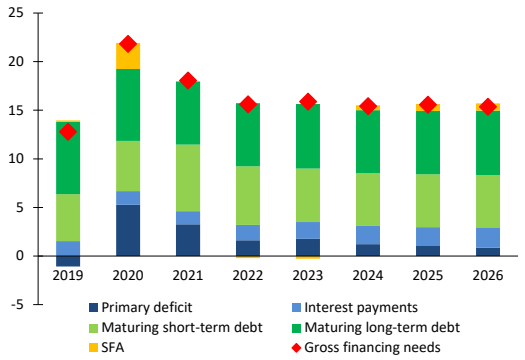
Note: Fields highlighted in blue indicate vulnerabilities, implying that the variables exceed or fall short of the critical threshold as defined by the Commission's signalling approach. All financial-competitiveness indicators, with the exception of the yield curve, are included as lagged variables. This means that changes in these variables in 2023 influence the S0 indicator in 2024.

Source: Commission services.

1.2. SHORT-TERM GOVERNMENT GROSS FINANCING NEEDS

This section analyses short-term government gross financing needs, which are an important predictor of fiscal sustainability risks. Gross financing needs represent the flow of payments or financing obligations required to service the government debt and cover the budget deficit. They consist of three components, namely the government deficit, (short- and long-term) debt redemptions and stock-flow adjustments. While gross financing needs mainly provide insights into the liquidity of government finances in the short to medium term, the debt stock captures solvency risks over the longer term. The Commission's signalling approach shows that gross financing needs are an important predictor of episodes of fiscal stress (see Box A2.1). This section focuses on assessing gross financing needs over the short-term forecast horizon until 2026, while Section 2.3 extends the analysis to the medium-term horizon until 2034.

Graph 1.4: **Gross financing needs by components (% of GDP, EU, 2019-2026)**

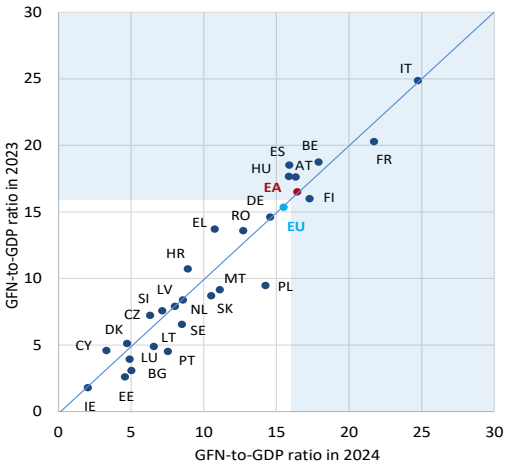


Source: Commission services.

In the EU on average, gross financing needs are expected to remain broadly stable at relatively high levels between 2024 and 2026 (see Graph 1.4). In 2020, gross financing needs increased in the EU by around 10 percentage points of GDP due to several factors related to the COVID-19 crisis: (i) the very large public fiscal stimulus and liquidity support measures, (ii) the deep economic recession and (iii) the need to roll over large amounts of existing debt. In 2021 and 2022, gross financing needs declined mainly due to smaller primary deficits despite higher government spending in response to the food and energy crises. In 2024, gross financing needs in the EU stabilised at around 15.5% of GDP (and around 16% for the euro area) and are expected to remain broadly unchanged until 2026. ([11]) While debt service requirements are expected to stay broadly stable, the impact of lower projected primary deficits is nearly offset by higher interest expenditure.

At the country level, gross financing needs remain elevated in five countries in 2024 and are projected to be elevated in six countries in 2026 (see Table 1.4). Between 2023 and 2024, gross financing needs remained broadly unchanged (see Graph 1.5). In 2024, gross financing needs exceeded the critical threshold of 16% of GDP of the Commission's S0 indicator in five countries (Italy, France, Belgium, Finland and Austria), exceeding 20% of GDP in Italy and France. Looking ahead to 2025 and 2026, gross financing needs are expected to be on average above the 16% of GDP threshold in six countries (Italy, France, Belgium, Austria, Spain and Finland).

Graph 1.5: **Gross financing needs (% of GDP, 2023 and 2024)**



Note: The risk threshold of around 16% of GDP is derived from the Commission's S0 indicator is described in Annex II.A2. Blue quadrants depict countries where gross financing needs exceeded this threshold in 2023 and/or 2024.

Source: Ameco, ECB, Eurostat, ECFIN desks.

([11]) According to the Commission's S0 indicator, gross financing needs above 16% of GDP signal elevated risks.

Debt repayments, followed by budget deficits, are the main drivers of gross financing needs in 2024 for most countries, while stock-flow adjustments are important for some countries too (see Table 1.4). On average, debt repayments account for almost 76% of gross financing needs in the EU in 2024. Within this category, the share of maturing short-term debt (35%) is slightly lower than that of long-term debt (42%). In addition to debt repayments, roughly 20% of gross financing needs stem from government deficits, which are driven by interest expenditure (12%) and primary deficits (8%). Finally, stock-flow adjustments (SFA) contribute 3% to gross financing needs in the EU on average, but play a more significant role for some countries. ([12])

Significant positive stock-flow adjustments are expected for several countries in 2025 and 2026 due to country-specific factors. In some cases, developments related to the Recovery and Resilience Facility (RRF) are the main drivers, including inflows of RRF grants in Slovakia and Portugal and on-lending under the loan facility in Greece. In Portugal, the positive SFA is also linked to deficit cash-accrual adjustments. In Finland, the buildup of a public pension fund is the main driver of the positive SFA. In Italy, the impact of the Superbonus scheme contributes significantly to the increase of SFAs. In Lithuania, the accumulation of a cash buffer by the social security fund is the key factor behind the positive SFA, as its surplus cannot be used to finance the state deficit. In Poland, the timing of military equipment deliveries is the primary driver.

Table 1.4: **Gross financing needs by country (% of GDP)**

	2019	2020	2021	2022	2023	2024	2025	2026	Components in 2024				
									Primary deficit	Interst payments	Maturing short-term debt	Maturing long-term debt	SFA
BE	15.6	*23.4*	*18.6*	*18.6*	*18.7*	*17.9*	*19.3*	*19.8*	2.4	2.2	8.0	5.8	-0.5
DE	10.9	*20.0*	*18.3*	15.4	14.6	14.6	14.8	14.6	1.1	1.0	6.2	6.6	-0.3
EE	1.2	11.1	2.8	4.3	3.1	5.0	3.6	3.5	2.4	0.7	1.2	0.0	0.8
IE	5.6	11.8	5.5	2.4	1.8	2.0	2.2	2.7	-5.1	0.6	0.6	2.0	3.8
EL	*34.3*	*24.5*	15.9	*17.5*	13.7	10.7	8.6	11.4	-2.9	3.5	7.2	5.5	-2.5
ES	*17.0*	*26.8*	*23.7*	*18.6*	*18.5*	15.9	*16.3*	*16.5*	0.5	2.5	4.7	8.0	0.2
FR	*16.9*	*28.2*	*24.9*	*21.8*	*20.3*	*21.7*	*21.2*	*21.4*	4.1	2.2	7.5	7.8	0.2
HR	11.9	*21.1*	14.8	6.2	10.7	8.9	9.5	10.1	0.6	1.5	2.3	5.2	-0.8
IT	*20.1*	*30.3*	*25.3*	*22.5*	*24.9*	*24.7*	*25.6*	*25.5*	-0.1	3.9	7.6	12.3	1.0
CY	7.9	*24.7*	5.8	4.3	2.6	4.6	5.8	6.8	-4.7	1.2	0.2	6.6	1.2
LV	4.7	9.9	10.3	5.1	7.9	8.0	8.1	7.5	1.7	1.1	0.0	3.8	1.4
LT	6.0	15.1	6.0	5.1	4.9	6.6	8.7	9.5	1.3	0.8	0.0	3.6	0.9
LU	3.1	7.3	2.7	3.5	4.6	3.3	1.9	1.7	0.2	0.3	0.1	0.0	2.6
MT	5.4	15.0	14.0	8.2	9.2	11.1	9.6	8.8	2.8	1.2	3.6	1.8	1.7
NL	7.5	13.8	11.0	10.3	8.4	8.6	10.6	11.4	-0.6	0.8	4.5	3.4	0.5
AT	8.7	*18.7*	*16.3*	*16.4*	*17.6*	*16.3*	*16.6*	*16.7*	2.1	1.5	5.0	7.6	0.1
PT	10.9	*20.3*	12.1	10.5	4.5	7.5	6.4	7.0	-2.6	2.1	0.7	3.9	3.5
SI	7.0	*17.9*	10.5	8.2	7.6	7.1	6.7	7.2	1.0	1.4	2.1	3.5	-0.8
SK	3.7	14.1	7.7	4.4	8.7	10.5	8.6	10.1	4.4	1.4	0.4	3.8	0.6
FI	7.9	*19.5*	11.9	14.3	*16.0*	*17.3*	*16.6*	15.4	2.5	1.3	8.9	2.1	2.6
EA	13.9	***23.0***	***19.5***	***16.8***	***16.5***	***16.4***	***16.7***	***16.8***	**1.1**	**1.9**	**6.0**	**7.1**	**0.4**
BG	0.5	5.4	3.2	4.4	3.9	4.9	1.7	4.2	2.0	0.6	0.0	1.7	0.5
CZ	5.2	10.5	10.5	10.2	7.2	6.3	6.6	6.4	1.1	1.4	1.4	2.1	0.4
DK	6.5	*18.7*	9.5	5.8	5.1	4.7	4.8	4.8	-3.0	0.6	2.3	3.8	1.0
HU	*17.8*	*26.4*	*16.9*	14.7	*17.7*	15.9	14.2	14.1	0.4	5.0	6.0	4.2	0.2
PL	4.6	15.5	7.4	7.5	9.5	14.2	14.3	13.4	3.5	2.2	0.5	4.9	3.1
RO	7.5	15.5	10.4	11.3	13.6	12.7	13.3	13.7	6.0	2.0	1.7	3.1	-0.1
SE	5.5	12.8	8.7	5.7	6.5	8.5	7.7	7.0	1.3	0.7	6.4	0.0	0.2
EU	12.9	***21.9***	***18.0***	**15.5**	**15.4**	**15.5**	**15.7**	**15.7**	**1.2**	**1.9**	**5.4**	**6.5**	**0.5**

Notes: (1) GFN are calculated as the sum of the budgetary deficit, redemption of main debt instruments (securities and loan principal repayments), as well as stock-flow adjustments. (2) For post-programme surveillance countries (such as EL, ES, IE, CY and PT), figures take into account official loans' repayment schedule. (3) Figures in red italics exceed the critical threshold of around 16% of GDP and are therefore considered elevated according to the empirical signalling approach of the Commission (see Annex A2).

Source: Gross financing needs by country (% of GDP)

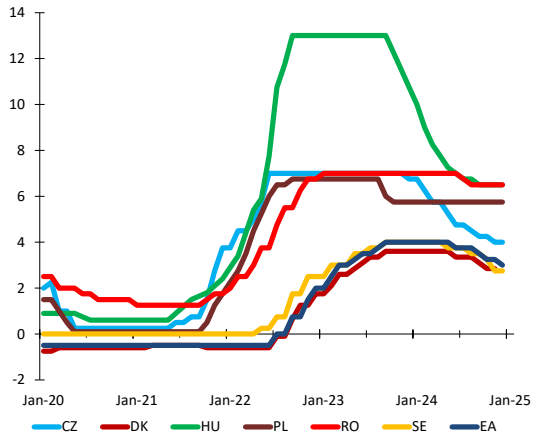
([12]) Stock-flow adjustment refers to the discrepancy between a government's fiscal deficit and the change in its debt level over a given period. This adjustment accounts for factors that affect public debt but are not captured in the recorded budget balance, such as: financial transactions (e.g., privatisations, loans, or asset purchases), accumulation or use of cash buffers, changes in the valuation of debt instruments (e.g., exchange rate fluctuations) or accounting differences between cash-based and accrual-based measures of fiscal balance.

1.3. SOVEREIGN FINANCING CONDITIONS

This section analyses sovereign financing conditions using a set of indicators that reflect financial markets' perceptions of sovereign risk. High-frequency financial data provide valuable and early information for monitoring short-term debt dynamics and the emerging of adverse developments in fiscal sustainability, including self-reinforcing debt dynamics. ([13]) Since market dynamics can be influenced by various factors, a comprehensive analysis taking into account several sources of information is essential for a thorough understanding of sovereign financing conditions.

EU central banks eased monetary policy in 2024 in response to receding inflationary pressures and subdued economic growth (see Graph 1.6). After substantial monetary tightening in 2021 and 2022, all EU central banks began cutting policy rates as inflationary pressures receded and economic activity remained subdued. Poland, Hungary and Czechia led this policy shift with rate cuts starting in 2023, followed by the ECB and the central banks of Denmark, Sweden and Romania, which began lowering rates in mid-2024.

Graph 1.6: **Overview of key policy rates of major central banks in the EU (in %)**



Note: Cut-off date: 31 December 2024.
Source: Commission services.

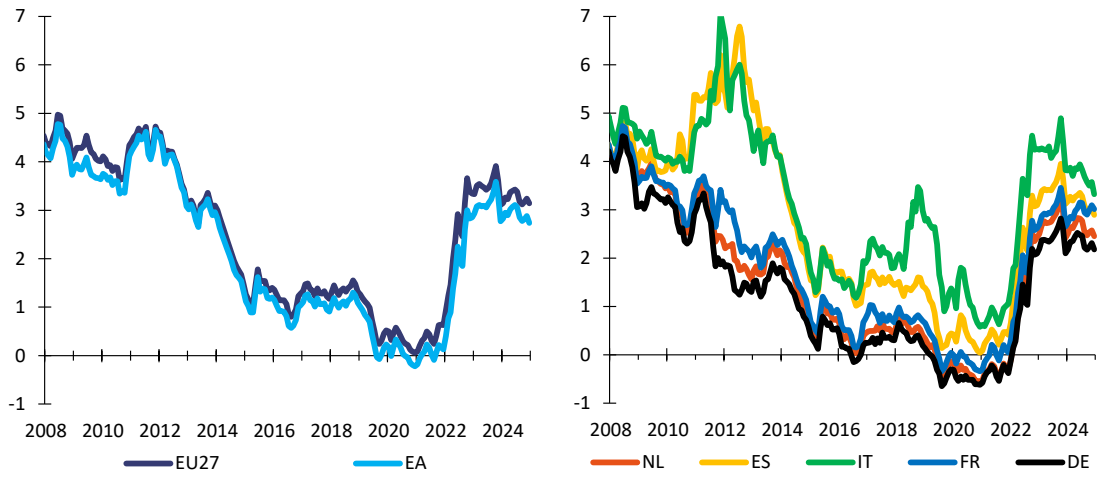
The pace and extent of monetary easing varied across EU central banks, reflecting differences in inflation and growth dynamics (see Graph 1.6). The central banks of Hungary and Czechia pursued the most significant cuts, reducing the main policy rates by 425 and 275 basis points to 6.5% and 4%, respectively, by the end of 2024. In contrast, the Swedish Riksbank and the Danish Central Bank adopted more moderate cuts of 125 basis points, bringing rates to 2.75% and 2.85%, respectively. Similarly, the ECB lowered its main policy rate by 100 basis points to 3%. ([14]) Poland's central bank reduced its rate by 100 basis points to 5.75% already in 2023 but kept it steady in 2024 to balance high yet declining inflation with robust economic growth. The Romanian central bank took a more cautious approach and cut rates by only 50 basis points in 2024 to 6.5% due to persistent inflation.

Ten-year government bond yields declined significantly in the EU in 2023 due to lower inflation and easier monetary policy but remained broadly unchanged in 2024 (see Graph 1.7). After peaking in October 2023 at their highest levels since 2012, reaching 3.9% in the EU and 3.6% in the euro area, yields declined until the end 2023 due to weaker growth, slowing inflation and expectations of rate cuts. However, yields rose in early 2024 again due to stickier-than-expected inflation, delayed rate cuts and global bond market trends. By the end of 2024, yields declined again in most EU countries, returning to early 2024 levels of 3.1% in the EU and 2.7% in the euro area, as markets adjusted their expectations for the ECB's policy rate trajectory.

([13]) For discussion of the market expectations on sovereign debt default and risks of self-fulfilling crisis channel, see Calvo G. (1988), Servicing the public debt: The role of expectations, *American Economic Review*, 78(4), 647-661. For an application of the EU sovereign crisis event see Miller, M., and Zhang, L. (2014), Saving the euro: Self-fulfilling crisis and the "Draghi Put", in: Stiglitz, J.E. and Heymann, D. (eds.), *Life after debt*. International Economic Association Series. Palgrave Macmillan, London.

([14]) The ECB also continued to normalise its balance sheet policies while ensuring the smooth transmission of monetary policy across euro area Member States. After ending its reinvestment policy for maturing securities under the Asset Purchase Program (APP) in July 2023, the ECB fully reinvested principal repayments from maturing securities under the Pandemic Emergency Purchase Programme (PEPP) in the first half of 2024. However, in the second half of 2024, it reduced PEPP reinvestments by 7.5 billion euro per month. At its December 2024 monetary policy meeting, the ECB confirmed the termination of all non-conventional operations, including the reinvestment of maturing securities and the targeted longer-term refinancing operations (TLTROs).

Graph 1.7: **Ten-year sovereign bond yields (in %, EU/EA aggregate and five largest EU economies)**



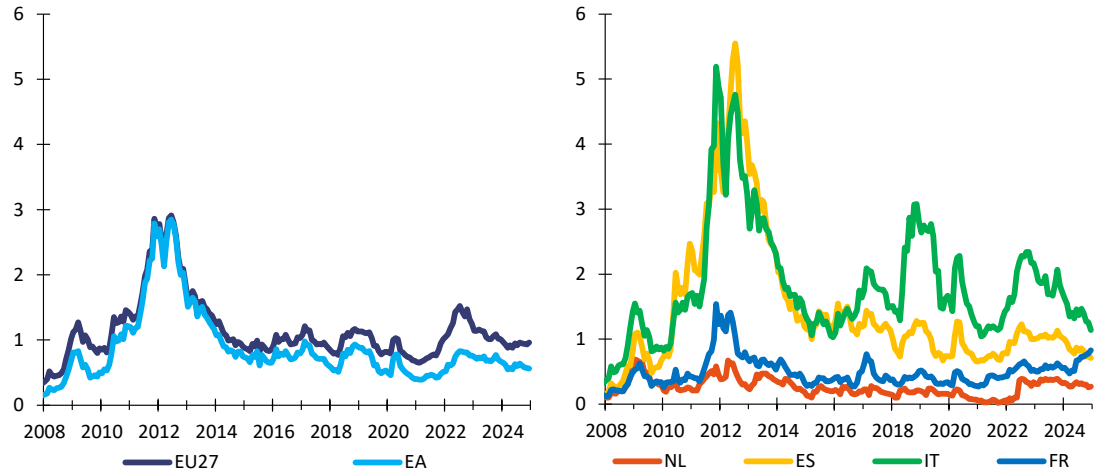
Note: Cut-off date: 31 December 2024.

Source: Commission services based on ECB LTIR database.

Long-term government bond yields remained elevated in 2024 compared with the last ten years, putting pressure on public finances. High financing costs put pressure on public finances due to increasing refinancing costs of sovereigns. However, the impact of interest rates on government debt servicing costs is gradual, as debt maturities have been extended in many countries in recent years and financing sources remained relatively stable, with a diversified and large investor base.

Sovereign yield spreads declined significantly until the first half of 2024 but have then increased again in some countries (see Graph 1.8). The sovereign yield spreads versus the German bund rose strongly from early 2021 and peaked in mid-2022 at around 1.5 pps. in the EU and 0.8 pps. in the euro area, primarily due to differences in monetary policy stances and macroeconomic and fiscal concerns. Between mid-2022 and mid-2024, bond yield spreads declined substantially to 0.9% in the EU and 0.55% in the euro area due to a stronger economic recovery, inflation stabilisation, and coordinated monetary policy measures. However, since mid-2024, spreads have risen again in some countries.

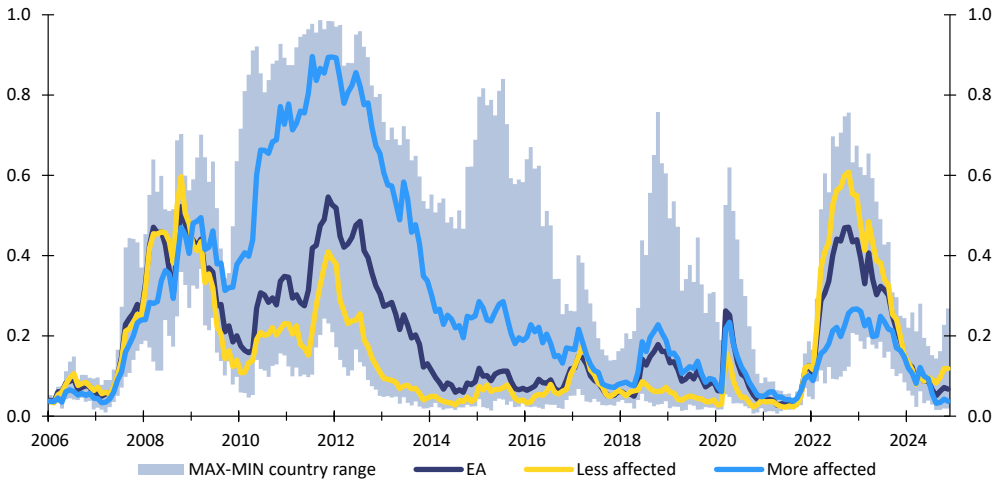
Graph 1.8: **Ten-year sovereign bond spreads vis-à-vis the German bund (EU/EA aggregate and four largest EU economies, in percentage points)**



Note: Cut-off date: 31 December 2024.

Source: Commission services based on ECB LTIR database.

Graph 1.9: **Composite indicator of systemic stress (SovCISS) in euro area sovereign bond markets**



Note: The SovCISS is a composite indicator that measures systemic stress in sovereign debt markets within the euro area and several euro area countries. It integrates various measures like credit risk, volatility and liquidity at different bond maturities to provide a comprehensive measure of stress in sovereign markets. It is available for the euro area and for 11 euro area countries (AT, BE, FI, FR, DE, EL, IE, IT, NL, PT, ES). Countries more affected by the crisis include EL, IE, IT, PT, ES, while less affected countries include AT, BE, FI, FR, DE, NL. Cut-off date: 31 December 2024.

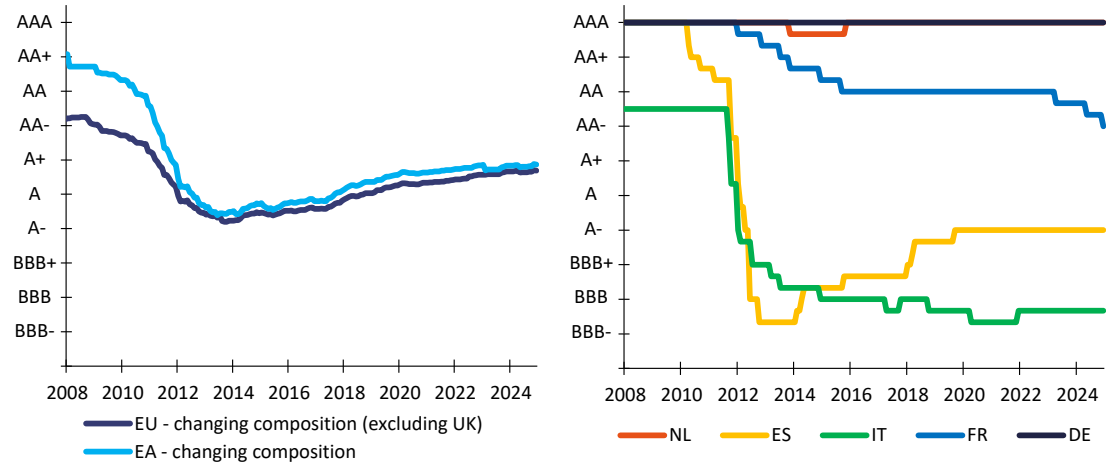
Source: Commission services based on ECB data.

The composite indicator of systemic sovereign stress (SovCISS) indicates that stress in euro area sovereign debt markets declined significantly until mid-2024, but slightly increased thereafter (see Graph 1.9). ([15]) This indicator signalled very high systemic stress at the end of 2022. Following a strong decline in 2023, risks fell further in the first half of 2024, driven by expectations of a more accommodative monetary policy from the ECB. However, stress levels rose again later in the year also due to more persistent inflation and budgetary and political challenges.

Long-term foreign sovereign ratings have remained stable and favourable for most EU countries in 2024, reflecting overall resilience in sovereign creditworthiness (see Graph 1.10, Table 1.5). The relatively high ratings for the EU and euro area as a whole in 2024 were supported by stable or improved ratings across most Member States. However, Moody's downgraded France's sovereign debt in mid-December 2024, following the dissolution of the French parliament, citing growing concerns over budgetary challenges and political stability. Ratings remain less favourable in some high-debt countries, highlighting ongoing vulnerabilities in those economies.

([15]) The SovCISS (Composite indicator of systemic sovereign stress follows the CISS (Composite indicator of systemic stress) methodology developed in Hollo et al. (2012). Stress symptoms are measured along three dimensions: (i) risk spreads, (ii) yield volatilities, and (iii) bid-ask spreads. For details, see Garcia-de-Andoain, C. and Kremer, M. (2018), Beyond spreads: measuring sovereign market stress in the euro area, *ECB Working Paper Series*, No. 2185.

Graph 1.10: **Long-term foreign currency sovereign ratings (EU/EA aggregates and five largest EU economies)**



Note: Ratings are computed as simple average (using an alphanumeric conversion table) of long-term local currency ratings, assigned by the major rating agencies.

Source: Commission services based on Moody's, S&P and Fitch.

Table 1.5: **Long-term foreign currency sovereign ratings (all EU countries at 31 December 2024)**

	Moody's			S&P			Fitch		
	Rating	Since	Outlook	Rating	Since	Outlook	Rating	Since	Outlook
BE	Aa3	11/10/2024	Negative	AA	28/02/2014	Stable	AA-	03/04/2020	
BG	Baa1	03/02/2023	Stable	BBB	24/11/2023	Positive	BBB	24/04/2020	
CZ	Aa3	24/11/2023	Stable	AA-	24/08/2011	Stable	AA-	24/01/2020	
DE	Aaa	10/02/2023	Stable	AAA	13/01/2012	Stable	AAA	17/01/2020	
DK	Aaa	02/02/2024	Stable	AAA	27/02/2001	Stable	AAA	20/03/2020	
EE	A1	08/03/2024	Stable	A+	31/05/2024	Stable	AA-	27/03/2020	
IE	Aa3	16/08/2024	Positive	AA	15/11/2024	Positive	AA-	28/01/2022	Stable
EL	Ba1	13/09/2024	Positive	BBB-	19/04/2024	Positive	BB+	27/01/2023	Stable
ES	Baa1	15/03/2024	Positive	A	18/03/2022	Stable	A-	13/12/2019	
FR	Aa3	14/12/2024	Stable	AA-	31/05/2024	Stable	AA-	28/04/2023	Stable
HR	A3	08/11/2024	Stable	A-	13/09/2024	Positive	BBB+	13/07/2022	Stable
IT	Baa3	17/11/2023	Stable	BBB	26/07/2022	Stable	BBB	03/12/2021	Stable
CY	A3	22/11/2024	Stable	BBB+	14/06/2024	Positive	BBB	10/03/2023	Stable
LV	A3	26/01/2024	Stable	A	31/05/2024	Stable	A-	10/04/2020	
LT	A2	29/04/2024	Stable	A	31/05/2024	Stable	A	31/01/2020	
LU	Aaa	17/03/2023	Stable	AAA	14/01/2013	Stable	AAA	06/03/2020	
HU	Baa2	29/11/2024	Negative	BBB-	27/01/2023	Stable	BBB	14/02/2020	
MT	A2	22/11/2024	Stable	A-	13/03/2020	Stable	A+	17/04/2020	
NL	Aaa	27/01/2023	Stable	AAA	20/11/2015	Stable	AAA	24/04/2020	
AT	Aa1	24/02/2023	Stable	AA+	23/08/2024	Positive	AA+	15/05/2020	
PL	A2	22/03/2024	Stable	A-	12/10/2018	Stable	A-	27/03/2020	
PT	A3	17/11/2023	Stable	A-	01/03/2024	Positive	BBB+	28/10/2022	Stable
RO	Baa3	03/11/2023	Stable	BBB-	16/04/2021	Stable	BBB	01/05/2020	
SI	A3	13/12/2024	Positive	AA-	19/05/2023	Positive	A	08/05/2020	
SK	A3	11/10/2024	Stable	A+	06/12/2024	Stable	A	17/01/2020	
FI	Aa1	13/12/2024	Stable	AA+	16/09/2016	Stable	AA+	24/01/2020	
SE	Aaa	23/02/2024	Stable	AAA	16/02/2004	Stable	AAA	28/06/2019	

Source: Commission services based on Moody's, S&P and Fitch.

2. MEDIUM-TERM FISCAL SUSTAINABILITY ANALYSIS

Main takeaways

The analysis of medium-term fiscal sustainability risks relies on the Commission's comprehensive debt sustainability analysis (DSA) framework. The DSA combines deterministic debt projections up to 2035 with stochastic projections covering a wide range of possible shocks. The projections include the impact of ageing-related expenditure. They consider alternative scenarios to the 'no-fiscal-policy-change' baseline, such as reverting to past fiscal behaviour, implementing only part of the forecast structural adjustment, benefiting from a less favourable interest-growth rate ('r-g') differential, and facing temporary turmoil on financial markets. This is complemented by an assessment of liquidity challenges based on government's gross financing needs.

In the EU as a whole, at unchanged fiscal policy, the debt-to-GDP ratio is projected to increase over the next 10 years, driven by gradual increases in the cost of ageing and in interest expenditure. In the baseline, the 'r-g' differential is assumed to remain only slightly negative by 2035, after increasing throughout the projection period mostly because of rising implicit interest rates. The favourable impact of this differential on debt dynamics – the 'snowball effect' – will therefore not be large enough to offset the increasing pressure from ageing costs on public finances. An alternative scenario shows that the increase in debt for the EU as a whole could be less pronounced if the structural primary balance converged back to the level of small deficit observed on average in the past 15 years (compared to the larger deficit assumed in the baseline). Conversely, a more limited fiscal adjustment, a less favourable 'r-g' differential or temporary financial stress would worsen the debt dynamics.

However, if Member States fully deliver the adjustment they have committed to in their first medium-term plans under the new EU governance framework, debt will decline over the medium term in all the countries where it currently exceeds 60% of GDP.

The stochastic projections point to uncertainty around the baseline. With an 80% probability, debt will lie between 80% and 101% of GDP in the euro area as a whole by 2029, coming below its 2024 level (89.1% of GDP) with a 43% probability. In 2029, the debt ratio could stand above or below 91% with equal probability. High uncertainty in some countries reflects historically volatile macro-financial and fiscal conditions.

Overall, 11 Member States are found to be at high medium-term fiscal sustainability risk, 9 at medium risk and 7 at low risk. The high-risk classification is mainly driven by the debt dynamics under the no-fiscal-policy-change baseline, due either to currently high and still increasing debt ratios (Belgium, Spain, France and Italy), debt increasing beyond 90% of GDP (Austria, Poland, Romania, Slovakia and Finland), or debt declining but remaining at a high level and with only moderate room for additional consolidation (Greece). In several cases, the stochastic analysis confirms the high risk of higher debt in 5 years' time (Belgium, Spain, France, Italy, Austria and Finland) and shows significant uncertainty surrounding the baseline projections (Greece, Hungary and Romania). Vulnerability to more adverse assumptions, in particular in case of less favourable macro-financial conditions, also explains the classification (Hungary). Projected financing needs suggest that countries with the highest debt ratios could also be potentially exposed to liquidity challenges.

Table 2.1: **Overview of the medium-term risk classification**

Source: Commission services.

This chapter assesses fiscal sustainability risks over the medium term, based on the Commission's comprehensive analytical framework. The debt sustainability analysis (DSA) captures medium-term challenges in a comprehensive way. First, the DSA includes the impact of ageing-related costs. Second, it considers both favourable and adverse scenarios in addition to the baseline. Third, it accounts for uncertainty by simulating a wide range of 10 000 possible shocks. Last but not least, it takes into account the plausibility of projected debt paths and the feasibility of fiscal consolidation measures, if needed.

This chapter is organised as follows. Going through the various elements of the DSA toolkit, the chapter starts with a baseline for debt trajectories over the next 10 years, along with a set of additional deterministic debt projections underpinned by alternative assumptions (Section 2.1). To assess how a broad range of possible shocks could affect debt in the coming years, the DSA also relies on stochastic debt projections, which allow to gauge the uncertainty around the baseline (Section 2.2). Finally, the DSA is complemented by projections of governments' gross financing needs over the next decade, which provide information on potential liquidity risks (Section 2.3) The chapter concludes with an overall assessment of medium-term fiscal risks and a comparison with the 2023 Debt Sustainability Monitor (DSM) (Section 2.4). It also includes three boxes: Box 2.1 details the assumptions underpinning the baseline and the alternative deterministic scenarios, Box 2.2 provides an update on the assumptions about stock-flow adjustments in Greece, and Box 2.3 describes the debt paths as projected in Member States' recently submitted medium-term fiscal-structural plans.

2.1. DETERMINISTIC GOVERNMENT DEBT PROJECTIONS

The first component of the DSA consists in a set of deterministic projections based on various scenarios. Each deterministic projection provides a single path for debt until 2035 under certain assumptions for budgetary, macroeconomic and financial variables. In addition to the baseline, four other scenarios are taken into account for the medium-term risk classification. These are the 'historical structural primary balance (SPB)', 'lower SPB', 'adverse interest-growth rate differential (r-g)' and 'financial stress' scenarios. They highlight the impact on debt of alternative assumptions for fiscal policy, real GDP growth and interest rates (Table 2.2) and can affect the risk classification if they signal higher risk than the baseline (see Section 2.4). For non-euro area Member States, an additional stress test affecting the exchange rate provides further information on risks, although without affecting the risk classification; its assumptions are described in Box 2.1 and its results are provided in the country fiches.

Table 2.2: **Debt projections in the deterministic scenarios**

	Baseline 2024	Baseline 2035	Difference to the baseline in 2035 (pps.) 'Historical SPB' scenario	'Lower SPB' scenario	'Adverse r-g' scenario	'Financial stress' scenario
BE	103.4	126.4	-10.7	0.8	9.4	1.3
BG	24.5	39.3	-13.8	1.2	2.6	0.3
CZ	43.4	53.3	3.4	0.6	4.0	0.3
DK	31.0	16.6	-3.4	9.3	1.8	0.2
DE	63.0	65.9	-8.3	0.7	5.5	0.5
EE	23.2	29.5	1.0	2.5	2.1	0.3
IE	41.6	13.4	30.7	4.1	1.6	0.1
EL	153.1	119.1	-19.6	2.5	9.3	2.5
ES	102.3	112.1	4.4	2.2	8.9	1.3
FR	112.7	142.5	-2.1	7.5	11.3	2.4
HR	57.3	63.4	-8.9	0.7	5.0	0.4
IT	136.6	156.9	-5.5	2.6	14.1	4.8
CY	66.4	33.6	13.0	2.5	3.6	0.2
LV	48.1	65.0	-1.3	0.4	4.9	0.5
LT	38.3	58.0	-0.6	1.9	4.2	0.4
LU	27.5	21.3	-3.4	2.1	1.5	0.2
HU	74.5	85.4	0.7	1.5	7.2	0.7
MT	49.8	46.4	-10.5	3.7	3.5	0.4
NL	43.3	50.1	0.1	5.3	3.9	0.3
AT	79.5	97.7	-11.1	1.3	7.6	0.7
PL	54.7	94.6	-7.0	1.1	7.1	0.7
PT	95.7	74.5	14.2	0.0	6.7	0.8
RO	52.2	106.4	-21.2	0.7	7.1	0.6
SI	67.1	67.7	0.5	1.2	4.6	0.3
SK	58.9	95.7	-7.1	5.9	6.2	0.6
FI	82.6	96.5	1.0	2.5	7.0	0.7
SE	32.8	25.9	-4.3	1.1	2.0	0.2
EU	82.4	92.9	-3.4	2.9	7.5	1.4
EA	89.1	98.4	-2.6	3.0	8.1	1.5

Source: Commission services.

The deterministic projections feed into the medium-term risk classification using the debt level in 2035, the debt trajectory and the available 'fiscal consolidation space'. While a high level of debt can be a source of vulnerability, it is only a crude indicator of sustainability. That is why the risk classification relies on two more criteria in addition to the debt level. One is the path followed by debt over the coming decade. The other one is the 'fiscal consolidation space'. This space is measured by how often more stringent fiscal positions than assumed in a given scenario were observed in the past in the country under consideration – technically, this consists in looking at (one minus) the percentile rank of the projected SPB within the distribution of SPBs observed in the past in the country. This gives an

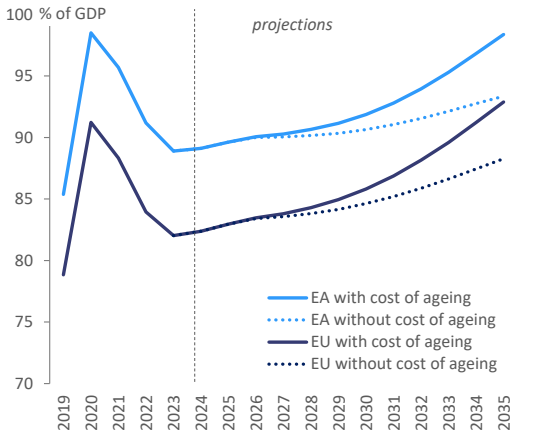
indication of whether the country has plausible fiscal room for manoeuvre to take adjustment measures if necessary. Therefore, a high level of debt or an increasing debt path in the baseline do not necessarily imply high sustainability risks, as long as the government has available 'consolidation space' to rein in debt ([16]). The decision tree applied along these three criteria is described more closely in Annex A1.

This section focuses on the economic reading and main results of each scenario. It explains why the selected scenarios are relevant in the current context, and it discusses the results both for the aggregate level and across countries. Box 2.1 includes further technical information on the underlying assumptions, and detailed projection tables can be found in the statistical annex A7.

2.1.1. Baseline: no fiscal policy change

The baseline for the medium-term debt projections assumes that structural primary budgetary positions remain at their 2025 level until 2035, except for the impact of ageing-related costs. The 2025 level is the one expected in the Commission 2024 autumn forecast (for the EU as a whole, an SPB of -0.7% of GDP), which includes the impact of policy measures adopted by end October 2024 ([17]). As from 2026, the projections do not incorporate any new measures, and the SPB is only affected by changes in the cost of ageing as projected in the 2024 Ageing Report ([18]) (for the EU as a whole, the overall SPB including the impact of ageing costs is projected to gradually decline to -1.7% by 2035, see Annex A7). Therefore, the baseline highlights what would happen in the absence of new measures ([19]).

Graph 2.1: **Gross government debt baseline projections, EU and euro area**



Source: Commission services.

([16]) This is in line with the definition of debt sustainability risks used by the IMF, the ECB and the Commission. Debt is deemed unsustainable only in cases when there is *no politically and economically feasible fiscal path that can at least stabilise debt over the medium term* (under the baseline and realistic shock scenarios), keeping rollover risk at an acceptably low level while preserving potential growth.

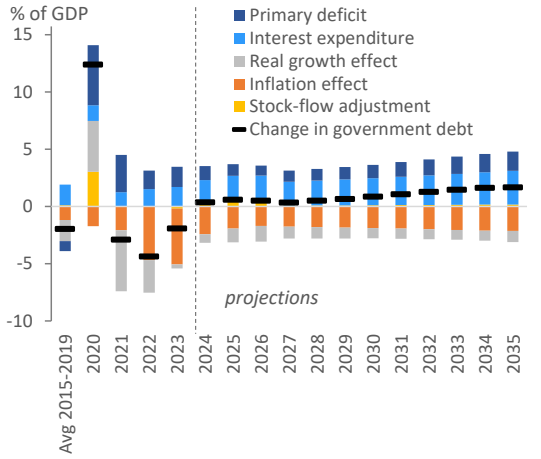
([17]) Moreover, GDP growth over 10 years is projected in line with the EU commonly agreed methodology.

([18]) https://economy-finance.ec.europa.eu/publications/2024-ageing-report-economic-and-budgetary-projections-eu-member-states-2022-2070_en.

([19]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that Member States commit to in their medium-term plans beyond 2025 is not taken into account in the projections. Box 2.3 describes the debt paths consistent with the full implementation of the plans.

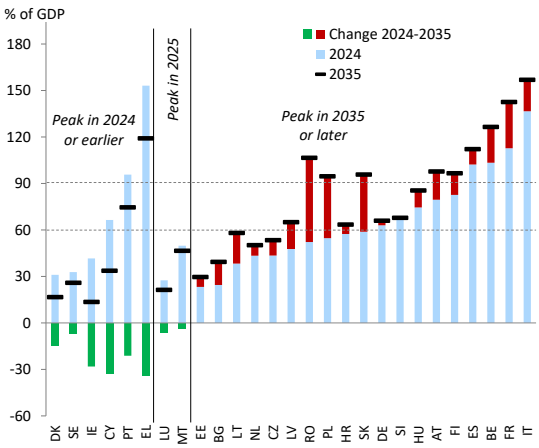
The baseline points to a continuous increase of the debt ratio in the EU over the next 10 years, mainly driven by the rising cost of ageing and interest expenditure. At unchanged policies, by 2035 debt would approach 93% of GDP in the EU, exceeding its level of 2020. The projected debt for the euro area as a whole follows a similar path (Graph 2.1). The projected increase in debt is partly due to the impact of the cost of ageing in the EU, which is visible in the worsening primary deficit (Graph 2.2). Positive stock-flow adjustments also drive the debt dynamics, mainly in 2025 and 2026 ([20]), as discussed in Chapter 1. Moreover, interest expenditure as a ratio to GDP is set to double by 2035 compared to 2022. On the other hand, the debt-reducing effect stemming from real GDP growth and inflation is projected to broadly stabilise over that period. Considered together, the developments in nominal growth and interest expenditure are expected to combine into a gradually less favourable snowball effect ([21]) that would not fully offset the debt-increasing impact of the primary deficit and of positive stock-flow adjustments in any year up to 2035 ([22]).

Graph 2.2: **Drivers of the change in debt under the baseline, EU**



Source: Commission services.

Graph 2.3: **Gross government debt projections for EU Member States under the baseline (2024-2035)**



Source: Commission services.

The projected debt paths of individual Member States show contrasted situations. In 8 countries, the debt ratio projected for 2035 is below the level of 2024 (Graph 2.3). In most of these countries, debt started declining after the peak of 2020-2021, or is expected to do so by 2025, with a further steady decline over the medium term. In the remaining 19 Member States, at unchanged policies, debt is projected to increase overall between 2024 and 2035, in some cases starting from a high level (Italy, France, Belgium and Spain). In five of those 19 countries (Germany, Spain, Hungary, the Netherlands and Slovenia), debt would first broadly stabilise before increasing, while in all other cases it would steadily increase over the projection period.

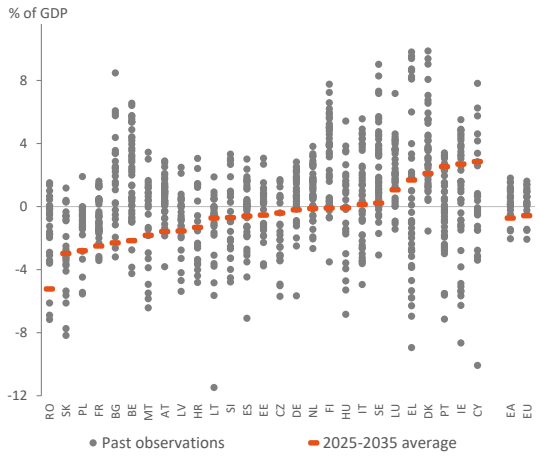
([20]) In the DSA framework, stock-flow adjustments are assumed to be equal to zero beyond the first two years, except in specific cases such as the building up of public pension funds (as in Luxembourg and Finland). See Chapter II.2 in the 2023 DSM for further details. Stock-flow adjustments in Greece are discussed in Box 2.2 of this report.

([21]) The snowball effect, which is closely related to the interest-growth rate differential, represents the combined impact of interest expenditure, inflation and real GDP growth on debt dynamics.

([22]) For further details on the breakdown of the change in debt, see the statistical annex A7.

In most countries, the debt paths envisaged in the baseline rely on low SPB levels by historical standards, suggesting sizeable fiscal consolidation space. This can be seen by plotting the projected SPB level (before cost of ageing) against country-specific SPB values observed in the last decades (Graph 2.4). As most countries have often recorded higher SPBs than the level assumed in the baseline, they can realistically aim to move again towards such higher levels in the coming decade, improving the debt dynamic compared to the baseline; this is discussed in the historical SPB scenario below. However, fiscal consolidation space appears more limited in some post-programme countries that are running large structural primary surpluses while their historical track record was often weaker (e.g. Cyprus and Portugal).

Graph 2.4: **Structural primary balance projected under the baseline and past observations**

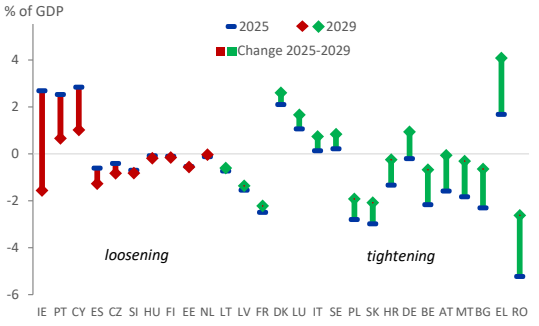


Notes: (1) The 2025-2035 average is the value in the baseline before cost of ageing. (2) In this graph, past annual observations start at the earliest in 1980 (depending on the country), end in 2023 and include crisis years.

Source: Commission services.

2.1.2. Policy scenario: historical structural primary balance

Graph 2.5: **'Historical SPB' scenario: structural primary balance in 2025 and 2029**



Note: The 'historical SPB' scenario assumes that the SPB gradually converges, from 2026 to 2029, to the SPB observed on average in 2009-2023.

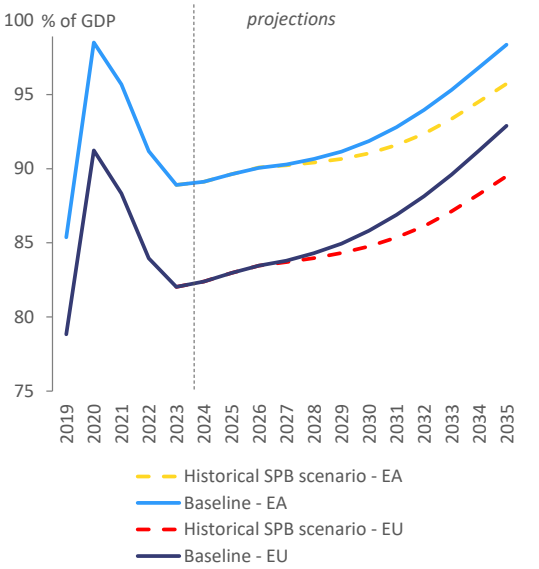
Source: Commission services.

The first alternative scenario assumes a change in fiscal policy over the medium term – namely that the SPB will gradually converge to its average past value. This scenario illustrates the prospect of countries reverting to past fiscal behaviour instead of keeping the SPB at its 2025 level. More specifically, by 2029, each country's SPB would reach the average value observed in the country over the past 15 years, i.e. in 2009-2023 (Graph 2.5). While a majority of the Member States' SPBs are already expected to stand in 2025 within 1 pp. of their historical average, this scenario would imply more significant tightening for 8 countries and loosening for 3 countries ([23]). In this scenario, by 2029, there would still be a structural primary deficit in a majority of Member States.

([23]) The three countries for which this scenario implies a significant loosening are post-programme countries (Ireland, Portugal and Cyprus), where there has been a long-lasting change in behaviour compared to a weaker historical track record.

Compared with the baseline, reverting to past structural positions would slow down but not prevent the increase in debt in the EU. For the EU as a whole, the structural primary deficit would fall from 0.7% of GDP in 2025 to 0.3% by 2029. Nevertheless, debt would increase throughout the projection period, albeit at a weaker pace than in the baseline (Graph 2.6). The same would happen in the euro area if the structural primary deficit of 0.6% of GDP in 2025 gradually improved by 2029 to the historical standard, a small deficit of 0.2% of GDP.

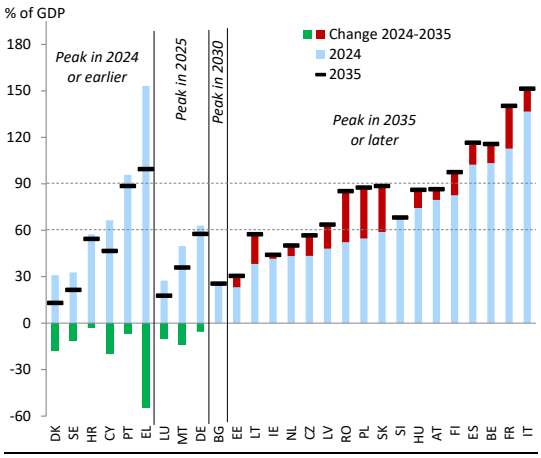
Graph 2.6: **Debt projections: 'historical SPB' scenario vs. baseline, EU and euro area**



Note: The 'historical SPB' scenario assumes that the SPB gradually converges, from 2026 to 2029, to the SPB observed on average in 2009-2023. The SPB then remains constant, except for the impact of the cost of ageing.

Source: Commission services.

Graph 2.7: **Gross government debt projections under the 'historical SPB' scenario**

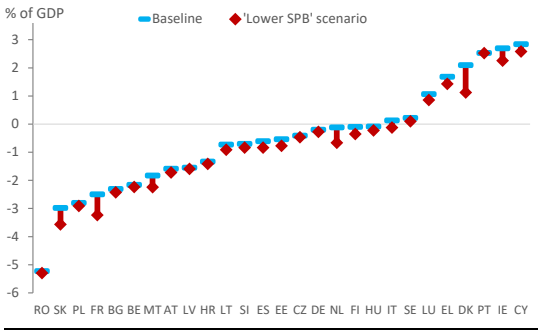


Source: Commission services.

Across countries, the 'historical SPB' scenario affects debt projections in both directions but does not affect the risk classification. Compared with the baseline, this scenario affects the 2035 debt level in a direction and by an amount consistent with the shock on the SPB, with the largest increases in Ireland, Portugal and Cyprus and the biggest reductions in Romania and Greece. Among the high-debt countries, debt would increase considerably less than in the baseline in Belgium and decline faster in Greece (for comparisons, see Table 2.2 above and the detailed heat map at the end of this chapter, in Table 2.6). In most countries, the peak year is unchanged compared with the baseline (Graph 2.7). This scenario does not lead to a worsening of the risk signal for any country. For five Member States, however, the lower level of debt in 2035 under the 'historical SPB' scenario implies a lower risk signal than the baseline, from high to medium risk (Austria, Poland, Romania and Slovakia) or from medium to low risk (Germany and Croatia), however with no implications for the overall DSA risk classification.

2.1.3. Policy scenario: lower structural primary balance

Graph 2.8: **Structural primary balance in 2025-2035 in the baseline and the 'lower SPB' scenario**



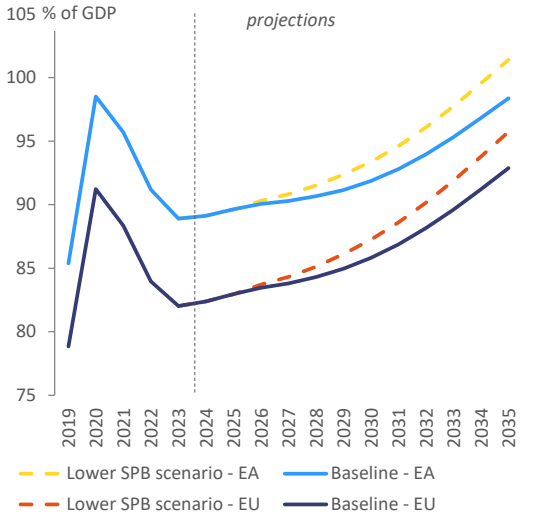
Note: The 'lower SPB' scenario assumes, for the SPB in 2025, a 50% smaller consolidation (or 50% larger deterioration) than in the Commission 2024 autumn forecast. The SPB then remains constant as from 2025, except for the impact of the cost of ageing.

Source: Commission services.

The 'lower SPB' scenario assumes, for 2025, less fiscal consolidation (or more fiscal expansion) than in the baseline, implying a negative level shift. As in the baseline, this scenario keeps the SPB unchanged as from 2025, but at a lower level than in the baseline (Graph 2.8). For 12 countries, the Commission 2024 autumn forecast expects the SPB to tighten in 2025 and this scenario assumes that only half of the adjustment will be delivered (these are Germany, Spain, France, Croatia, Italy, Malta, Poland, Romania, Slovenia, Slovakia, Finland and Sweden). For the 15 countries in which the SPB is expected to deteriorate, the scenario assumes a 50% larger fall than in the baseline.

The lower SPB levels under this scenario would imply a more rapid increase in debt in the EU over the medium term, compared with the baseline. Both in the EU and in the euro area as a whole, the structural primary deficit would remain broadly unchanged in 2025 instead of declining slightly as in the baseline. The debt ratio would be about 3 pps. higher than in the baseline by 2035, rising to close to 96% of GDP in the EU as a whole (Graph 2.9).

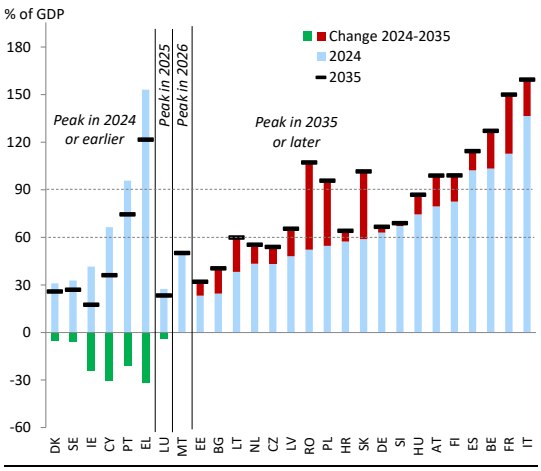
Graph 2.9: **Debt projections: 'lower SPB' scenario vs. baseline, EU and euro area**



Note: The 'lower SPB' scenario assumes, for the SPB in 2025, a 50% smaller consolidation (or 50% larger deterioration) than in the Commission 2024 autumn forecast. The SPB then remains constant as from 2025, except for the impact of the cost of ageing.

Source: Commission services.

Graph 2.10: **Gross government debt projections under the 'lower SPB' scenario**

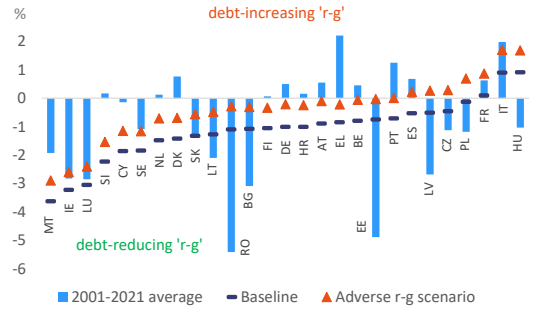


Source: Commission services.

The 'lower SPB' scenario increases debt compared to the baseline in all Member States, by construction, but keeps the risk signal unchanged. The most affected countries are Denmark, France, Slovakia and the Netherlands, where debt exceeds the baseline level by more than 5 pps. by 2035, although with no impact on the risk classification (see Graph 2.10, Table 2.2 and the Table 2.6).

2.1.4. Stress test: adverse 'r-g' differential

Graph 2.11: **Interest-growth rate differential in the baseline and the 'adverse r-g' scenario, 2025-2035 averages**



Note: The 'adverse r-g' scenario assumes that the differential between the market interest rate and nominal GDP growth is permanently 1 pp. higher than in the baseline from 2025 to 2035. This graph shows the impact on the differential between the implicit interest rate and nominal GDP growth, taking into account the debt maturity structure.

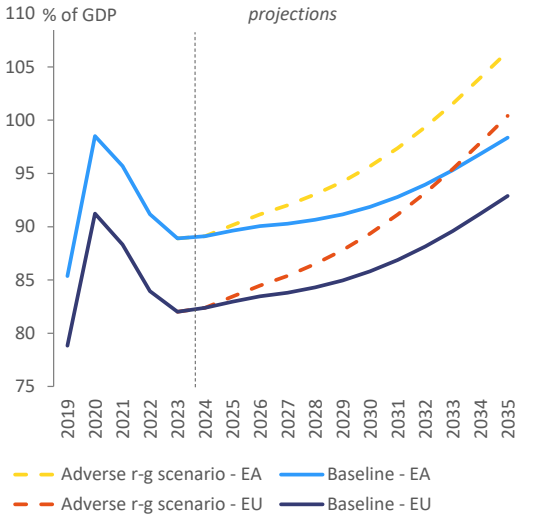
Source: Commission services.

This scenario captures risks related to a reversal or a reduction of the currently favourable interest-growth rate differential throughout the projection period. The 'r-g' differential assumed in the baseline, although increasing over the projection period, is below historical averages in two thirds of the countries (Graph 2.11). Stress-testing this differential is important to assess the consequences for debt sustainability risks of a possible larger correction of 'r-g'. To do so, the difference between *market* interest rates and nominal GDP growth is permanently increased by 1 pp. compared to the baseline, through 0.5 pps. lower growth and 0.5 pps. higher interest rates, thus combining a deteriorated macroeconomic environment and tighter financing conditions ([24]). Depending on the debt structure and gross financing needs, this shock gradually translates into a higher 'r-g' differential where r is the *implicit* interest rate. This diminishes the debt-reducing impact of the snowball effect or reinforces its debt-increasing impact, in those countries where 'r-g' is already projected to turn positive during the next 10 years (Bulgaria, Czechia, Spain, France, Italy, Hungary, Poland and Romania).

Both on aggregate and in individual countries, this scenario has adverse implications for debt developments. On aggregate, debt would grow faster than in the baseline, exceeding 100% of GDP by 2035 in the EU as a whole (Graph 2.12). At the country level, the effect would be particularly large in Italy, France, Belgium, Greece and Spain (see Graph 2.13 and Table 2.2). This scenario signals higher risks than the baseline for Lithuania (medium risk instead of low) and Hungary (high instead of medium), in both cases because of the higher debt level in 2035.

([24]) The same shock is applied to both short-term and long-term market rates.

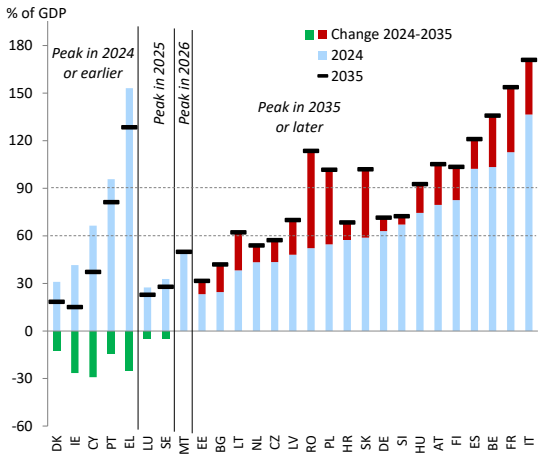
Graph 2.12: **Debt projections: 'adverse r-g' scenario vs. baseline, EU and euro area**



Note: The 'adverse r-g' scenario assumes that the interest-growth rate differential is permanently 1 pp. higher than in the baseline from 2025 to 2035.

Source: Commission services.

Graph 2.13: **Gross government debt projections under the 'adverse r-g' scenario**



Source: Commission services.

2.1.5. Stress test: financial stress

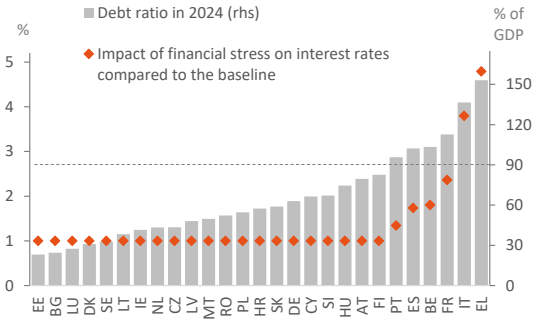
This scenario aims to capture risks linked to stylised, differentiated temporary turmoil on financial markets. Under this scenario, a one-year shock affects market interest rates in 2025 ([25]). Furthermore, unlike the 'adverse r-g' scenario which applies the same shock on all countries, the scenario assumes that financial turmoil hits high-debt countries harder: while a flat 1 pp. interest rate hike applies to all countries, it is augmented by a 'risk premium' for highly indebted countries ([26]) (Graph 2.14).

Despite its temporary nature, the shock on interest rates has a persistent, albeit limited, adverse impact on debt dynamics. As can be seen for the EU and euro area as a whole, the debt path would be only slightly above the baseline, by around 1.5 pps. by 2035 (Graph 2.15). The initial impact on debt would be limited, as the higher interest rates would only affect newly issued debt. The gap would, however, be persistent and increase over time, as the shock would affect the service of debt newly issued in 2025 and make higher interest payments generate in turn new debt each year, compared with the baseline. This scenario would also have a non-negligible impact on gross financing needs, in particular in the year after the shock, when the higher rates on newly issued debt would start affecting interest payments (see Annex A3).

([25]) The same shock is applied to both short-term and long-term market rates.

([26]) The risk premium is equal to 0.06 times the excess of debt over 90% of GDP based on Pamies, S., Carnot, N., and Patarau, A (2021), 'Do fundamentals explain differences between euro area sovereign interest rates?', *European Economy Discussion Paper*, No. 141.

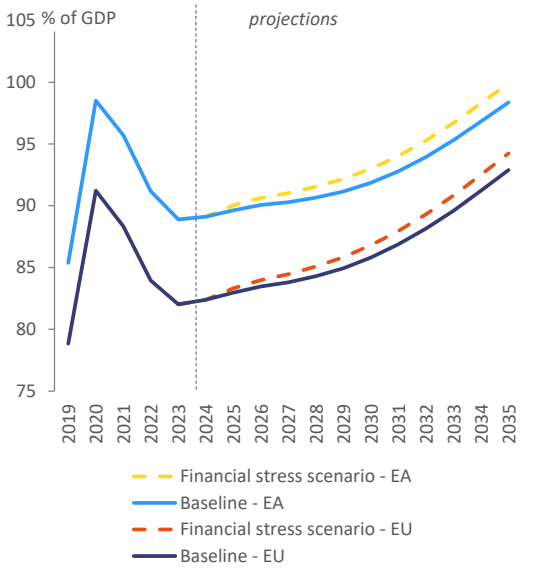
Graph 2.14: **Impact of the 'financial stress' scenario on interest rates in 2025**



Notes: The 'financial stress' scenario assumes that, in 2025, market interest rates are temporarily raised by 1 pp., plus a risk premium in countries where debt exceeded 90% of GDP in 2024 (90% being the debt threshold used to identify high risk in the DSA classification). The risk premium is equal to 0.06 times the excess of debt over 90% of GDP.

Source: Commission services.

Graph 2.15: **Debt projections: 'financial stress' scenario vs. baseline, EU and euro area**

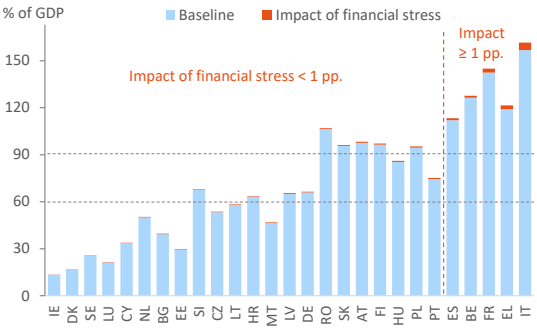


Note: The 'financial stress' scenario assumes that, in 2025, market interest rates are temporarily raised by 1 pp., plus a risk premium in countries where debt exceeded 90% of GDP in 2024 (90% being the upper debt threshold used to identify high risk in the DSA classification).

Source: Commission services.

High-debt Member States are more affected by the 'financial stress' scenario. This scenario increases debt by more than 1 pp. by 2035 in only 5 countries, namely those with the highest projected debt ratios for 2035 in the baseline – Belgium, Greece, Spain, France and Italy (Graph 2.16). This is because higher interest rates affect interest payments more strongly if they apply to a high debt, and this effect is exacerbated by the assumption that high-debt countries get larger shocks on interest rates. To a lesser extent, the sensitivity of individual countries to the interest shock also depends on the maturity of their debt, because a shorter maturity implies that the shock on the market rate is more rapidly transmitted to the implicit interest rate. Finally, the impact is also affected by developments in gross financing needs.

Graph 2.16: **Gross government debt projections for 2035, 'financial stress' scenario vs. baseline**



Note: Countries are ranked by increasing impact of financial stress.

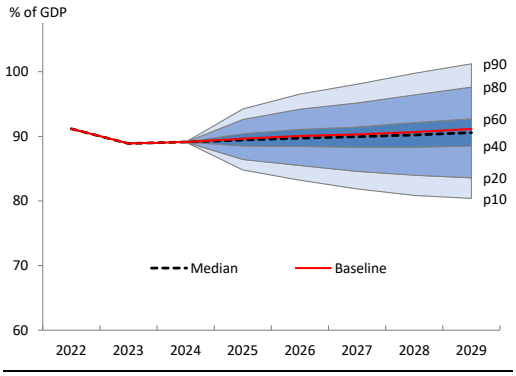
Source: Commission services.

2.2. STOCHASTIC GOVERNMENT DEBT PROJECTIONS

Stochastic debt projections account for wide-ranging uncertainty around the baseline. Unlike deterministic projections, the outcome of stochastic projections is not a single debt path under a specific scenario, but a distribution of debt paths resulting from a wide set of shocks. These projections aim to show the impact on debt dynamics of numerous possible shocks affecting governments' budgetary positions, economic growth, interest rates and exchange rates compared to the baseline ([27]). The shocks, applied in up to 10 000 different simulations, are calibrated to capture country-specific conditions, namely the volatility observed over the past and the correlation between the different variables.

([27]) The methodology for stochastic debt projections is presented in Annex A4.

Graph 2.17: **Stochastic debt projections, euro area, 2025-2029**



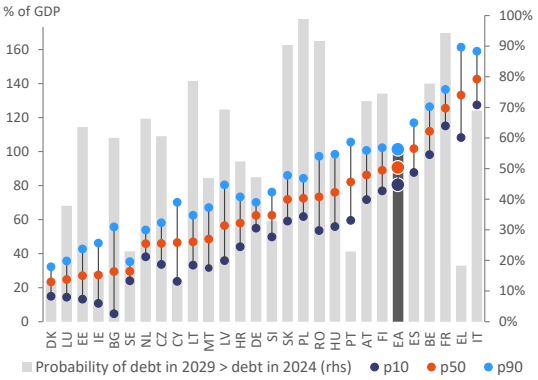
Source: Commission services.

The results of stochastic projections are shown in a fan chart around the baseline. The cone covers 80% of all simulated debt paths over a 5-year horizon, with the lower and upper limits representing respectively the 10th and 90th percentiles of the distribution. This means that, if future shocks follow the same pattern as in the past, there is an 80% probability that debt will actually lie within that cone in the next 5 years. The chart excludes the debt paths derived from the 20% most extreme shocks, or 'tail events'. The different shades within the cone represent different portions of the overall distribution of debt paths.

The stochastic projections point to some uncertainty over the debt trajectory in the euro area. For 2029, they suggest that, with an 80% probability, the euro area debt ratio will lie between 80% and 101% of GDP, a range of 21 pps. (Graph 2.17). The median debt ratio for 2029 is estimated at 91% of GDP, i.e. there is an equal probability that debt will be higher or lower than that level. Moreover, the stochastic projections suggest with a 57% probability that debt will be higher in 2029 than it was in 2024.

The probability of an increase in debt and the degree of uncertainty vary greatly across countries. The results for individual countries are summarised in Graph 2.18. Among the countries with the highest debt levels in 2024, the stochastic analysis points to a high risk of even higher debt in 5 years' time in some countries (especially in Belgium, France and Italy, and to a lesser extent in Spain) and significant uncertainty surrounding the baseline projections in Greece, where the cone is 53 pps. wide in 2029. Among the other countries, uncertainty appears to be particularly elevated e.g. for Bulgaria, where debt could lie anywhere between 5% and 56% of GDP by 2029. Such uncertainty around the baseline reflects a high historical volatility of macro-financial and fiscal conditions. At the other end of the spectrum, uncertainty for Denmark is among the lowest, with the debt ratio likely to lie within a narrow range of 15% to 32% of GDP in 2029; moreover, debt in Denmark is clearly projected to decrease, as indicated by the very low probability of debt exceeding the 2024 level in 2029.

Graph 2.18: **Stochastic debt projections for EU Member States**



Notes: How to read this graph: for each country, there is an 80% probability that debt in 2029 will lie between the dark blue dot (the 10th percentile of the debt distribution) and the pale blue dot (the 90th percentile). The more these two points are distant, the higher the uncertainty. The median debt level in 2029 is indicated by the red dot. The grey bars indicate the probability with which debt will be higher in 2029 than it was in 2024.

Source: Commission services.

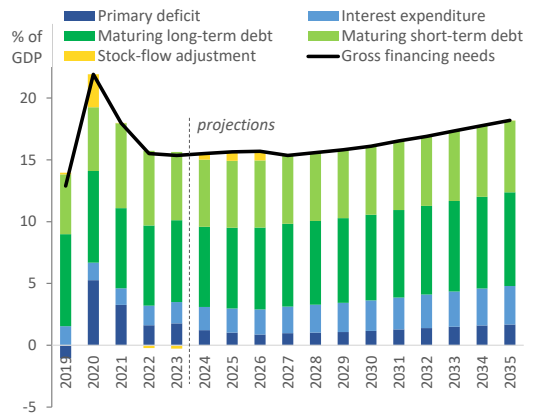
2.3. MEDIUM-TERM GOVERNMENT GROSS FINANCING NEEDS

Projected gross financing needs (GFN) over the medium term serve as a measure of governments' upcoming liquidity challenges. While debt is a stock, GFN are a flow metric that provides complementary information. The projected trajectory of GFN indicates to what extent governments may need to use financial markets over the coming years to finance deficits or other debt-creating flows (recorded as stock-flow adjustments), repay or roll over maturing debt, and service

their debt (.[28]). Elevated GFN projections therefore suggest a higher vulnerability with regard to liquidity risks.

GFN in the EU are projected to remain above pre-pandemic level and rise mildly in the coming decade. Over the period 2025-2035, GFN should average 16½ % of GDP, 4 pps. above their 2019 level (Graph 2.19). Beyond the short-term developments (discussed in Chapter 1), the slowly upward trajectory projected for the next 10 years is driven by three trends. First, a gradual increase in interest expenditure, doubling by 2035 its level of the early 2020s as a ratio to GDP. Second, the need to amortise a slightly larger amount of long-term debt. And third, a rebound in primary deficits as from 2027, mainly reflecting higher ageing-related expenditure. On the other hand, maturing short-term debt should broadly stabilise at around 6% of GDP.

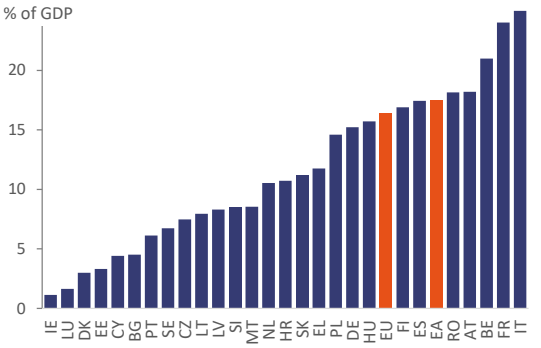
Graph 2.19: **General government gross financing needs and their drivers, baseline, EU**



Source: Commission services.

The GFN projections indicate larger-than-average liquidity challenges in most high-debt Member States. In the seven Member States with the highest and increasing debt ratios (Belgium, Spain, France, Italy, Austria, Romania and Finland), GFN are projected to exceed the EU level on average between 2025 and 2035 under the baseline (Graph 2.20), pointing to potential liquidity challenges. By contrast, for six of the seven Member States with the lowest projected debt levels for 2035 under the baseline (Bulgaria, Denmark, Estonia, Ireland, Luxembourg and Cyprus), GFN would be limited to 5% of GDP at most.

Graph 2.20: **General government gross financing needs under the baseline, 2025-2035 average**



Source: Commission services.

2.4. OVERALL MEDIUM-TERM RISKS

2.4.1. Overall medium-term risk classification

To establish the medium-term risk classification, decision trees extract risk signals from the deterministic and stochastic DSA projections. These decision trees are detailed in Annex A1. The risk signal coming from each deterministic projection (including the baseline and the alternative scenarios and stress tests) is mainly driven by the projected debt level in 10 years' time, possibly notched up or down by the information on the debt path and the available 'fiscal consolidation space'. Moreover, the risk signal coming from the stochastic projections depends on the probability of an increase in debt and on the amount of uncertainty. If the baseline signals low or medium risk, the risk category can be increased by one notch by the stochastic projections or the other deterministic projections if they identify higher risk. However, neither the stochastic projections nor the additional scenarios and stress tests can notch *down* the risk signal resulting from the baseline.

Based on this approach, 11 EU countries are deemed at high fiscal sustainability risk over the medium term. These are Belgium, Greece, Spain, France, Italy, Hungary, Austria, Poland, Romania, Slovakia and Finland (Table 2.6). In the case of Belgium, Spain, France and Italy, every component of the DSA (i.e. the baseline, the other deterministic scenarios and the stochastic projections) points to

([28]) For a more elaborate description of GFN and their use for the assessment of short-term sustainability risks, see Chapter 1.

high risk, because their debts are well above 90% of GDP and increasing under all scenarios – a trend also largely confirmed by the stochastic projections. In Austria, Poland, Romania, Slovakia and Finland, the debt ratio is projected to pass the 90% threshold in the course of the next 10 years at unchanged policies and under most alternative scenarios, coming from initial levels below 60% in the case of Poland, Romania and Slovakia. Stochastic analysis also underlines the high risk of an increase in debt in Austria and Finland. In Hungary, debt is also on an upward path, and while it would remain below 90% of GDP under the baseline, it would exceed that threshold under more adverse macro-financial assumptions. For Greece, all scenarios indicate high risk because of the very high (although declining) debt level and the rather ambitious fiscal assumptions ([29]). The stochastic projections also flag particularly large uncertainty around the baseline for Greece, Hungary and Romania.

For 9 other countries, the analysis points to medium risk over the medium term. These are Bulgaria, Czechia, Germany, Croatia, Cyprus, Latvia, Lithuania, Portugal and Slovenia. In five of these countries, debt is on an overall increasing trend and projected to reach by 2035 levels above 60% of GDP in the baseline (in Germany, Croatia, Latvia and Slovenia) and/or under more adverse conditions (in Lithuania, where stochastic analysis also points to a likely increase in debt). In two more countries – Bulgaria and Czechia – debt, although increasing, would remain under 60% of GDP under all scenarios but with either only moderate fiscal consolidation space by historical standards (Czechia) or high uncertainty on debt dynamics in the next 5 years, based on historical volatility (Bulgaria). Finally, two countries, namely Cyprus and Portugal, are deemed at medium risk despite a projected steady decline in debt. In the case of Cyprus, debt would fall well below 60% of GDP but subject to high uncertainty. For Portugal, the risk stems from the still elevated level of debt and the limited fiscal consolidation space by historical standards.

Finally, the remaining 7 Member States are found to be at low risk over the medium term. These are Denmark, Estonia, Ireland, Luxembourg, Malta, the Netherlands and Sweden. In these countries, the baseline, the deterministic scenarios and the stochastic projections all point to low risk. This classification is not modified by the few sources of vulnerability. In particular, debt is on an upward path in Estonia and (after an initial decline) the Netherlands – starting from a very low level in Estonia, but approaching 60% of GDP in some scenarios in the case of the Netherlands. Stochastic analysis points to some uncertainty in Malta, reflecting historical volatility. In Ireland, fiscal consolidation space appears moderate by historical standards ([30]).

([29]) This indicator measures where the assumed structural primary balance stands by historical standards. However, it does not preclude future policy action to improve public finances. Moreover, in the case of Greece, the fiscal assumption appears plausible considering that the country recorded an average structural primary surplus of 4.1% of GDP over the last 15 years.

([30]) Moreover, in the case of Ireland, alternative metrics to GDP, such as GNI* used at national level, would result in a higher projected debt ratio.

2.4.2. Comparison with the 2023 DSM results

Debt projections

Compared with the 2023 DSM, debt projections are broadly unchanged on aggregate in level, albeit with more sizeable upward and downward revisions in some countries. For the EU as a whole, the debt level expected for 2025 in the Commission 2024 autumn forecast is broadly unchanged compared to the 2023 DSM. The revisions to 2025 debt levels are nearly balanced across countries, with 15 upward and 12 downward revisions. They are also contained in most cases, although with revisions by more than 5 pps. in seven countries (Table 2.3). The revisions for 2025 reflect in particular the impact on GDP of the coordinated benchmark revision of national accounts carried out in autumn 2024, updated information on budgetary developments in 2024 and policy measures taken for 2025, the first year of Member States' medium-term plans (see also Box 2.3). As for the medium term, the debt ratio in 2034 (the end point of the previous report) is now expected to stand 0.8 pps. above its level of the previous report in the EU, and 1.4 pps. below it in the euro area. This limited aggregate revision masks two groups of countries. In 11 of the 15 countries where debt was revised downwards for 2025, debt is also projected at a lower level for 2034, by more than 15 pps. in the case of Slovakia and Ireland. The other 16 countries are projected to see their debt increase by 2034 compared with the 2023 DSM, by more than 20 pps. in the case of Hungary.

Table 2.3: **Baseline debt projections in the 2023 and 2024 DSM**

	Debt (Commission forecast) 2025			Debt (DSA baseline) 2034		
	2023 DSM	2024 DSM		2023 DSM	2024 DSM	
BE	107.2	105.1	-2.1	122.8	123.7	0.9
BG	26.1	23.1	-3.0	45.4	37.7	-7.7
CZ	45.2	44.4	-0.8	47.2	51.6	4.4
DK	27.0	29.3	2.3	7.7	17.5	9.8
DE	62.8	63.2	0.3	64.0	65.2	1.2
EE	22.3	24.2	2.0	22.8	29.3	6.4
IE	40.5	38.3	-2.1	30.8	15.1	-15.7
EL	147.8	146.8	-0.9	116.4	120.3	4.0
ES	106.6	101.3	-5.3	118.4	109.5	-8.9
FR	109.9	115.3	5.4	130.1	139.6	9.6
HR	58.3	56.0	-2.2	61.1	62.4	1.3
IT	140.7	138.2	-2.5	164.4	154.1	-10.3
CY	66.6	61.4	-5.2	38.1	35.1	-3.0
LV	43.0	50.3	7.3	55.2	63.5	8.3
LT	39.4	41.0	1.6	52.8	55.7	2.8
LU	29.8	27.6	-2.1	36.6	21.7	-14.9
HU	70.2	74.5	4.3	62.2	83.1	21.0
MT	57.2	50.4	-6.8	59.3	46.4	-12.9
NL	46.8	44.3	-2.4	53.4	49.0	-4.5
AT	75.1	80.8	5.7	80.7	95.5	14.8
PL	56.5	58.9	2.4	77.1	90.7	13.7
PT	97.4	92.9	-4.5	83.0	75.0	-8.0
RO	51.9	56.1	4.2	92.3	100.2	7.9
SI	67.9	64.4	-3.6	74.4	66.1	-8.3
SK	63.2	59.8	-3.4	115.2	91.2	-24.0
FI	79.0	84.7	5.7	94.6	95.6	1.0
SE	29.6	32.7	3.1	13.2	26.5	13.3
EU	82.6	83.0	0.4	90.4	91.2	0.8
EA	89.5	89.6	0.1	98.2	96.8	-1.4

Source: Commission services.

The main change compared with previous projections regards the debt trajectory at the aggregate level, with debt now expected to increase as from the first year. Until the 2023 DSM, debt for both the EU and euro area as a whole was expected to first decline and stabilise before picking up again. That was because in the first years, the debt-reducing snowball effect was expected to more than offset the debt-increasing impact of the primary deficit and a small positive SFA; then the snowball effect dwindled, the primary deficit gradually worsened because of increasing cost of ageing, and debt started to increase. In this report, debt increases already in 2025 and 2026. This is explained by the combination of three adverse factors for those two years compared with the 2023 DSM: a slightly larger primary deficit, a slightly less favourable snowball effect, and a slightly larger positive SFA in 2025 and the incorporation of an equally high SFA for 2026 (see Chapter 1 for a discussion of the SFA in those years, and the statistical annex A7 for detailed numbers on the debt dynamics).

At the country level, the revisions to medium-term debt paths are mainly explained by the no-fiscal-policy-change SPB level and changes in the 'r-g' differential. With rare exceptions, the downward revisions to debt paths compared with the 2023 DSM are driven by stronger assumed no-fiscal-policy-change SPB positions over the medium term, and the opposite holds for upward debt revisions (Table 2.4). The changes in SPB assumptions reflect the shift in the year to which they are anchored (2025 in this report, against 2024 in the 2023 DSM) as well as possible revisions for a given year, not least given the benchmark GDP revision and observed budgetary developments in 2024. Moreover, although it remains nearly unchanged on aggregate, the 'r-g' differential was revised in many countries. This reflects (i) a broad-based lower inflation outlook (with the exception of Romania and Estonia), (ii) lower nominal implicit interest rates that do not fully match the change in inflation, depending among others on the composition of debt, and (iii) revisions to potential output growth over the medium term, incorporating in particular the impact of the benchmark revision. The 'r-g' differential

Table 2.4: **Main baseline assumptions in the 2023 and 2024 DSM (2025-2034 averages except for cost of ageing: change over the projection period)**

	Structural primary balance (% GDP)			Change in cost of ageing (% GDP)			'r-g' differential (%)			Inflation (%)			Potential growth (%)			Nominal implicit interest rate (%)			
	2024 DSM	2023 DSM	Revision	2024 DSM	2023 DSM	Revision	2024 DSM	2023 DSM	Revision	2024 DSM	2023 DSM	Revision	2024 DSM	2023 DSM	Revision	2024 DSM	2023 DSM	Revision	
BE	-2.2	-2.4	0.2	1.2	0.9	0.2	-0.8	-1.2	0.3	2.2	2.7	-0.4	1.2	1.2	0.0	2.7	2.8	-0.1	BE
BG	-2.3	-2.7	0.4	-0.9	-0.6	-0.3	-1.2	-1.2	0.0	2.5	2.8	-0.3	2.1	1.9	0.2	3.4	3.4	-0.1	BG
CZ	-0.4	-0.1	-0.3	1.0	0.6	0.4	-0.5	-0.6	0.0	2.4	2.8	-0.4	1.5	1.3	0.2	3.5	3.8	-0.2	CZ
DK	2.1	2.9	-0.8	1.6	1.7	-0.1	-1.4	-1.3	-0.2	2.1	2.5	-0.4	1.3	1.0	0.3	2.1	2.3	-0.3	DK
DE	-0.2	-0.2	0.0	1.2	1.3	-0.1	-1.0	-1.3	0.3	2.3	2.7	-0.4	0.7	0.7	0.0	2.1	2.2	-0.1	DE
EE	-0.5	0.0	-0.6	-0.2	-0.1	-0.1	-0.8	-0.4	-0.4	3.0	2.5	0.5	0.4	1.0	-0.6	3.1	3.5	-0.4	EE
IE	2.7	0.8	1.9	1.3	1.2	0.1	-3.3	-3.0	-0.3	2.0	2.4	-0.4	2.9	3.0	-0.1	1.7	2.3	-0.5	IE
EL	1.7	2.0	-0.4	0.3	-0.1	0.4	-0.9	-0.2	-0.7	2.3	2.5	-0.2	1.3	1.0	0.3	2.4	3.2	-0.7	EL
ES	-0.6	-1.0	0.4	1.9	1.7	0.2	-0.6	-0.4	-0.2	2.2	2.4	-0.3	1.5	1.3	0.2	3.0	3.3	-0.3	ES
FR	-2.5	-2.4	-0.1	0.1	0.1	0.1	0.1	-0.3	0.4	2.0	2.5	-0.5	0.7	0.6	0.2	2.8	2.8	0.0	FR
HR	-1.3	-1.2	-0.2	-0.3	-0.3	0.0	-1.1	-1.3	0.3	2.3	2.5	-0.2	2.0	2.0	0.0	3.0	3.0	0.0	HR
IT	0.1	-0.9	1.0	1.1	1.0	0.1	0.9	0.8	0.1	2.1	2.8	-0.8	0.5	0.6	0.0	3.4	4.1	-0.7	IT
CY	2.8	3.4	-0.6	1.7	1.8	-0.1	-1.9	-1.8	-0.1	2.3	2.8	-0.5	2.2	1.9	0.3	2.3	2.7	-0.4	CY
LV	-1.6	-1.7	0.1	0.0	-0.1	0.1	-0.5	-1.0	0.4	2.3	2.8	-0.5	1.3	1.4	-0.1	3.1	3.3	-0.2	LV
LT	-0.7	-0.5	-0.2	1.8	2.0	-0.2	-1.4	-1.1	-0.3	2.4	2.6	-0.2	1.8	1.4	0.4	3.1	3.2	-0.1	LT
LU	1.1	-0.6	1.7	1.5	1.2	0.3	-3.2	-2.5	-0.7	2.6	2.9	-0.3	1.9	1.8	0.1	1.7	2.5	-0.8	LU
HU	-0.1	1.0	-1.1	0.6	0.3	0.3	0.8	-0.1	0.9	3.2	4.3	-1.0	1.7	2.0	-0.3	6.1	6.5	-0.5	HU
MT	-1.8	-2.7	0.9	-0.7	-0.8	0.1	-3.7	-3.4	-0.3	2.2	2.9	-0.7	4.7	3.9	0.9	3.1	3.3	-0.2	MT
NL	-0.1	-0.5	0.4	1.5	1.4	0.1	-1.5	-1.5	-0.1	2.4	2.6	-0.2	1.3	1.2	0.1	2.3	2.4	-0.1	NL
AT	-1.6	-0.7	-0.9	1.1	1.4	-0.3	-0.9	-1.5	0.6	2.1	3.1	-1.0	1.0	1.1	0.0	2.4	2.7	-0.3	AT
PL	-2.8	-1.8	-1.0	0.2	0.5	-0.3	-0.2	-0.5	0.3	3.1	3.6	-0.5	2.3	2.1	0.2	5.3	5.3	0.0	PL
PT	2.5	2.1	0.4	2.1	2.1	0.0	-0.8	-0.7	-0.1	2.3	2.6	-0.3	1.2	1.0	0.2	2.6	2.8	-0.2	PT
RO	-5.2	-3.0	-2.2	0.2	1.5	-1.3	-1.3	-0.5	-0.8	4.7	3.8	1.0	1.8	2.2	-0.4	5.4	5.7	-0.3	RO
SI	-0.7	-1.1	0.4	1.7	1.7	0.0	-2.3	-2.1	-0.2	2.7	2.7	0.0	2.4	2.2	0.2	2.6	2.7	-0.2	SI
SK	-3.0	-5.1	2.1	1.9	2.1	-0.2	-1.4	-1.2	-0.2	2.7	3.0	-0.3	1.8	1.4	0.5	3.2	3.2	0.0	SK
FI	-0.1	-1.0	0.9	0.4	0.3	0.0	-1.1	-1.3	0.3	2.1	2.6	-0.5	0.8	1.0	-0.1	2.2	2.4	-0.2	FI
SE	0.2	1.5	-1.3	0.0	-0.2	0.1	-1.8	-1.6	-0.2	1.8	2.5	-0.7	1.6	1.4	0.2	1.8	2.5	-0.7	SE
EU	-0.7	-0.8	0.1	1.0	1.0	0.0	-0.7	-0.8	0.1	2.3	2.7	-0.4	1.1	1.1	0.1	2.8	3.1	-0.2	EU
EA	-0.6	-0.9	0.3	1.1	1.0	0.0	-0.7	-0.8	0.1	2.2	2.6	-0.5	1.0	0.9	0.1	2.6	2.8	-0.2	EA

Notes: The no-fiscal-policy-change assumption for the SPB over the entire projection period corresponds to the 2024 SPB level for the 2023 DSM (from the Commission 2023 autumn forecast), and the 2025 level for the 2024 DSM (from the Commission 2024 autumn forecast). The change in cost of ageing is measured from 2024 to 2034 for the 2023 DSM and from 2025 to 2035 for the 2024 DSM but is in both cases based on the projections of the 2024 Ageing Report. For the 'r-g' differential and its drivers (inflation, potential growth and the nominal implicit interest rate), the table reports the average over the period 2025-2034, which is covered by both the 2023 and 2024 DSMs.

Source: Commission services.

was revised downwards (that is, in a favourable direction) for 15 countries, most significantly for Romania, Greece and Luxembourg. The largest upward, and therefore adverse, revisions to the 'r-g' differential affect Hungary, Austria, Latvia and France, four countries where debt is projected at a higher level than in the 2023 DSM. As for the cost of ageing, the assumptions are based on the 2024 Ageing Report, as in the 2023 DSM, with a one-year shift in the time window that has a limited impact for most countries.

Overall risk classification

Table 2.5: **Overall medium-term risk classifications in the 2023 and 2024 DSM**

2023 DSM \ 2024 DSM	low	medium	high
low	DK, EE, IE, LU, NL, SE	LV	
medium	MT	BG, CZ, DE, HR, CY, LT, SI	HU, AT, PL
high		PT	BE, EL, ES, FR, IT, RO, SK, FI

Note: The countries in bold have changed classifications between the two reports.

Source: Commission services.

In total six countries change categories compared with the 2023 DSM, with overall more countries classified at high risk. In the current medium-term risk classification, the assessment is less favourable for Hungary, Austria and Poland, which all move from medium to high risk, and for Latvia, from low to medium risk (see Table 2.5). On the other hand, Portugal exits the high-risk category, and Malta joins the group of countries at low risk. Overall, two more Member States are deemed at high risk in this report, two less at medium risk, and the numbers of countries at low risk is unchanged.

The worsened risk classifications mainly reflect less favourable macro-financial outlooks or fiscal assumptions than in the 2023 DSM, while the improved classifications mainly result from more favourable fiscal assumptions. For Hungary, Austria and Poland, the deteriorated SPB levels and the less favourable

'r-g' differential mostly due to lower inflation (see Table 2.4) weigh on the debt dynamics, pushing debt above the upper threshold of 90% of GDP. For Latvia, the higher initial debt level and the less favourable 'r-g' accelerate the projected increase in debt, bringing it above 60% of GDP. On the other hand, the risk category of Portugal and Malta improves by one notch, as their debts are now projected to drop respectively below 90% and 60% of GDP in all scenarios, on the back of more favourable fiscal assumptions and higher potential growth, especially for Malta.

Table 2.6: **Heat map of medium-term fiscal sustainability risks in EU countries**

	Heat map for medium-term risks in the EU countries - Debt sustainability analysis (DSA)																											
	BE	BG	CZ	DK	DE	EE	IE	EL	ES	FR	HR	IT	CY	LV	LT	LU	HU	MT	NL	AT	PL	PT	RO	SI	SK	FI	SE
Baseline (no-fiscal-policy-change scenario)	HIGH	LOW	MEDIUM	LOW	MEDIUM	LOW	LOW	HIGH	HIGH	HIGH	MEDIUM	HIGH	LOW	MEDIUM	LOW	LOW	MEDIUM	LOW	LOW	HIGH	HIGH	MEDIUM	HIGH	MEDIUM	HIGH	HIGH	LOW
Debt level (2035)	126.4	39.3	53.3	16.6	65.9	29.5	13.4	119.1	112.1	142.5	63.4	156.9	33.6	65.0	58.0	21.3	85.4	46.4	50.1	97.7	94.6	74.5	106.4	67.7	95.7	96.5	25.9
Debt peak year	2035	2035	2035	2024	2035	2035	2024	2024	2035	2035	2035	2035	2024	2035	2035	2025	2035	2025	2035	2035	2035	2024	2035	2035	2035	2035	2024
Fiscal consolidation space (1-percentile rank of avg SPB 2025-2035)	91%	95%	42%	71%	73%	62%	44%	45%	68%	100%	74%	66%	29%	81%	69%	73%	70%	90%	75%	96%	96%	17%	100%	52%	100%	87%	81%
Stochastic projections	HIGH	MEDIUM	LOW	LOW	LOW	LOW	LOW	MEDIUM	HIGH	HIGH	LOW	HIGH	MEDIUM	MEDIUM	MEDIUM	LOW	MEDIUM	LOW	LOW	HIGH	LOW	MEDIUM	MEDIUM	LOW	MEDIUM	HIGH	LOW
Probability of debt in 2029 > debt in 2024	78%	60%	61%	13%	47%	64%	16%	18%	48%	94%	52%	69%	14%	69%	79%	38%	54%	47%	66%	72%	99%	23%	92%	33%	90%	74%	23%
Difference between the 10th and 90th percentile in 2029 (p.p. of GDP)	28.1	51.0	24.5	17.4	15.2	29.5	35.5	53.1	29.2	21.3	29.4	31.7	46.5	44.6	29.4	21.4	42.6	35.5	15.7	29.0	22.4	46.1	43.7	26.3	26.9	25.3	11.2
'Historical SPB' scenario	HIGH	LOW	MEDIUM	LOW	LOW	LOW	LOW	HIGH	HIGH	HIGH	LOW	HIGH	LOW	MEDIUM	LOW	LOW	MEDIUM	LOW	LOW	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM	HIGH	LOW
Debt level (2035)	115.7	25.6	56.8	13.2	57.7	30.6	44.1	99.5	116.6	140.3	54.5	151.4	46.6	63.6	57.4	17.8	86.1	36.0	50.2	86.6	87.5	88.6	85.2	68.2	88.6	97.5	21.6
Debt peak year	2035	2030	2035	2024	2025	2035	2035	2024	2035	2035	2024	2035	2024	2035	2035	2025	2035	2025	2035	2035	2035	2024	2035	2035	2035	2035	2024
Fiscal consolidation space (1-percentile rank of avg SPB 2025-2035)	89%	84%	45%	68%	50%	62%	79%	29%	72%	97%	57%	60%	42%	79%	68%	68%	72%	76%	73%	86%	90%	41%	100%	54%	84%	88%	77%
'Adverse r-g' scenario	HIGH	LOW	MEDIUM	LOW	MEDIUM	LOW	LOW	HIGH	HIGH	HIGH	MEDIUM	HIGH	LOW	MEDIUM	MEDIUM	LOW	HIGH	LOW	LOW	HIGH	HIGH	MEDIUM	HIGH	MEDIUM	HIGH	HIGH	LOW
Debt level (2035)	135.8	42.0	57.3	18.4	71.5	31.6	15.0	128.4	121.0	153.8	68.4	170.9	37.2	69.9	62.2	22.8	92.6	49.9	53.9	105.2	101.7	81.2	113.5	72.4	101.9	103.5	27.9
Debt peak year	2035	2035	2035	2024	2035	2035	2024	2024	2035	2035	2035	2035	2024	2035	2035	2025	2035	2026	2035	2035	2035	2024	2035	2035	2035	2035	2025
Fiscal consolidation space (1-percentile rank of avg SPB 2025-2035)	91%	95%	42%	71%	73%	62%	44%	45%	68%	100%	74%	66%	29%	81%	69%	73%	70%	90%	75%	96%	96%	17%	100%	52%	100%	87%	81%
'Financial stress' scenario	HIGH	LOW	MEDIUM	LOW	MEDIUM	LOW	LOW	HIGH	HIGH	HIGH	MEDIUM	HIGH	LOW	MEDIUM	LOW	LOW	MEDIUM	LOW	LOW	HIGH	HIGH	MEDIUM	HIGH	MEDIUM	HIGH	HIGH	LOW
Debt level (2035)	127.7	39.6	53.7	16.8	66.4	29.9	13.6	121.6	113.4	144.9	63.7	161.6	33.9	65.5	58.4	21.5	86.1	46.8	50.3	98.3	95.3	75.2	107.0	68.0	96.3	97.2	26.1
Debt peak year	2035	2035	2035	2024	2035	2035	2024	2024	2035	2035	2035	2035	2024	2035	2035	2025	2035	2025	2035	2035	2035	2024	2035	2035	2035	2035	2025
Fiscal consolidation space (1-percentile rank of avg SPB 2025-2035)	91%	95%	42%	71%	73%	62%	44%	45%	68%	100%	74%	66%	29%	81%	69%	73%	70%	90%	75%	96%	96%	17%	100%	52%	100%	87%	81%
'Lower SPB' scenario	HIGH	LOW	MEDIUM	LOW	MEDIUM	LOW	LOW	HIGH	HIGH	HIGH	MEDIUM	HIGH	LOW	MEDIUM	LOW	LOW	MEDIUM	LOW	LOW	HIGH	HIGH	MEDIUM	HIGH	MEDIUM	HIGH	HIGH	LOW
Debt level (2035)	127.2	40.5	53.9	25.9	66.7	32.0	17.5	121.6	114.3	150.0	64.1	159.5	36.1	65.4	59.9	23.3	86.9	50.1	55.4	99.0	95.7	74.5	107.2	68.9	101.6	99.0	26.9
Debt peak year	2035	2035	2035	2024	2035	2035	2024	2024	2035	2035	2035	2035	2024	2035	2035	2025	2035	2026	2035	2035	2035	2024	2035	2035	2035	2035	2024
Fiscal consolidation space (1-percentile rank of avg SPB 2025-2035)	91%	95%	43%	90%	73%	63%	48%	46%	71%	100%	75%	67%	33%	81%	72%	76%	73%	100%	82%	97%	100%	18%	100%	56%	100%	90%	81%
Overall MEDIUM-TERM risk category	HIGH	MEDIUM	MEDIUM	LOW	MEDIUM	LOW	LOW	HIGH	HIGH	HIGH	MEDIUM	HIGH	MEDIUM	MEDIUM	MEDIUM	LOW	HIGH	LOW	LOW	HIGH	HIGH	MEDIUM	HIGH	MEDIUM	HIGH	HIGH	LOW

Source: Commission. services.

Box 2.1: Deterministic debt projection scenarios: the main assumptions

The Commission's government debt projections provide trajectories for debt over the next 10 years, i.e. until 2035, based on the Commission 2024 autumn forecast. The projections rely on assumptions about key macroeconomic, financial and fiscal variables. Importantly, the Commission baseline debt projections rest to a large extent on assumptions and methodologies commonly agreed with the EU Member States represented in different Council formations ([1]). This ensures that the results are comparable across countries and consistent with other EU processes, in particular the European Semester and fiscal surveillance under the Stability and Growth Pact (SGP). The general approach in this report is the same as in the 2023 DSM.

The baseline

The baseline constitutes the starting point for the debt sustainability analysis, as it is the central scenario around which alternative scenarios and sensitivity tests are built. The assumptions under the baseline are as follows ([2]):

- **Real GDP growth rates** are those of the Commission 2024 autumn forecast for T+1, i.e. 2025 in this report. For T+2 (2026), actual growth is based on the autumn forecast, adjusted for fiscal multiplier effects ([3]). Beyond that, ***actual GDP growth rates*** are derived from the ***potential*** growth estimates using the EPC/OGWG 'T+10 methodology' ([4]) and a standard assumption for the closure of the ***output gap*** ([5]).

- **Inflation (as measured by the GDP deflator)** converges linearly from current country-specific values to market-based euro inflation expectations by T+10 ([6]). Beyond T+10, inflation converges to the ECB's 2% target by T+30 at the latest ([7]) and remains constant afterwards. For more details, see Chapter 2, Box I.2.1 in the FSR 2021.

- The **primary balance** is projected as follows:

– Assuming no fiscal policy change, the ***structural primary balance*** (SPB) ***before costs of ageing*** is assumed to remain constant at its value forecast for T+1, i.e. currently 2025, over the remainder of the projection period. Two elements are added to it to obtain the overall SPB: ***ageing-related expenditure*** (including pension, health care, long-term care and education expenditure) as projected in the joint Commission - Council *Ageing Report 2024* , and ***property income*** on government financial and non-financial assets ([8]).

– The ***cyclical component*** reflecting the effect of automatic stabilisers is calculated as the product of the output gap and country-specific budget balance semi-elasticities agreed with the Member States and used for budgetary surveillance under the SGP ([9]). The cyclical component is, by construction, equal to zero once the output gap closes.

([1]) In particular, two technical working groups of the Economic Policy Committee (EPC), namely the Potential output working group (POWG) and the Ageing working group (AWG).
([2]) For a detailed description of the debt dynamic equation and the impact of macro variables on the debt ratio projections, see Annex A3.
([3]) Real GDP growth in 2026 in this report is therefore real GDP growth in the forecast, minus the fiscal multiplier times the change in SPB in the forecast, with the fiscal multiplier having a standard value of 0.75.
([4]) Potential GDP growth over 10 years is projected in line with the EU commonly agreed methodology. It incorporates the expected favourable impact implemented reforms.
([5]) In line with the EPC/POWG methodology, the output gap is assumed to close within 5 years after the last outturn year, i.e., by 2029 this round, after which actual and potential GDP growth coincide.
([6]) For non-euro area countries targeting an inflation rate other than 2% (namely Poland, Romania and Hungary), half of the inflation spread vis-à-vis the euro area observed in T+2 is applied to the T+10 target (i.e. the market-based euro inflation expectation).
([7]) For non-euro area countries targeting inflation, the national central banks' targets are used, namely 2% for Czechia and Sweden, 2.5% for Poland and Romania, and 3% for Hungary.
([8]) For details, see Annex A3.4.
([9]) The budget semi-elasticities (for taxes and expenditure) are as reported in Mourre, G. and Poissonnier, A. (2019), 'The semi-elasticities underlying the cyclically-adjusted budget balance: an update and further analysis', European Economy Discussion Paper 98.

(Continued on the next page)

Box (continued)

– ***One-off and other temporary measures*** are set to zero beyond T+2.

- **Interest rates** are projected as follows:

– ***Long-term interest rates*** on new and rolled-over debt converge linearly from country-specific current values to country-specific market-based forward nominal rates by T+10. Beyond that, they converge to 2% in real terms by T+30 (4% in nominal terms for most EU countries) and remain constant afterwards ([10]). These assumptions are based on the *Ageing Report 2024 (Volume 1)*.

– ***Short-term interest rates*** on new and rolled-over debt converge linearly from current values to market-based forward nominal rates by T+10 ([11]). Beyond that, they converge to 2% in nominal terms by T+30, assuming a yield curve coefficient of 0.5 ([12]). These assumptions are also based on the *Ageing Report 2024 (Volume 1)*.

– ***Implicit interest rates*** are derived endogenously in the debt projection model based on the above assumptions on market interest rates, the maturity structure of government debt and projected financing needs ([13]).

- **The exchange rate** for non-euro area countries is the Commission forecast for T+1 (currently 2025), with no appreciation or depreciation afterwards.

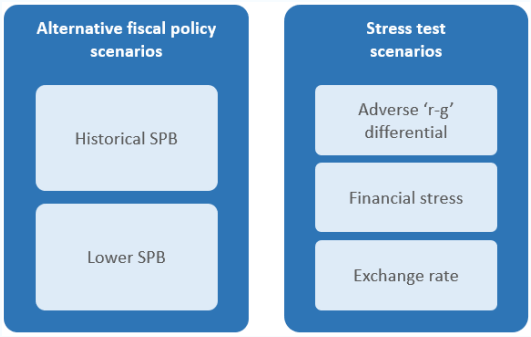
- The **stock-flow adjustment (SFA)** is set to zero beyond the T+2 forecast horizon, except for some specific cases. For more details, see Chapter II.2 in the DSM 2023 and Box 2.2 of this report for the case of Greece.

In addition to the baseline, this report includes five deterministic scenarios. They reflect alternative assumptions for two types of factors that affect debt paths, namely discretionary fiscal policy decisions and changes in macroeconomic conditions (see Map 1).

Alternative fiscal policy scenarios

This report includes two fiscal policy scenarios, in which fiscal policy differs from the baseline no-fiscal-policy-change assumption. These scenarios incorporate a feedback effect of fiscal policy on GDP growth via a fiscal multiplier of 0.75, meaning that a fiscal consolidation of 1 pp. of GDP reduces GDP growth by 0.75 pp. in the same year compared to the baseline – and, conversely, a fiscal expansion raises it by 0.75 pp. ([14]).

Map 1: ***Deterministic scenarios for debt projections: alternative fiscal policy and stress-test scenarios***



1. **The 'historical SPB' scenario** uses the Commission forecast until T+1, after which it assumes that the SPB converges gradually to its historical average in 4 years, i.e. by 2029. The historical average is based on available data for 2009-2023. This scenario helps assessing whether the baseline is realistic, given past fiscal performance.

([10]) Nominal long-term interest rates converge to 4.5% for Poland and Romania, and 5% for Hungary, given these countries' higher inflation targets.
([11]) For more details, see Box 3.1 in European Commission (2020), Debt Sustainability Monitor 2019, European Economy, Institutional Paper, 120.
([12]) This factor of 0.5 reflects the standard slope of the euro area yield curve.
([13]) For a detailed discussion, see Annex A3.2.
([14]) Carnot, N. and de Castro, F. (2015), 'The discretionary fiscal effort: an assessment of fiscal policy and its output effect', European Economy Economic Papers 543.

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Box (continued)

2. **The 'lower SPB' scenario** assumes that, from 2024 to 2025, the SPB improves by 50% less (or deteriorates by 50% more) than what is included in the Commission 2024 autumn forecast. The SPB remains at that reduced level afterwards.

Stress-test scenarios

Three stress tests indicate how shocks to macro-financial variables may affect debt trajectories compared to the baseline. The shocks affect real GDP growth, interest rates and exchange rates.

1. **The 'adverse r-g' scenario** assumes that the interest-growth rate differential is permanently higher than in the baseline, by 1 pp., as of 2025. This higher differential is obtained by applying simultaneous adverse shocks to short- and long-term market interest rates and to economic growth. This scenario illustrates the risk of a moderate worsening or reversal of the interest-growth rate differential, while the baseline currently still rests on the assumption of relatively contained financing conditions (in line with markets' expectations) for most Member States.

2. **The 'financial stress' scenario** assumes a one-year increase in market interest rates by 1 pp. in 2025 for all countries. Moreover, a risk premium is added for those countries where debt exceeded 90% of GDP in 2024, in line with the findings in Pamies et al. (2021) ([15]).

3. **The sensitivity test on the nominal exchange rate** applies a shock – equal to the maximum annual change in the country's exchange rate observed over the last 10 years – for the first year of the forecast horizon (2025), after which the baseline assumption prevails. This stress test only applies to non-euro area countries.

([15]) The risk premium is equal to 0.06 times the excess of the 2024 debt level over 90%. This is based on Pamies, S., Carnot, N. and Patarau, A. (2021), 'Do fundamentals explain differences between euro area sovereign interest rates?', European Economy Discussion Paper, No. 141.

Box 2.2: Updated stock-flow adjustment assumptions for Greece

In the 2023 Debt Sustainability Monitor (DSM), the standard DSA assumption on zero stock-flow adjustments (SFA) beyond the short-term forecast was relaxed in specific cases, which concerned three Member States. While it is generally assumed that SFA would return to zero beyond the short-term forecast horizon, in some cases they appear to be significantly and systematically different from zero due to structural factors, such as the build-up of public pension funds or deferred interests linked to official loans. To address these specific cases, the DSA incorporated a non-zero SFA assumption in the 2023 DSM for Greece, Finland and Luxembourg ([1]). This change was guided by horizontal criteria, including insights from the projections of the 2024 Ageing Report.

For Greece, this revised approach in the 2023 DSM led to negative SFA values until 2032 and positive ones thereafter, due to deferred debt interest payments on EFSF loans linked to past financial assistance. As part of the debt relief measures granted in 2012 and extended in 2018, Greece's interest payments on part of its EFSF loan have been deferred, with repayments expected to start in 2033. These deferred amounts were recorded as accrued interest expenditure, therefore affecting the budget balance. However, the resulting liability was not recorded as part of the Maastricht debt.

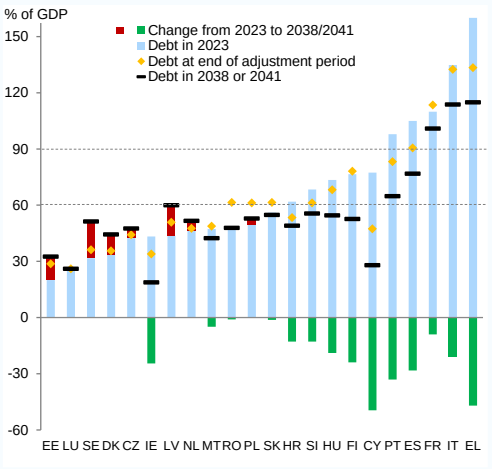
Due to a change of the statistical recording by the statistical authorities, the 2024 DSM reverts back to the standard DSA assumption of zero stock-flow adjustments for Greece beyond the short-term forecast. In October 2024, the statistical authorities decided to change the recording of the amount of deferred interests by including them in general government debt in the year when they are accrued ([2]). According to Eurostat's EDP notification published on 22 October 2024, debt figures were revised upwards as of 2013, the beginning of the EFSF interest deferral. As a consequence of this change in the statistical treatment, there is no longer a need for stock-flow adjustment related to the interest deferrals, as these amounts are now reflected in the Maastricht debt. The Commission DSA has therefore reverted back to the standard zero stock-flow adjustment assumptions for Greece as of autumn 2024. Importantly, this methodological change does not affect the assessment of Greece's debt sustainability, as the amounts to be actually repaid under the EFSF loan remain unchanged.

([1]) Debt Sustainability Monitor 2023, Chapter II.2.
([2]) For more details, see the Eurostat advice available at https://s-circabc.europa.eu/ui/group/ca7c9cc4-b473-4abc-8e95-263dcd57d79d/library/a3b89f37-ead4-4058-9711-6a7a092f1717/details

Box 2.3: Debt paths in the national medium-term plans

This box describes the debt paths included in Member States' first medium-term plans under the new EU fiscal framework. After the new framework entered into force on 30 April 2024, 22 Member States submitted their first national medium-term fiscal-structural plans to the Commission and the Council in the autumn of 2024, with fiscal adjustment due to start in 2025 ([1]). Based on Commission recommendations, the Council endorsed the net expenditure growth paths for 21 of those Member States on 21 January 2025 and for Hungary on 18 February ([2]). The submission of the plans for the five remaining countries, namely Austria, Belgium, Bulgaria ([3]), Germany and Lithuania, has been delayed, due to general elections and the formation of new governments. In line with Regulation (EU) 2024/1263, the plans are to meet a list of criteria. The central requirements in the new framework are that Member States should put or maintain their debt ratios on a plausibly downward path or to keep them at prudent levels below 60 % of GDP, and bring or maintain their deficit below 3% of GDP. This should be the case at the latest by the end of an adjustment period of 4 to 7 years, and over a subsequent period of 10 years without any additional measures ([4]).

Graph 1: **Debt projections in Member States' medium-term plans**



Source: Commission services based on Member States' medium-term plans and Council recommendations

If the net expenditure paths and assumptions of the plans materialise, debt will decline over the medium term in all those countries where it currently exceeds 60% of GDP. This can be seen in Graph 1, which shows the change in debt from the last year with available outturn data, i.e. 2023, to the end of the 10-year period at unchanged fiscal policy, namely 2038, or 2041 in case the adjustment period was extended to 7 years. The projected change in debt reflects both the endorsed net expenditure growth paths and Member States' macroeconomic and financial assumptions underlying the plans ([5]). These debt paths were assessed as being plausible by the Commission and the Council. The largest declines in debt are generally planned in the countries that recorded the highest debt levels in 2023. Debt reduction over the entire period averages 27.7 pps. in those countries where debt exceeded 90% of GDP in 2023 (Greece, Spain, France, Italy and Portugal), and 23.6 pps. in those where debt stood between 60% and 90% of GDP (Cyprus, Croatia, Hungary, Slovenia and Finland). In addition, some countries with an initial deficit above 3% of GDP plan to consolidate, thus also curbing the increase in their debt (Malta, Romania, Poland and Slovakia), and Ireland and Luxembourg plan to build or preserve some buffers. By contrast, in the plans of some Member States with low levels of debt and deficit (Sweden, Denmark, Czechia, Latvia and the

([1]) The plans including addenda for Croatia, Cyprus, France and Hungary, along with the Commission's prior guidance and its assessment of the plans, are available at https://economy-finance.ec.europa.eu/economic-and-fiscal-governance/stability-and-growth-pact/preventive-arm/national-medium-term-fiscal-structural-plans_en. For a description of key aspects of the new economic governance framework, see Chapter II.2 of the 2023 Report on Public Finances in EMU (https://economy-finance.ec.europa.eu/publications/report-public-finances-emu-2023_en).

([2]) The Council recommendations are available at https://www.consilium.europa.eu/en/press/press-releases/2025/01/21/economic-governance-framework-council-sets-fiscal-expenditure-paths-for-21-member-states/ and https://www.consilium.europa.eu/en/press/press-releases/2025/02/18/council-sets-fiscal-expenditure-path-for-hungary-and-adopts-recommendation-to-correct-its-excessive-deficit-situation/.

([3]) Bulgaria submitted its plan on 27 February 2025. The assessment was ongoing at the time of publication of this report.

([4]) See Chapter II.1 of the 2023 Debt Sustainability Monitor for a detailed presentation of the approach and DSA-based methodology.

([5]) In the case of the Netherlands, the debt path is fully based on the Commission's prior guidance, as the net expenditure path proposed in the plan of the Netherlands was not in line with the Regulation.

(Continued on the next page)

Box (continued)

Netherlands), along with Estonia ([6]), debt increases over the medium term (after an initial decline in Czechia and the Netherlands) while still remaining below 60% of GDP ([7]).

For a number of countries, taking into account the entire adjustment period leads to significantly different paths from the DSA baseline of this report, which incorporates fiscal policy measures only up to 2025. In line with the standard no-fiscal-policy-change assumption, the DSA baseline only incorporates adopted or sufficiently advanced fiscal measures for 2025 and does not include any new measures as from 2026. For most countries, the baseline may therefore reflect measures for first year of the medium-term plans, but not beyond, while the plans envisage an adjustment over 4 or 7 years. In addition, the plans and the DSA baseline in this report do not rely on identical macro-financial assumptions. Table 1 compares the change in debt in the plans and in the baseline from 2023 to 2035, the last year of the standard DSA horizon in this report. Based on the plan's assumptions, delivering the full adjustment would lead to a decline in debt in seven countries (Spain, Hungary, Croatia, Italy, Finland, France and Slovakia) for which projections at unchanged policies as from 2026 point to an increase in debt. In all these countries except Croatia, by 2035 debt is about 30 to 40 pps. lower in the plan than in the baseline. Similarly, debt would increase much less in Romania and Poland. Overall, the plans imply lower debt paths than a scenario at unchanged policies for most countries. The most notable exceptions are Denmark and Sweden, where deconsolidating as in the plans rather than maintaining the current strong positions would result in an increase in debt.

Table 1: ***Debt projections in Member States' medium-term plans vs. DSM baseline***

	2023	2023-2035 change (pps.)		2035: difference between MTP and DSM
		Medium-term plans	DSM 2024 baseline	
EL	163.9	-45.5	-44.8	-0.7
CY	73.6	-42.0	-40.0	-2.0
PT	97.9	-29.8	-23.4	-6.4
ES	105.1	-22.0	7.0	-29.1
IE	43.3	-19.8	-29.9	10.1
HU	73.4	-17.2	12.0	-29.2
SI	68.4	-13.9	-0.7	-13.3
HR	61.8	-11.7	1.6	-13.3
IT	134.8	-9.0	22.1	-31.1
FI	77.1	-7.6	19.4	-27.0
MT	47.4	-4.7	-1.0	-3.7
FR	109.9	-1.5	32.6	-34.1
SK	56.1	-1.3	39.6	-40.9
LU	25.5	0.1	-4.2	4.3
CZ	42.4	2.7	10.9	-8.3
NL	45.1	3.4	5.0	-1.6
RO	48.9	5.2	57.5	-52.4
PL	49.7	5.2	44.9	-39.7
DK	33.6	8.6	-17.0	25.6
EE	20.2	12.0	9.3	2.7
LV	45.0	12.7	20.0	-7.3
SE	31.5	15.9	-5.6	21.6

Source: Commission services based on Member States' medium-term plans and Council recommendations

([6]) Estonia's initial deficit stood slightly above 3% of GDP but was projected to drop and remain below that value without any need for fiscal consolidation measures.

([7]) However, the net expenditure path indicated in the medium-term plan of Sweden does not reflect an actual target for the national authorities but rather an upper limit.

3. LONG-TERM FISCAL SUSTAINABILITY ANALYSIS

Main takeaways

The long-term risk classification is based on two complementary fiscal gap indicators that show the fiscal effort required to achieve two specific long-term fiscal goals. The S2 indicator measures the fiscal adjustment that would be needed in 2026 to stabilise public debt over the long term, regardless of the level at which stabilisation is achieved. The S1 indicator measures the fiscal adjustment in 2026 required to bring the government debt-to-GDP ratio to 60% in 2070, thus capturing vulnerabilities associated with high debt levels. Both indicators account for the expected change in age-related spending as projected in the 2024 Ageing Report.

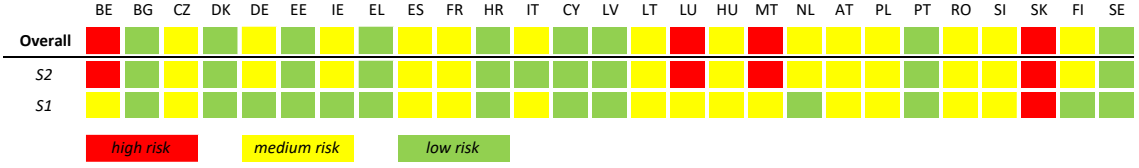
Four Member States (Belgium, Luxembourg, Malta and Slovakia) are considered having high long-term fiscal sustainability risks (see Table 3.1). The driving factor behind the assessment for these countries is the S2 indicator, with the S1 indicator confirming the high-risk classification for Slovakia. For Luxembourg and Malta, the projected increase in ageing costs drives risks, while for Belgium and Slovakia risks stem from ageing costs as well as the initial budgetary position, i.e. the government deficit.

For fourteen Member States long-term risks are found to be medium. The driving factor behind this risk assessment is the S2 indicator, reflecting projected increases in ageing costs (the main element for Czechia, Germany, Ireland, Spain, Lithuania, Hungary, the Netherlands, and Slovenia) or an unfavourable initial budgetary position (France, Poland and Romania), with a similar contribution of both factors for Austria and Finland. Only in the case of Italy, the overall risk classification is determined by the S1 indicator, given the large fiscal adjustment that would be needed to reduce the debt-to-GDP ratio to 60% by 2070. While Hungary and Slovenia are close to the threshold to be considered high risk, Germany is just above the threshold to qualify as low risk.

The nine remaining Member States are considered to have low fiscal sustainability risks in the long term. This reflects a combination of contained ageing costs in the long term and favourable initial budgetary positions for Denmark, Estonia, Greece and Sweden. For Bulgaria, Croatia and Latvia, decreasing ageing costs offset the impact of a more demanding initial budgetary position. The opposite is the case for Cyprus and Portugal, with a favourable initial budgetary position compensating for the impact of rising ageing costs. Bulgaria is just below the threshold for being considered medium risk.

Compared to the 2023 Debt Sustainability Monitor, long-term risks remain unchanged for 25 Member States and are reviewed downward for Slovenia and Bulgaria. For Slovenia, long-term fiscal risks are assessed as medium in the current update, compared with high in the 2023 edition. Bulgaria moves from medium to low risk. For both countries, the long-term risk classification in the 2023 DSM was based on the S2 indicator, with the S1 indicator signalling lower risk. The current update results in S2 values just below the respective thresholds, thus aligning signals from both indicators and leading to a more favourable overall risk classification.

Table 3.1: **Overview of the long-term risk classification: overall, S2 indicator and S1 indicator**



Source: Commission services.

This chapter assesses fiscal sustainability risks over the long term. The assessment is based on two complementary fiscal gap indicators that show the upfront fiscal adjustment in 2026 required to achieve two specific long-term fiscal goals:

- the *S2 indicator* measures the fiscal effort required to stabilise government debt in the long term. Because it relies on the infinite version of the government intertemporal budget constraint the S2 is the leading indicator for the long-term risk assessment (see Annex A5).
- the *S1 indicator* measures the fiscal effort required to bring the government debt-to-GDP ratio to 60% by 2070, thus applying a finite version of the budget constraint and a specific debt target. It complements the signal provided by S2, accounting for high debt levels.

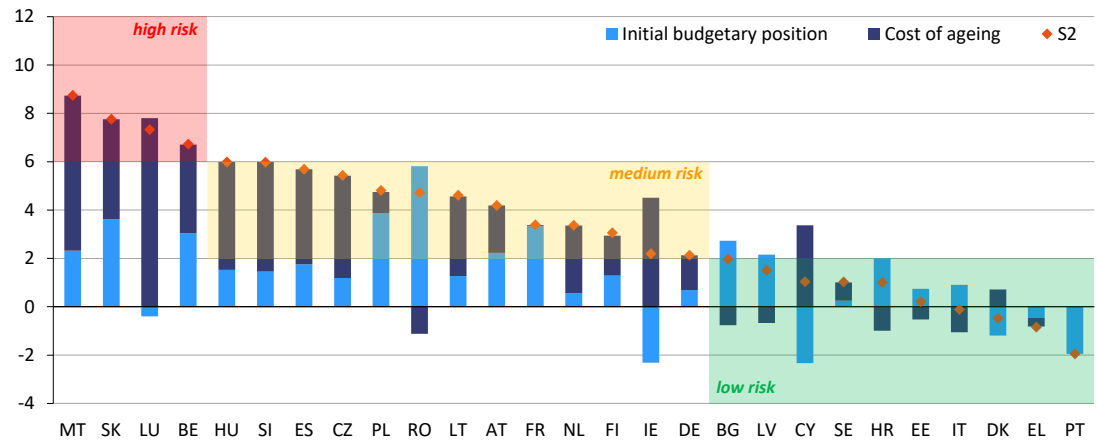
The chapter is structured as follows. Section 3.1 describes the results for the S2 indicator, Section 3.2 focuses on the findings of the S1 indicator and Section 3.3 concludes with the overall risk classification. Boxes at the end of the chapter detail the methodology behind the long-term fiscal sustainability analysis and the sensitivity scenarios around the baseline.

3.1. THE S2 INDICATOR

S2 – baseline

The S2 indicator measures the permanent adjustment of the structural primary balance (SPB) that is required in 2026 to stabilise public debt in the long term. It consists of two components, namely (1) the 'initial budgetary position', which measures the gap between the initial SPB in 2025 and the SPB that would stabilise the debt ratio; and (2) ageing costs, comprising the projected change in public spending on pensions, healthcare, long-term care and education as provided by the 2024 Ageing Report. In contrast to the S1 indicator, neither the level at which debt stabilises nor the timing is predefined for the S2 indicator (see Annex A5).

Graph 3.1: **S2 – baseline (pps. of GDP)**



Source: Commission services.

The S2 indicator identifies four Member States with high fiscal risk in the long term (see Graph 3.1 and Table 3.1). High risk corresponds to a required adjustment of at least 6 pps. of GDP to stabilise debt over an infinite horizon. For Malta and Slovakia the required adjustment is about 9 and 8 pps., respectively. In the case of Luxembourg and Belgium, the S2 indicator points to an effort of around 7 pps. of GDP.

For thirteen Member States, long-term fiscal risks are considered medium on the basis of the S2 indicator. This risk category corresponds to a fiscal adjustment of between 2 and 6 pps. of GDP to stabilise debt. The S2 indicator points to medium risks in Hungary, Slovenia, Spain, Czechia,

Poland, Romania, Lithuania, Austria, France, the Netherlands, Finland, Ireland and Germany. Hungary and Slovenia are just below the threshold for high risk, with a required adjustment of 6 pps. of GDP when rounded. Germany is just above the low-risk threshold, with an S2 value of 2.1 pps. of GDP.

The S2 indicator signals low fiscal risks for ten countries in the long term. Member States are considered at low risk if a permanent adjustment of maximum 2 pps. of GDP suffices to stabilise debt in the long term. According to the S2 indicator, the following countries are considered at low risk: Bulgaria, Latvia, Cyprus, Sweden, Croatia, Estonia, Italy, Denmark, Greece and Portugal. Bulgaria is at the border between low and medium risk. Provided a fiscal position close to the initial value is maintained, no adjustment would be needed to ensure debt stabilisation over the long term for Italy, Denmark, Greece and Portugal.

Table 3.2: **S2 – breakdown (pps. of GDP)**

	S2	S2 components					
		Initial budgetary position*	Cost of ageing				
			Total	*Pensions***	*Healthcare*	*Long-term care*	*Education*
BE	**6.7**	3.0	3.7	2.3	0.5	1.5	-0.6
BG	**2.0**	2.7	-0.8	-1.2	0.3	0.2	0.0
CZ	**5.4**	1.2	4.2	2.3	0.6	1.2	0.1
DK	**-0.5**	-1.2	0.7	-2.1	0.6	2.7	-0.5
DE	**2.1**	0.7	1.4	0.4	0.5	0.4	0.2
EE	**0.2**	0.7	-0.5	-1.1	0.5	0.5	-0.5
IE	**2.2**	-2.3	4.5	2.6	1.3	1.1	-0.5
EL	**-0.9**	-0.5	-0.4	-0.8	0.7	0.0	-0.3
ES	**5.7**	1.8	3.9	2.6	1.1	0.7	-0.5
FR	**3.4**	3.3	0.1	-0.5	0.6	0.6	-0.6
HR	**1.0**	2.0	-1.0	-1.3	0.6	0.1	-0.4
IT	**-0.1**	0.9	-1.1	-1.6	0.6	0.6	-0.6
CY	**1.0**	-2.3	3.4	2.9	0.7	0.1	-0.4
LV	**1.5**	2.2	-0.7	-1.2	0.5	0.3	-0.2
LT	**4.6**	1.3	3.3	2.2	0.7	0.7	-0.3
LU	**7.3**	-0.4	7.8	5.8	0.9	1.4	-0.2
HU	**6.0**	1.5	4.5	3.6	0.4	0.3	0.2
MT	**8.7**	2.3	6.4	3.2	1.6	1.7	0.0
NL	**3.4**	0.6	2.8	1.2	0.6	1.6	-0.6
AT	**4.2**	2.2	2.0	-0.1	1.1	1.3	-0.2
PL	**4.8**	3.9	0.9	-0.7	0.9	0.7	0.1
PT	**-2.0**	-2.0	0.0	-1.7	1.1	0.4	0.1
RO	**4.7**	5.8	-1.1	-2.1	0.6	0.3	0.0
SI	**6.0**	1.5	4.5	3.1	0.9	0.8	-0.2
SK	**7.8**	3.6	4.1	1.7	1.1	1.2	0.2
FI	**3.1**	1.3	1.7	0.5	0.5	1.5	-0.8
SE	**1.0**	0.3	0.8	-0.4	0.6	1.1	-0.6
EU	**3.0**	1.5	1.4	0.3	0.7	0.8	-0.3
EA	**2.8**	1.4	1.4	0.5	0.7	0.7	-0.3

* Gap between the initial and the debt-stabilising SPB (prior to the cost of ageing).
** Net of taxes on pensions and compulsory social security contributions paid by pensioners.
Source: Commission services.

For most countries, both the initial budgetary position and the projected ageing costs matter for the S2 indicator. The 'initial budgetary position' measures the gap between the initial SPB and the debt-stabilising structural primary balance. It thus ignores future ageing costs, which are measured separately. The sum of the initial budgetary position and the projected ageing costs determines the overall S2 value (see Table 3.2). In all Member States except for Greece and Portugal, at least one of the components requires a fiscal adjustment. In Denmark, Ireland, Greece, Cyprus, Luxembourg and Portugal, the initial budgetary position is negative, which means that the structural primary balance could deteriorate without destabilising the debt ratio – not accounting for any ageing costs. In Bulgaria, Estonia, Greece, Croatia, Italy and Latvia, the contribution of ageing costs to the S2 indicator is negative, which implies that no fiscal adjustment is needed to stabilise debt *all else being equal*.

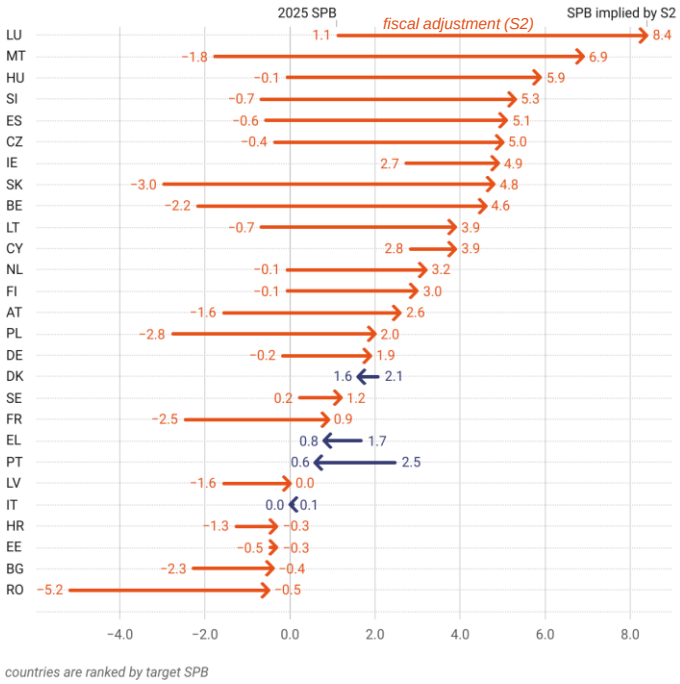
For the four high-risk countries, ageing costs are a main determinant of the S2. For Luxembourg and Malta, the ageing component exceeds 6 pps. of GDP, meaning that ageing costs alone suffice to put these countries in the high-risk category. The high projected increase in ageing costs in those countries stems from pension expenditure and, to a lesser extent, from healthcare and long-term

care expenditure (see Table 3.2). At around 4 pps. of GDP, the ageing cost component is somewhat lower in Belgium and Slovakia, the two other high-risk countries, but nevertheless a significant factor in behind the overall S2 value.

S2 – implied structural primary balance

In most countries a high SPB would be needed to stabilise the debt ratio in the long term. The required SPB to stabilise the debt ratio over an infinite time horizon can be calculated as the sum of (1) the SPB in 2025 and (2) the upfront and permanent fiscal adjustment required to stabilise the debt ratio in the long term, i.e. the S2 value. As shown in Graph 3.2, to stabilise debt in the long term an SPB of about 8% of GDP would be needed for Luxembourg, 7% of GDP for Malta, 6% for Hungary and of around 4-5% of GDP in the cases of Slovenia, Spain, Czechia, Ireland, Slovakia, Belgium, Lithuania and Cyprus.

Graph 3.2: **S2 – required structural primary balance (% of GDP)**



Blue arrows indicate countries with a negative S2 value, i.e. implying a worse SPB compared to the 2025 SPB.

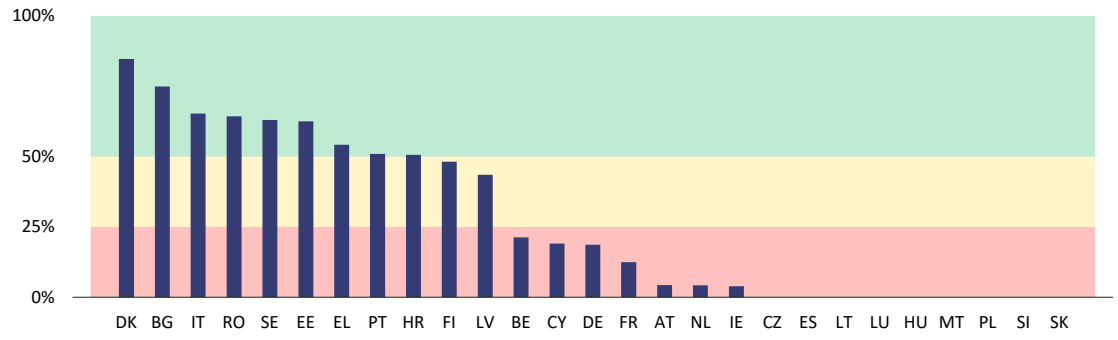
Source: Commission services.

For many Member States, the S2 indicator implies particularly demanding fiscal positions compared with historical evidence. A comparison with past fiscal performance gives an idea about the plausibility of effectively achieving the SPBs implied by the S2 indicator. For each country, the required SPB can be compared with the distribution of SPBs since 1980 ([31]). This allows assessing how realistic the required fiscal position is, relative to actual past performance. In particular, it identifies the cases where the S2 implies an SPB that would be hard to sustain in the long term, assuming this required SPB can be achieved in the first place. Graph 3.3 orders the countries according to their required SPBs' percentile rank. It shows that the S2-implied SPB has never been achieved by Czechia, Spain, Lithuania, Luxembourg, Hungary, Malta, Poland, Slovenia and Slovakia ([32]). For Austria, the Netherlands and Ireland, the implied SPB level was reached only occasionally and for Belgium, Cyprus, Germany and France still less than 25% of the time in the past four decades. Among the countries for which the implied SPB was achieved less than 25% of the time, only Cyprus has a low-risk classification according to the S2 indicator (see Table 3.2). Cyprus' classification rests, in other words, on the assumption of a relatively large primary surplus by historical standards.

([31]) For some countries, data are not available for the entire period since 1980.

([32]) This factual observation does not mean that such structural primary balance level could not be achieved in the future.

Graph 3.3: **S2 – plausibility of the required structural primary balance (% of cases achieved in the past)**



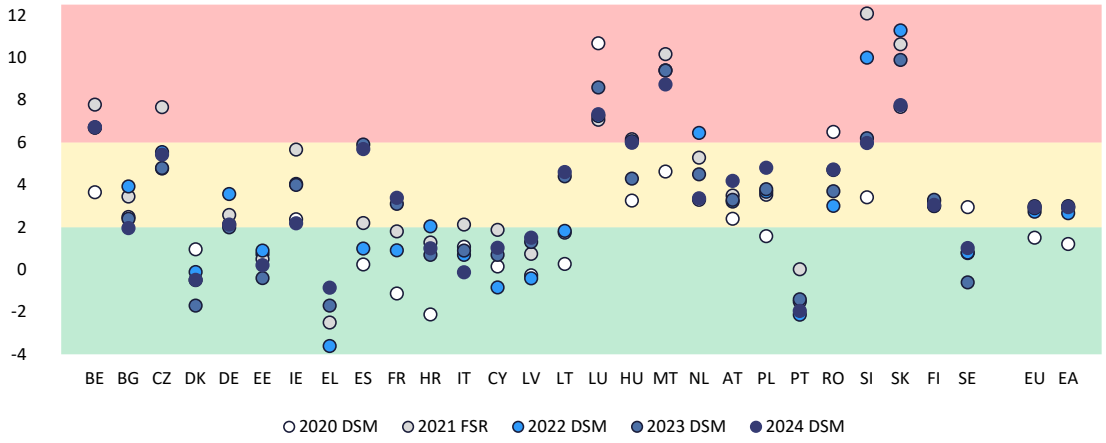
Based on available structural primary balances since 1980.

Source: Commission services.

S2 – comparison with previous updates

Results for the S2 indicator for the EU average have been stable in recent updates. Graph 3.4 compares the latest S2 with results from previous updates. The EU's S2 value has been hoovering close to the lower bound of the medium-risk category in recent years. The stability in the S2 at the level of the EU compared to the previous update masks larger changes for a number of countries, with a lower S2 value in 11 Member States compared with the 2023 DSM.

Graph 3.4: **S2 – comparison with previous updates**



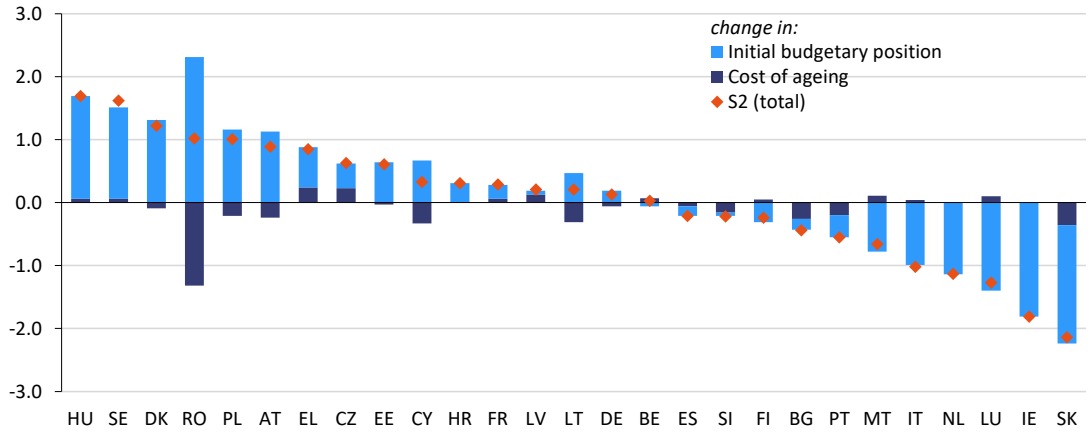
• No S2 indicator was calculated for EL in the 2020 DSM.
• 2020 DSM: Commission 2020 autumn forecast & 2018 Ageing Report (updated for HR, IT, RO & SK to reflect pension reforms; ageing costs included once the pre-crisis SPB was projected to be reached).
• 2021 FSR: Commission 2021 autumn forecast & 2021 Ageing Report (ageing costs 2024-2070).
• 2022 DSM: Commission 2022 autumn forecast & 2021 Ageing Report (ageing costs 2025-2070).
• 2023 DSM: Commission 2023 autumn forecast & 2024 Ageing Report (ageing costs 2025-2070).
• 2024 DSM: Commission 2024 autumn forecast & 2024 Ageing Report (ageing costs 2026-2070).

Source: Commission services.

Compared to the 2023 DSM, the S2 rose by at least 1 pp. of GDP for Hungary, Sweden, Denmark, Romania and Poland, reflecting worse initial budgetary positions. Graph 3.5 provides a comparison of the S2 results with those in the 2023 DSM, allocating the change in the overall S2 value between the initial budgetary position and the cost of ageing component. Considering

that the ageing cost projections in both updates use the 2024 Ageing Report ([33]), the ageing component is very similar and changes in the initial budgetary position drive revisions in the S2 compared to the 2023 DSM. The exception is Romania, for which the change in base year reduces the cost of ageing component notably, though this is still more than offset by a worse initial budgetary position. 15 Member States have an upward revision, with a maximum of 1.7 pps. of GDP for Hungary. For Belgium, the S2 remained unchanged. For the other 11 Member States the S2 value is lower than in the previous update, with the largest downward revisions for Slovakia (-2.1 pps. of GDP) - though remaining at high risk - and Ireland (-1.8 pps.). Compared to the 2023 DSM, the S2-based risk classification only changed for Bulgaria (from medium to low risk) and Slovenia (from high to medium risk).

Graph 3.5: **S2 – difference between 2024 DSM and 2023 DSM (pps. of GDP)**



Source: Commission services.

S2 – sensitivity analysis

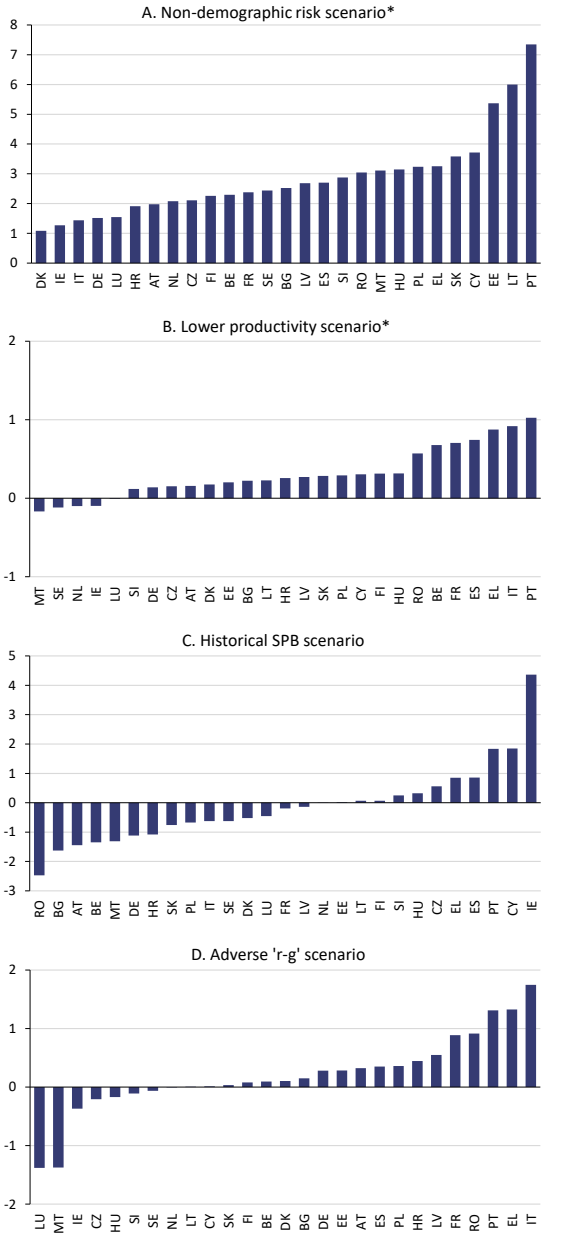
Four sensitivity scenarios were conducted to capture uncertainty around the baseline S2 indicator. To illustrate the impact of the uncertainty associated with long-term projections, the S2 'no-fiscal policy change' baseline results are compared with the results under alternative macro-fiscal scenarios. Four scenarios are considered. Box 3.1 provides the technical assumptions for each of them, as well as the detailed results. Graph 3.6 presents the results in terms of deviation from the baseline.

- The **non-demographic risk scenario** adjusts the healthcare and long-term care expenditure projections for possible developments in non-demographic factors such as technological progress and convergence process. Under this scenario, the S2 would be higher in all Member States, often considerably so (see Graph 3.6-A). For Portugal, Lithuania and Estonia, the S2 would be at least 5 pps. of GDP higher than the baseline results. Compared to the baseline, eight additional countries would be assessed at high risk by the S2 indicator: Czechia, Spain, Lithuania, Hungary, Austria, Poland, Romania, and Slovenia. Only Denmark and Italy remain in the low-risk category under this scenario.

([33]) European Commission and EPC (2024), '2024 Ageing Report: Economic and budgetary projections for the EU Member States (2022-2070)', European Economy, Institutional Paper 279.

- The **lower productivity scenario** calculates the S2 in case ageing cost projections are based on less favourable productivity growth. For most countries, this scenario would increase the S2 indicator, though generally to a limited extent (see Graph 3.6-B), with the impact notably reflecting pension benefit indexation rules. The adverse impact of lower productivity is the highest in Portugal, Italy, Greece, Spain, France, Belgium, and Romania, imposing an additional fiscal adjustment of between 0.5 pps. and 1 pp. of GDP. Spain shifts to high risk under this scenario, as is the case for Hungary and Slovenia.
- The **historical SPB scenario** assumes that the SPB converges to its historical average level, thus improving (deteriorating) the initial budgetary position when the SPB forecast for 2025 is below (above) the historical average. Reconnecting with past budgetary performance would lower the fiscal effort required to stabilise debt for most Member States (see Graph 3.6-C). For Romania, the S2 indicator would be 2.5 pps. of GDP lower than its baseline value, for Bulgaria, Austria, Belgium and Malta, the difference is around 1.5 pps. of GDP. On the other hand, the fiscal adjustment would be significantly higher for Ireland, Cyprus and Portugal, reflecting the strong fiscal position forecast in 2025 compared with historical performance. Under this scenario, the risk classification would deteriorate from medium to high risk for Ireland, Spain, Hungary and Slovenia, while Belgium would make the opposite move.
- The **adverse 'r-g' scenario** assumes a 1 pp. higher difference between interest rates and GDP growth. This implies a less favourable snowball effect and, especially for countries with high debt stocks, a higher required fiscal adjustment to stabilise the debt ratio ([34]). Italy, Greece and Portugal would be the most affected by a widening interest rate-growth differential (see Graph 3.6-D). Their S2 value would go up by about 1.5 pps. of GDP since a larger improvement in the SPB would be needed to counteract the impact on the debt ratio of an adverse snowball effect. Under this scenario, Spain moves from medium to high risk, while Luxembourg goes from high to medium risk.

Graph 3.6: **S2 – sensitivity analysis (deviations from baseline in pps. of GDP)**



*2024 Ageing Report scenario.

Source: Commission services.

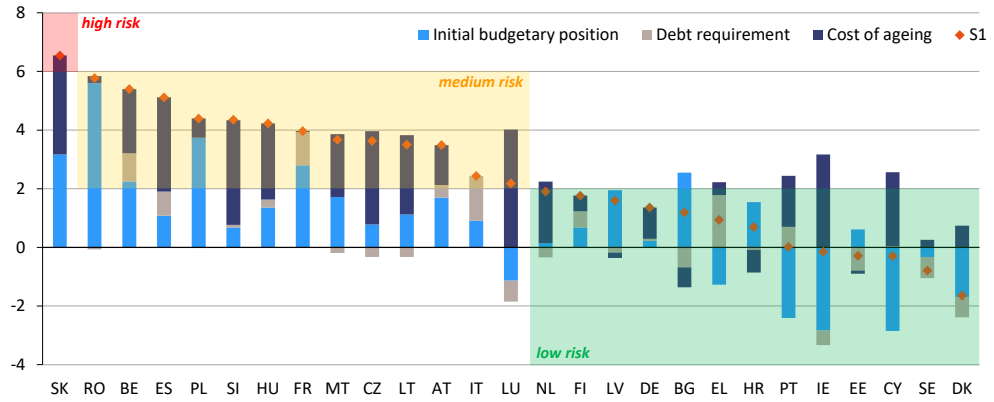
([34]) In exceptional circumstances, the impact can be favourable because of debt stabilisation at a low level.

3.2. THE S1 INDICATOR

S1 – baseline

The S1 indicator measures the permanent fiscal effort in 2026 that would be needed to bring the debt-to-GDP to 60% by 2070. The S1 indicator comprises three components: (1) the 'initial budgetary position', which measures the gap between the 2025 SPB and the debt-stabilising structural primary balance; (2) the 'debt requirement', which is related to the distance of the current debt-to-GDP ratio to the 60% reference value; and (3) future ageing costs.

Graph 3.7: **S1 – baseline (pps. of GDP)**



Source: Commission services.

According to the S1 indicator, Slovakia is identified as having high risks in the long term. Member States are considered at high risk if an overall adjustment of more than 6 pps. of GDP would be needed to bring debt to 60% of GDP by 2070. The S1 indicator indicates that Slovakia would need to improve its SPB by 6.5 pps. of GDP to bring its debt-to-GDP ratio to 60% in 2070 (see Graph 3.7).

The S1 indicator signals that long-term fiscal risks are medium for thirteen Member States. Member States are considered at medium risk if bringing debt back to 60% of GDP by 2070 requires an overall adjustment between 2 and 6 pps. of GDP. The following countries fall in the medium risk category: Romania, Belgium, Spain, Poland, Slovenia, Hungary, France, Malta, Czechia, Lithuania, Austria, Italy, and Luxembourg.

Thirteen Member States are considered to have low fiscal risks in the long term according to the S1 indicator. Member States are considered at low risk if the adjustment to bring debt to 60% of GDP by 2070 is lower than 2 pps. of GDP. According to the S1 indicator, the low-risk countries are the Netherlands, Finland, Latvia, Germany, Bulgaria, Greece, Croatia, Portugal, Ireland, Estonia, Cyprus, Sweden, and Denmark.

As is the case for S2, for most Member States, ageing costs are the main determinant of S1. In fifteen countries, the increase in ageing costs by 2070 is the main driver of the S1 indicator, with a maximum contribution of 4 pps. of GDP for Luxembourg (see Table 3.3). A high ageing cost contribution is primarily driven by an expected increase in pension expenditure in several Member States (contributing at least 1.5 pps. of GDP for Czechia, Ireland, Spain, Cyprus, Lithuania, Luxembourg, Hungary, Slovenia, and Slovakia), though higher spending on healthcare and long-term care also plays a role. In fact, healthcare and long-term care spending widens the fiscal gap as measured by S1 for all Member States, while a projected decline in pension expenditure reduces the sustainability gap in several cases.

Table 3.3: **S1 – breakdown (pps. of GDP)**

	S1	S1 components						
		Initial budgetary position*	Debt require-ment	Cost of ageing				
				Total	*Pensions***	*Healthcare*	*Long-term care*	*Education*
BE	**5.4**	2.3	1.0	2.2	1.4	0.3	1.0	-0.5
BG	**1.2**	2.6	-0.7	-0.7	-1.1	0.3	0.1	0.0
CZ	**3.6**	0.8	-0.3	3.2	1.9	0.5	0.7	0.1
DK	**-1.7**	-1.7	-0.7	0.7	-1.2	0.4	1.9	-0.3
DE	**1.4**	0.2	0.1	1.1	0.3	0.3	0.4	0.1
EE	**-0.3**	0.6	-0.8	-0.1	-0.4	0.4	0.3	-0.4
IE	**-0.2**	-2.8	-0.5	3.2	2.0	0.9	0.7	-0.4
EL	**0.9**	-1.3	1.8	0.4	0.0	0.6	0.0	-0.2
ES	**5.1**	1.1	0.8	3.2	2.3	0.9	0.5	-0.5
FR	**4.0**	2.8	1.1	0.0	-0.3	0.4	0.4	-0.5
HR	**0.7**	1.5	-0.1	-0.8	-1.0	0.5	0.1	-0.3
IT	**2.4**	0.9	1.5	0.0	-0.4	0.5	0.4	-0.5
CY	**-0.3**	-2.9	0.0	2.5	2.3	0.5	0.1	-0.3
LV	**1.6**	2.0	-0.2	-0.2	-0.6	0.4	0.2	-0.2
LT	**3.5**	1.1	-0.3	2.7	2.0	0.5	0.5	-0.3
LU	**2.2**	-1.1	-0.7	4.0	3.0	0.5	0.7	-0.2
HU	**4.2**	1.4	0.3	2.6	2.0	0.3	0.2	0.1
MT	**3.7**	1.7	-0.2	2.1	0.9	0.8	0.8	-0.3
NL	**1.9**	0.2	-0.3	2.1	0.9	0.4	1.2	-0.4
AT	**3.5**	1.7	0.4	1.4	0.0	0.8	0.8	-0.3
PL	**4.4**	3.7	0.0	0.7	-0.3	0.6	0.4	0.0
PT	**0.0**	-2.4	0.7	1.7	0.5	0.9	0.3	0.1
RO	**5.8**	5.6	-0.1	0.2	-0.5	0.5	0.2	0.1
SI	**4.4**	0.7	0.1	3.6	2.5	0.7	0.6	-0.2
SK	**6.5**	3.2	0.0	3.4	1.7	0.8	0.7	0.2
FI	**1.8**	0.7	0.6	0.5	-0.1	0.4	1.0	-0.7
SE	**-0.8**	-0.3	-0.7	0.3	-0.4	0.4	0.7	-0.4
EU	**2.7**	1.1	0.4	1.2	0.4	0.5	0.5	-0.2
EA	**2.7**	0.9	0.6	1.2	0.5	0.5	0.5	-0.3

* Gap between the initial and the debt-stabilising SPB (prior to the cost of ageing).
** Net of taxes on pensions and compulsory social security contributions paid by pensioners by pensioners.
Source: Commission services.

In most Member States, the unfavourable budgetary position increases the S1 indicator. The unfavourable initial budgetary position in 2025 implies that, at unchanged policy, debt would increase over the projection period in 20 Member States. Bridging the gap with the debt-stabilising SPB requires an improvement in the SPB of nearly 6 pps. of GDP for Romania and between 2 and 4 pps. in Poland, Slovakia, France, Bulgaria, and Belgium (see Table 3.3). Seven countries can allow their SPB to deteriorate to a varying extent without endangering debt stabilisation, before accounting for ageing costs and the requirement to prevent the debt ratio to surpass 60% of GDP in 2070.

The government debt ratio in 2025 exceeding the 60% threshold further leads to an increase in the S1 in eleven Member States. Since the S1 indicator requires debt ratios to converge to 60% of GDP, the larger the current gap to this reference value, the larger the required fiscal adjustment. Projected debt ratios for 2025 range from 147% of GDP for Greece to 24% for Estonia. As a result, they have the largest and smallest debt requirement contributions to S1, 1.8 pps. and -0.8 pps. of GDP respectively (see Table 3.3). Debt convergence requires a fiscal adjustment of between 1 and 2 pps. of GDP in Belgium, France, Italy and Greece, the four Member States with the highest projected debt-to-GDP ratios in 2025 ([35]).

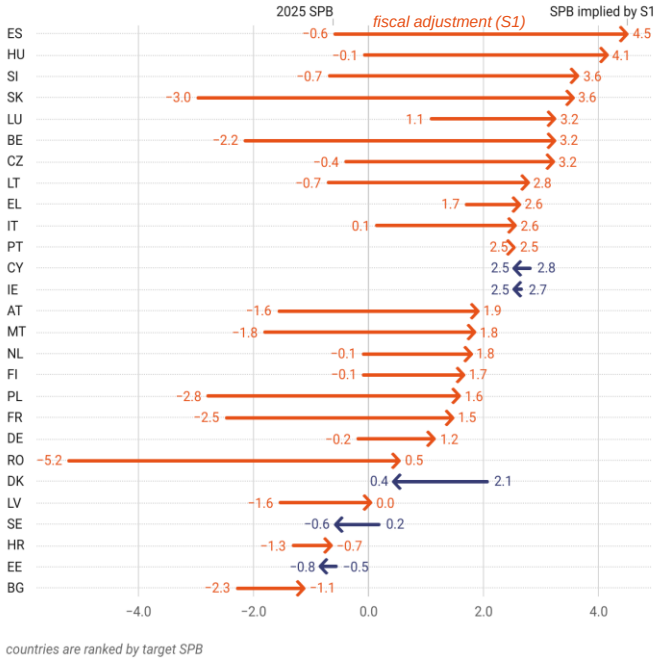
([35]) For countries below the 60% mark in 2025, the required effort is negative, meaning that, all else equal, reaching the 60% of GDP level corresponds to a deterioration of the SPB.

S1 – implied structural primary balance

The S1 adjustment determines the SPB corresponding to convergence to a debt-to-GDP ratio of 60% in 2070. This required SPB is the sum of (1) the SPB in 2025 and (2) the S1 value (the assumed adjustment in 2026). An SPB of more than 4% of GDP would be needed in Spain and Hungary to bring government debt to 60% of GDP (see Graph 3.8). For Slovenia, Slovakia, Luxembourg, Belgium and Czechia, the required SPB is at least 3% of GDP.

The percentile rank of the required SPB gives an indication of the plausibility of the fiscal adjustment implied by S1. The required SPB can be benchmarked against the distribution of available SPBs for each country since 1980 ([36]). This allows assessing how realistic the required fiscal position is, relative to past performance. Graph 3.9 orders the countries according to their required SPBs' percentile rank. The required SPB has never been achieved by Czechia, Spain, Lithuania, Slovenia, and Slovakia. For Poland, France, Hungary, Malta, Austria, Portugal, and Romania., the implied SPB was achieved less than 25% of the time. For Portugal, the low-risk classification as per the S1 indicator thus rests on the assumption of a relatively large SPB by historical standards.

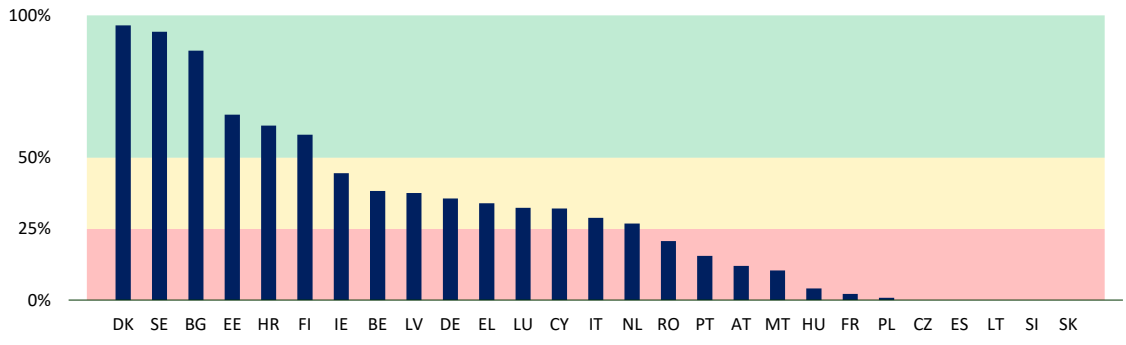
Graph 3.8: **S1 – required structural primary balance (% of GDP)**



Blue arrows indicate countries with a negative S1 value, i.e. implying a worse SPB compared to the 2025 SPB.

Source: Commission services.

Graph 3.9: **S1 – plausibility of the required structural primary balance (% of cases achieved in the past)**



Based on available structural primary balances since 1980.

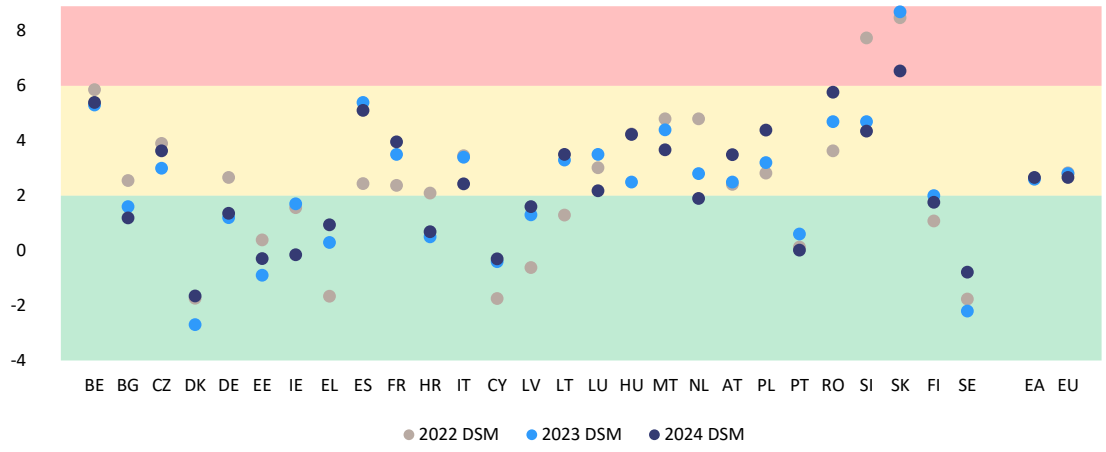
Source: Commission services.

([36]) For some countries, data are not available for the entire period since 1980.

S1 – comparison with previous updates

Recent updates for the S1 indicator have resulted in a basically stable EU average. Graph 3.10 compares the latest S1 with results in the *2022* and *2023 Debt Sustainability Monitors* ([37]). At 2.7 pps. of GDP in the current update and 2.8 pps. of GDP in the previous two years, the EU's S1 value has been stable within the medium-risk category in recent years. This stable average encompasses heterogenous changes at the Member State level, with a lower S1 value in 14 Member States compared with the 2022 DSM.

Graph 3.10: **S1 – comparison with previous updates**



- 2022 DSM: Commission 2022 autumn forecast & 2021 Ageing Report (ageing costs 2025-2070).
- 2023 DSM: Commission 2023 autumn forecast & 2024 Ageing Report (ageing costs 2025-2070).
- 2024 DSM: Commission 2024 autumn forecast & 2024 Ageing Report (ageing costs 2026-2070).

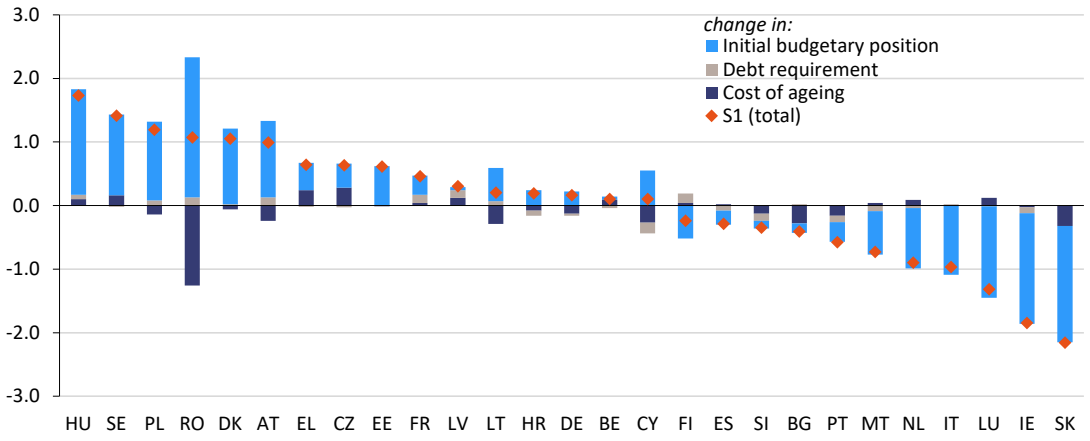
Source: Commission services.

Worse initial budgetary positions result in an S1 that is at least 1 pp. of GDP higher for Hungary, Sweden, Poland Romania, Denmark, and Austria than in the 2023 DSM. Graph 3.11 provides a comparison of the S1 results with those in the 2023 DSM, breaking down the overall change into the contributions by (1) the initial budgetary position, (2) the debt requirement and (3) the cost of ageing. Because the ageing projections have not changed since the 2023 DSM – only the year has shifted – and the debt projections are fairly stable between forecast rounds, the initial budgetary position is the main driver of revisions in the S1 compared to the 2023 DSM ([38]). 16 Member States have an upward revision, with a maximum of 1.7 pps. of GDP for Hungary. Among the 11 Member States with a downward revision in the current update, the biggest changes are for Slovakia (-2.2 pps. of GDP) and Ireland (-1.9 pps.). In terms of S1-based risk classification, there is only one change compared to the 2023 DSM, with the Netherlands moving from medium to low risk in the current update, because of a better initial budgetary position.

([37]) Since the *2022 Debt Sustainability Monitor*, the S1 indicator informs the long-term analysis. To this purpose, the debt requirement was to be reached by 2070, compared to after 15 years in its previous design, when the S1 indicator supplemented the DSA for the medium-term analysis. For this reason, the comparison is limited to the two previous updates.

([38]) Maybe with the exception of Romania, for which the change in base year reduces the cost of ageing component notably, though this is still more than offset by a worse initial budgetary position.

Graph 3.11: **S1 – difference between 2024 DSM and 2023 DSM (pps. of GDP)**



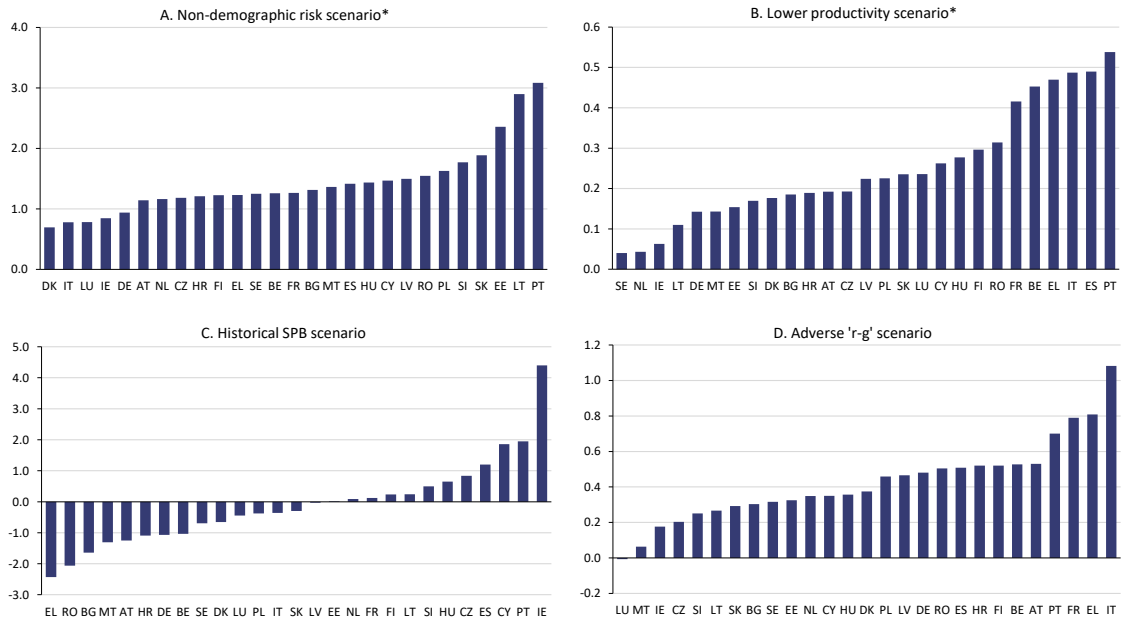
Source: Commission services.

S1 – sensitivity analysis

Four sensitivity scenarios were conducted to capture uncertainty surrounding the baseline S1 indicator. The same scenarios as for the S2 indicator are considered (see definitions in the previous section and in Box 3.1). Graph 3.12 presents the results in terms of deviations from the baseline.

- Under the **non-demographic risk scenario**, the S1 is higher for all Member States (see Graph 3.12-A). The impact is roughly 1 pp. of GDP for most, with Estonia (+2.4 pps.), Lithuania (+2.9 pps.) and Portugal (+3.1 pps.) exceeding 2 pps. of GDP. Under this scenario, in addition to Slovakia, also Belgium, Spain, Lithuania, Poland, Romania and Slovenia are considered at high fiscal risk. The risk category moves from low to medium for Bulgaria, Germany, Estonia, Greece, Latvia, the Netherlands, Portugal, and Finland.
- Under the **lower productivity scenario**, the S1 changes to a lesser extent compared to the baseline (see Graph 3.12-B). The S1 indicator rises for all Member States but by a maximum of 0.5 pps of GDP for Portugal, Spain, Italy, Greece, and Belgium. Risk categories are mostly unchanged, with the exceptions of Romania (from medium to high risk) and Finland (from low to medium risk).
- The **historical SPB scenario** assumes that the budgetary position will improve (worsen), if a country's forecast SPB in 2025 is below (above) the historical average, thus lowering (increasing) the S1 value. If the past fiscal performance were assumed to be repeated, the fiscal effort to reduce the debt ratio to 60% of GDP by 2070 would fall by at least 2 pps. of GDP for Greece and Romania (see Graph 3.12-C), while it would increase by about 2 pps. for Cyprus and Portugal, and by more than 4 pps. for Ireland. As regards the S1-based risk classification, Spain would go from medium to high risk, Ireland from low to medium risk and Luxembourg from medium to low risk.
- Under the **adverse 'r-g' scenario**, a less favourable snowball effect is assumed so that a higher fiscal adjustment is needed to bring the debt ratio to the 60% mark, in particular for countries with current high debt ratios. Italy, Greece, France and Portugal would be the most affected by a higher interest-growth rate differential (see Graph 3.12-D). Their S1 value would go up by around 1 pp. of GDP because a larger improvement in the SPB would be needed to offset the increase in the debt ratio caused by a higher 'r-g'. In terms of risk classifications, Romania moves to high risk, while Latvia, the Netherlands and Finland would move to medium risk.

Graph 3.12: **S1 – sensitivity analyses (deviations from baseline in pps. of GDP)**



*2024 Ageing Report scenario; see also Box 3.1.

Source: Commission services.

3.3. OVERALL LONG-TERM RISKS

The overall long-term fiscal sustainability risks are assessed based on both the S2 and S1 indicators. As discussed in Annex III.A5, the S2 indicator provides the starting point for the overall assessment of long-term fiscal risks. In addition, the S1 indicator, capturing vulnerabilities due to high debt levels, might lead to a one-notch deterioration of the risk classification. Table 3.4 shows the risk classifications based on both indicators separately and provides the overall long-term risk classification.

- **Four Member States have high fiscal sustainability risks in the long term** (Belgium, Luxembourg, Malta, and Slovakia). This risk classification is based on the S2 indicator, with the S1 indicator confirming the high-risk classification for Slovakia. For Luxembourg and Malta, the projected increase in ageing costs drives the risk classification, while for Belgium and Slovakia ageing costs as well as the initial budgetary position play a role.
- **Fourteen Member States face medium fiscal sustainability risks in the long term** (Czechia, Germany, Ireland, Spain, France, Italy, Lithuania, Hungary, the Netherlands, Austria, Poland, Romania, and Finland). Only for Italy, the S1 classification (medium) is worse than the S2 classification, thus bringing the final risk to medium because of the debt vulnerabilities captured by the S1 indicator. For the

Table 3.4: **Overall long-term risk classification, S2 and S1**

	Overall	S2	S1
BE	high	high	medium
BG	low	low	low
CZ	medium	medium	medium
DK	low	low	low
DE	medium	medium	low
EE	low	low	low
IE	medium	medium	low
EL	low	low	low
ES	medium	medium	medium
FR	medium	medium	medium
HR	low	low	low
IT	medium	low	medium
CY	low	low	low
LV	low	low	low
LT	medium	medium	medium
LU	high	high	medium
HU	medium	medium	medium
MT	high	high	medium
NL	medium	medium	low
AT	medium	medium	medium
PL	medium	medium	medium
PT	low	low	low
RO	medium	medium	medium
SI	medium	medium	medium
SK	high	high	high
FI	medium	medium	low
SE	low	low	low

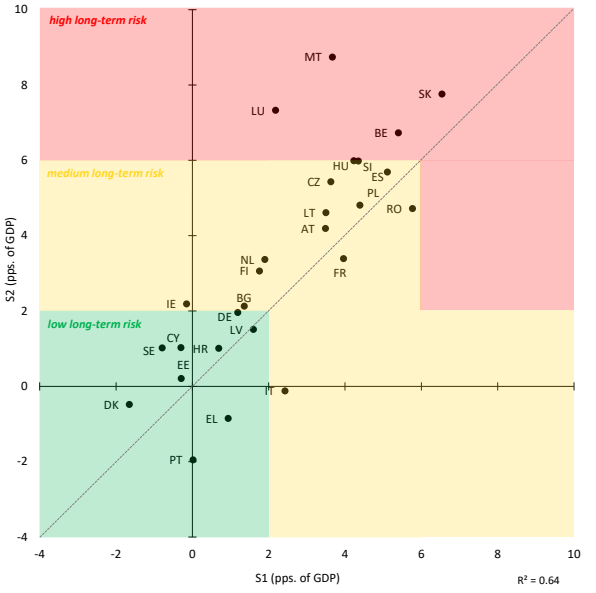
Source: Commission services.

other countries, S1 either confirms the S2 medium-risk signal or indicates low risk, meaning the S2 signal is determinant. For Czechia, Germany, Ireland, Spain, Lithuania, Hungary, the Netherlands, and Slovenia the main driver is the projected increase in ageing costs. An unfavourable initial budgetary position is the risk driver for France, Poland and Romania. For Austria and Finland both factors contribute to a similar extent. In the case of Italy, the only country for which the overall risk classification is determined by the S1 indicator, the considerable fiscal effort that is needed to reduce the debt-to-GDP ratio to 60% by 2070, causes the medium-risk classification.

- **Nine Member States have low fiscal sustainability risks in the long term** (Bulgaria, Denmark, Estonia, Greece, Croatia, Cyprus, Latvia, Portugal, and Sweden). This reflects a combination of contained cost of ageing in the long term and generally favourable initial budgetary positions. In the cases of Bulgaria, Croatia and Latvia, decreasing ageing costs offset the impact of a more demanding initial budgetary position. The opposite is the case for Cyprus and Portugal, with a favourable initial budgetary position offsetting the impact of rising ageing costs.

In most cases, the S1 indicator confirms the conclusion derived from the S2 indicator alone. The S2 and S1 indicators show a high correlation despite capturing somewhat different objectives: debt stabilisation over the long term – irrespective of the debt level – versus debt convergence to the 60% of GDP reference threshold (see Graph 3.13) ([39]). The signals correspond for 19 countries. In 8 cases, the risk classification based on S1 differs from that based on S2. In the case of Italy, the S1 points to medium risk, compared to low risk according to the S2. For the other countries the S1-based risk category is one step lower than the S2-based one: low risk for Germany, Ireland, the Netherlands and Finland, and medium risk for Belgium, Luxembourg and Malta.

Graph 3.13: **Relationship between S2 and S1**



Source: Commission services.

Compared to the 2023 DSM, overall long-term fiscal sustainability risks

- ***decreased in Bulgaria and Slovenia***. Bulgaria moved from medium to low risk and Slovenia moved from high to medium risk. For both countries, the long-term risk classification in the 2023 DSM was based on the S2 indicator, with the S1 signalling lower risk. However, the S2 values were only slightly above the risk thresholds and the current update results in S2 values that are, very narrowly, below the thresholds: 2 pps. of GDP for Bulgaria and 6 pps. for Slovenia (see Table 3.1).
- ***remained unchanged in the other 25 Member States*** (see Table 3.5 for a comparison).

([39]) The correlation between S1 and S2, as measured by the R^2 value, amounts to 0.64 (see Graph 3.13).

Table 3.5: **Overall long-term risk classifications in the 2024 and the 2023 DSM**

2023 DSM \ 2024 DSM	Low	Medium	High
Low	DK, EE, EL, HR, CY, LV, PT, SE		
Medium	BG	CZ, DE, IE, ES, FR, IT, LT, HU, NL, AT, PL, RO, FI	
High		SI	BE, LU, MT, SK

The long-term risk classification of countries in green improved compared to the 2023 DSM.

Source: Commission services.

Box 3.1: Sensitivity scenarios of the long-term fiscal sustainability indicators (S1 and S2): description and results

This box describes and presents the results of four sensitivity scenarios for the S1 and S2 indicators.

Non-demographic risk scenario

The non-demographic risk scenario adjusts the healthcare and long-term care expenditure projections for possible developments in non-demographic factors such as technological progress and the convergence process. It is based on a sensitivity scenario from the 2024 Ageing Report, where it is called 'Risk scenario'. The scenario assumes a partial continuation of upward healthcare expenditure trends, notably due to technological progress, and an upward convergence of coverage and costs of long-term care towards the EU average.

Lower productivity scenario

The lower productivity scenario determines the S1 and S2 values in case ageing cost projections are based on lower productivity growth compared with the baseline. This scenario is based on a sensitivity scenario from the 2024 Ageing Report, where it is called 'Lower TFP growth scenario'. While the Ageing Report baseline projections assume a gradual convergence of total factor productivity growth (TFP) to 0.8% for all Member States, this scenario assumes convergence to 0.6% instead.

Historical SPB scenario

The historical structural primary balance (SPB) scenario assumes that the SPB converges to its historical average level, thus improving (deteriorating) the initial budgetary position when the SPB forecast for 2025 is below (above) the historical average. It uses the European Commission forecasts until 2025, followed by gradual convergence to the historical SPB average in 2029. The historical average is based on available data for 2008-2023.

Table 1: ***Results of sensitivity scenarios (pps. of GDP)***

S1 indicator

	Baseline	Non-demographic risk*	Lower productivity*	Historical SPB	Adverse 'r-g'
BE	5.4	6.7	5.9	4.4	5.9
BG	1.2	2.5	1.4	-0.5	1.5
CZ	3.6	4.8	3.8	4.5	3.8
DK	-1.7	-1.0	-1.5	-2.3	-1.3
DE	1.4	2.3	1.5	0.3	1.8
EE	-0.3	2.1	-0.1	-0.3	0.0
IE	-0.2	0.7	-0.1	4.2	0.0
EL	0.9	2.2	1.4	-1.5	1.7
ES	5.1	6.5	5.6	6.3	5.6
FR	4.0	5.2	4.4	4.1	4.7
HR	0.7	1.9	0.9	-0.4	1.2
IT	2.4	3.2	2.9	2.1	3.5
CY	-0.3	1.2	0.0	1.6	0.1
LV	1.6	3.1	1.8	1.6	2.1
LT	3.5	6.4	3.6	3.7	3.8
LU	2.2	3.0	2.4	1.7	2.2
HU	4.2	5.7	4.5	4.9	4.6
MT	3.7	5.0	3.8	2.4	3.7
NL	1.9	3.1	1.9	2.0	2.2
AT	3.5	4.6	3.7	2.2	4.0
PL	4.4	6.0	4.6	4.0	4.8
PT	0.0	3.1	0.6	2.0	0.7
RO	5.8	7.3	6.1	3.7	6.3
SI	4.4	6.1	4.5	4.8	4.6
SK	6.5	8.4	6.8	6.2	6.8
FI	1.8	3.0	2.1	2.0	2.3
SE	-0.8	0.5	-0.7	-1.5	-0.5

S2 indicator

	Baseline	Non-demographic risk*	Lower productivity*	Historical SPB	Adverse 'r-g'
BE	6.7	9.0	7.4	5.4	6.8
BG	2.0	4.5	2.2	0.3	2.1
CZ	5.4	7.5	5.6	6.0	5.2
DK	-0.5	0.6	-0.3	-1.0	-0.4
DE	2.1	3.6	2.3	1.0	2.4
EE	0.2	5.6	0.4	0.2	0.5
IE	2.2	3.5	2.1	6.6	1.8
EL	-0.9	2.4	0.0	0.0	0.5
ES	5.7	8.4	6.4	6.5	6.0
FR	3.4	5.8	4.1	3.2	4.3
HR	1.0	2.9	1.3	-0.1	1.5
IT	-0.1	1.3	0.8	-0.7	1.6
CY	1.0	4.7	1.3	2.9	1.0
LV	1.5	4.2	1.8	1.4	2.1
LT	4.6	10.6	4.8	4.7	4.6
LU	7.3	8.9	7.3	6.9	6.0
HU	6.0	9.1	6.3	6.3	5.8
MT	8.7	11.8	8.6	7.4	7.4
NL	3.4	5.5	3.3	3.4	3.4
AT	4.2	6.2	4.3	2.7	4.5
PL	4.8	8.0	5.1	4.1	5.2
PT	-2.0	5.4	-0.9	-0.1	-0.6
RO	4.7	7.8	5.3	2.2	5.6
SI	6.0	8.9	6.1	6.2	5.9
SK	7.8	11.3	8.0	7.0	7.8
FI	3.1	5.3	3.4	3.1	3.1
SE	1.0	3.5	0.9	0.4	1.0

The cells are highlighted in line with the thresholds for the long-term risk classification (see Box 3.1): above 6 pps. of GDP (red), between 2 and 6 pps. of GDP (yellow) and below 2 pps. of GDP (green).
* 2024 Ageing Report scenario.

(Continued on the next page)

Box (continued)

Source: Commission services.

Adverse 'r-g' scenario

This scenario applies a 1 pp. higher difference between nominal interest rates (r) and nominal GDP growth (g). This 'r-g' differential determines the snowball effect. The scenario thus entails a less favourable snowball effect and, especially for countries with high debt stocks, a higher required fiscal adjustment to stabilise or reduce the debt ratio.

4. ADDITIONAL AGGRAVATING AND MITIGATING RISK FACTORS FOR FISCAL SUSTAINABILITY

Main takeaways

This chapter explores additional aggravating and mitigating risk factors for fiscal sustainability. These factors are only partially reflected in the analysis of the previous chapters but are important to provide an overall assessment of fiscal sustainability risks. The risk factors include the structure of debt, government liabilities beyond (EDP) public debt, in particular contingent liabilities, as well as government assets and net debt.

Recent developments in the structure of government debt are overall favourable across the EU, while some potential sources of concerns remain. Over the past years, a general trend of lengthening of debt maturities has been observed. This trend seems to persist for some Member States. Overall, short-term government debt continues to be on a downward path, although it has slightly increased in a small majority of Member States in 2023. The investor base remains large and diversified in many Member States and mainly domestically held for a majority of Member States. Asset purchase programmes by the Eurosystem in recent years resulted in a substantial increase of the share of government debt held by central banks, representing a stable financing source. Lastly, few non-euro area Member States are exposed to foreign exchange rate risks with a significant share of their debt being denominated in foreign currency.

Risks concerning government contingent liabilities appear overall limited. The recourse to government guarantees was moderate and on a declining path in most Member States in 2023. Using bank balance sheets, the Commission's SYMBOL (Systemic Model of Banking Originated Losses) model, which incorporates the latest features of the regulatory framework (capital, bail-in, resolution funds) presents estimates of the *implicit* contingent liabilities' risk for EU public finances due to a hypothetical systemic banking crisis. The results point to contained vulnerabilities in most Member States, indicating an overall resilience of the EU banking sector, while some Member States display some vulnerability under severe scenarios.

The holding of (large) stock of financial assets in some Member States mitigate fiscal sustainability risks, with net debt decreased across the board over the past years. Country rankings for indebtedness are similar when comparing gross and net debt ratios. Both indicators are on a declining path in the majority of Member States over the past decade, after years of increase notably reflecting the succession of crises.

Additional aggravating and mitigating risk factors are taken into account as a complement to the quantitative results presented in the previous chapters, to ensure a comprehensive overall assessment of fiscal sustainability challenges. The previous chapters presented quantitative results on the basis of the DSA risk framework as well as fiscal sustainability indicators. Yet, these quantitative results need to be complemented by considering additional aggravating or mitigating risk factors that are only partially factored in the quantitative results of the framework. Such factors can be particularly relevant in times of economic stress and elevated uncertainty.

A number of key aggravating and mitigating risk factors are analysed in this chapter. Section 4.1 provides an analysis of the debt structure, notably in terms of maturity, currency denomination and holders, which gives an important indication of potential vulnerabilities (or strengths). Section 4.2. examines risks beyond government EDP debt, namely risks related to other government direct and contingent liabilities, and notably those stemming from the banking sector, including on the basis of the Commission SYMBOL model. Section 4.3 discuses other relevant factors, including government assets. The additional risk factors considered in this chapter are treated horizontally in the overall assessment, insofar the identified vulnerabilities or supporting factors may materialise in the short, medium or long term. ([40])

4.1. RISKS RELATED TO THE GOVERNMENT DEBT STRUCTURE

Table 4.1: **Risks related to the government debt structure (2023): Selected indicators**

	1. Share of short-term debt		2. Average residual maturity of debt (debt securities)		3. Debt held by non-residents (% of total debt)		4. Sovereign yield spread vs. DE
	In % of total debt (2023)	*Annual change (pps)*	*In years (Nov. 2024)*	*change over 4 years (pps)*	*Total non-resident (2023)*	*Non-EA resident (2023)*	*2023, pps*
BE	8.6	0.3	11.1	0.4	55.6	25.9	0.60
BG	0.3	0.2	8.1	0.6	47.1	5.2	1.91
CZ	2.4	-3.3	5.8	-0.6	23.7	7.1	1.87
DK	8.2	-1.9	9.2	0.9	27.2	6.6	0.26
DE	8.8	-2.1	8.1	0.9	45.2	12.3	0.00
EE	8.3	1.3	5.7	-1.0	79.8	7.2	1.11
IE	6.8	0.0	10.2	-0.5	54.2	7.3	0.36
EL	6.0	-0.7	20.1	0.6	77.6	17.0	1.18
ES	5.2	0.1	7.8	0.0	42.6	16.3	1.02
FR	8.5	0.1	8.3	0.1	50.5	32.1	0.55
HR	4.7	0.4	5.2	-0.3	29.5	-0.6	1.29
IT	12.5	-0.6	7.0	-0.1	27.6	15.0	1.72
CY	0.8	-0.4	7.5	-0.2	95.7	11.4	1.13
LV	2.5	1.2	7.0	-1.9	66.6	9.6	1.39
LT	0.0	0.0	8.0	-1.3	63.2	10.4	0.78
LU	2.2	0.1	7.4	1.4	56.2	4.9	0.43
HU	7.4	-2.4	5.9	-1.0	36.3	18.3	4.07
MT	7.0	-3.3	7.3	-1.4	21.8	2.8	1.21
NL	8.7	-2.3	9.1	1.0	40.4	7.2	0.32
AT	6.8	-0.3	13.2	1.9	64.1	19.0	0.58
PL	1.6	-0.2	5.1	0.7	33.6	12.1	3.11
PT	19.5	2.1	7.7	0.6	42.0	12.5	0.76
RO	6.5	0.3	6.7	-0.7	50.9	16.9	4.09
SI	4.7	1.1	9.1	-0.6	55.5	10.0	1.16
SK	0.6	-0.1	8.4	-0.2	51.9	10.2	1.21
FI	13.0	1.0	7.7	0.5	52.6	18.2	0.58
SE	30.5	2.7	4.4	-0.2	16.9	2.1	0.11

Source: Eurostat, ECB financial accounts.

([40]) Some other factors are not examined in this chapter. This concerns in particular the quality of institutions. As shown by a rich literature, the quality of institutions is an important supporting factor of public debt sustainability. In the EU, a deeply integrated region of mainly advanced economies, evidence suggests that the quality of institutions would be on average higher and less heterogeneous than in other parts of the world (for a literature review, see Box 1.2 in European Commission (2019), Fiscal Sustainability Report 2018, *European Economy Institutional Paper*, No. 094.

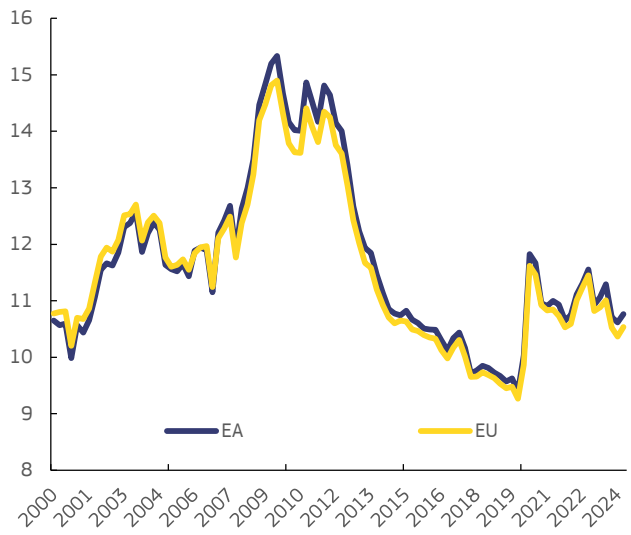
4.1.1. Maturity structure

The structure of government debt can play an important role in ensuring sustainable public finances in different ways. First, by determining the level and response of interest payments to changes in economic and financial conditions. Second, by influencing the degree of risks, notably refinancing and rollover risks. According to the IMF (2014), an optimal government debt portfolio should minimise interest payments subject to a prudent degree of refinancing and rollover risks (cost-risk trade-off). ([41])

The debt composition needs to be analysed along several dimensions. In this section, the analysis focuses on three aspects: the maturity structure, the currency denomination composition and the nature of the investors' base. ([42]) With this aim, some key variables are used to analyse the debt structure as for instance: i) the share of short-term debt in total government debt (at original maturity); ii) the average maturity of the debt, and iii) the share of debt held by non- residents in total government debt.

Share of short-term debt

Graph 4.1: **Share of sort-term debt (% of total general government debt)**



(1) Share of short-term debt includes currency and deposit, short-term debt securities and short-term loans.

Source: Eurostat.

The share of short-term government debt has increased in a small majority of Member States, while the decline initiated few years ago in some countries is confirmed. With a high share of short-term debt, a government may be vulnerable to increases in the monetary policy rate, and to rapid changes in financial markets' perceptions. ([43]) From this angle, fiscal risks persist for several EU countries (see Table 4.1). Compared to other Member States, the share of short-term debt is relatively high in Sweden (30.5% of total government debt) followed by Portugal (19.5%), Finland (13%) and Italy (12.5%). For all these countries but Italy, the share of short-term debt is also on an upward trend. Member States like Germany, Hungary, Malta, and the Netherlands record noticeable declines with a share of less than 10% of total government debt compared to last year (Table 4.1). Low short-term debt levels of less than or equal to 1 % were recorded in Lithuania (0.0 %), Bulgaria (0.3 %), Slovakia (0.6 %) and Cyprus (0.8 %). As illustrated in Graph 4.1, after the peak recorded during the COVID-19 crisis and

([41]) IMF (2014), "World Economic Outlook: recovery strengthens, remains uneven" April.

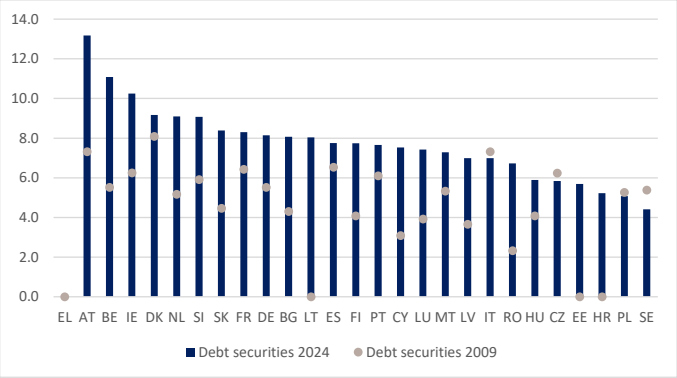
([42]) Other dimensions could also be considered such as the type of interest rates (fixed / variable), and relatedly the presence of indexation mechanisms (e.g., inflation-linked bonds), or state-contingent features, as well the nature of debt instruments (the latter is analysed to some extent in Section 4.2 of this chapter).

([43]) If the structure of debt tends to be fairly stable over time, in the wake of major (financial) crises or large scale financial innovation (such as quantitative easing), changes in the debt composition can be large and sudden (see Abbas, A., Blattner, L., De Broeck, M., ElGanainy, A. and Hu, M. (2014), Sovereign debt composition in advanced economies: a historical perspective, *IMF Working papers*, No. 14 / 162 and also Box 3.4 in Chapter 3 of European Commission (2019), Fiscal Sustainability Report 2018, *European Economy Institutional Paper*, No. 094).

recent episodes of small increases ([44]), the ratio of short-term debt has shown overall a trend decline for the EU/EA as a whole.

The average maturity of debt

Graph 4.2: **Average residual maturity of debt (in years)**



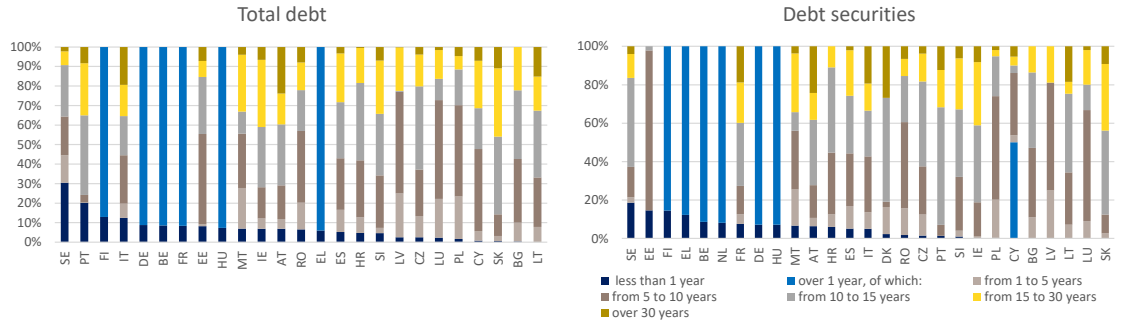
(1) Data not available for EL.

Source: Eurostat.

Yet, the high and increasing level of the average maturity of government debt reduces vulnerabilities. The average (residual) maturity of government debt (securities) has increased significantly in recent years. Although its level has stabilised lately with Member States recording some reduction of their maturities (see Table 4.1), the average maturity remained at a high value of close to 8 years on average end 2024 (see Graph 4.2). The maturity was particularly long in 2024 in Austria, Belgium and Ireland (close to or above 10 years). A number of other indicators are worth to be considered in parallel to the average maturity of debt, namely the weight of short-term debt *as a share of GDP,* the level of a country's international reserves in the case of external short-term debt of non-euro area Member States, ([45]) and last, the treasury cash-flow management that has an influence both on the headline short-term debt and the availability of other liquid financial assets, such as cash deposits, which could mitigate potential stress on the economy (see also Section 4.3).

Share of debt according to initial maturity

Graph 4.3: **Government debt by initial maturities, 2023**



(1) For DK and NL, data are missing for general gross debt breakdown.

Source: Eurostat.

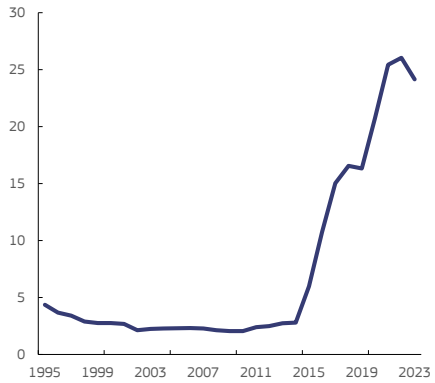
([44]) This recent change in financing choices in favour of securities with shorter maturities is also confirmed by the ECB (https://data.ecb.europa.eu/blog/blog-posts/rebound-short-term-debt-securities-issuance).

([45]) The extent to which international reserves are greater or equal than the country's stock of short-term external debt (the Greenspan-Guidotti rule) shows whether the country has enough resources to counter a sudden stop in capital flows and its capacity to service its short-term external debt. Section 4.2.4 below presents the developments of the net external debt for all EU Member States.

The bulk of the outstanding debt is incurred on a long-term basis. Looking at the breakdown by maturities of the general government gross debt, it appears that, for all Member States, the largest part of the debt concerns medium- and long-term debt (between 69.5 % in Sweden and nearly 100 % in Lithuania – see Graph 4.3). The prominence of long-term debt is also remarkable in the composition of the debt securities.

4.1.2. Composition of the investor' base

Graph 4.4: **Share of government debt held by domestic central banks (% of total govt. debt, EA aggregate)**



(1) Based on Maastricht debt (at face value).

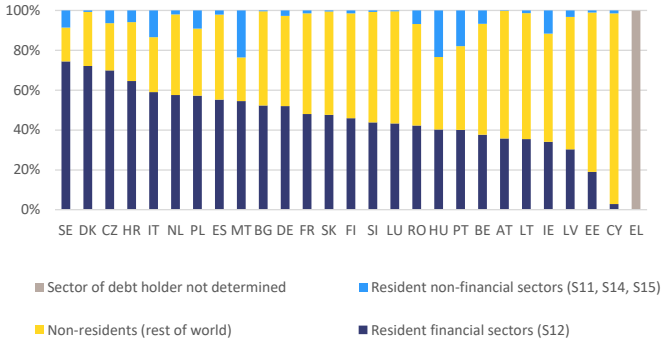
Source: ECB.

EU Member States' investor base remains solid, though in some cases, the substantial share of debt held by non-residents creates vulnerabilities. A significant foreign investor base can be perceived as being more volatile and prone to sudden stops in situations of heightened uncertainty. Several euro-area Member States are found to have large shares of foreign held government debt, including Cyprus, the Baltic countries, Austria, Luxembourg, Belgium, Slovenia, Ireland, Finland, Slovakia, Romania and France (all beyond 50% of total government debt; see Table 4.1). In some cases, this high share, although on the downward path over the recent years, reflects important official lending associated to past financial assistance programmes (in particular, Cyprus and to a lesser extent Greece and Portugal; see Graph 4.4).

Instead, in other cases, the large foreign investor base underlines the country's creditworthiness, as shown by limited sovereign bond spreads (i.e. in Ireland, Luxembourg, Austria, Finland, Belgium, – see Table 4.1). A higher share of foreign investors reduces the risks of adverse loops between the sovereign and the national banking systems. This may also be seen as beneficial for financial and macroeconomic stability. (.[46]) For some other non-euro area Member States such as Romania and Bulgaria, the significant share of foreign held debt could be associated with a search for yield given a more emerging markets status and relatively small local-currency markets.

([46]) Bouabdallah, O., Checherita-Westphal, C. D., Warmedinger, T., De Stefani, R., Drudi, F., Setzer, R., and Westphal, A. (2017), Debt sustainability analysis for euro area sovereigns: a methodological framework, *ECB Occasional Paper*, No. 185.

Graph 4.5: **General government gross debt by sector of debt holder, 2023**



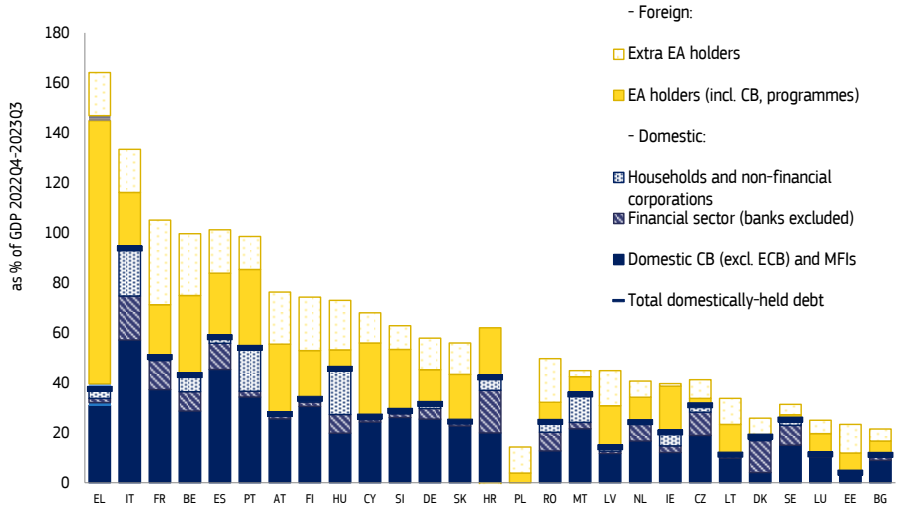
(1) Data are missing for Greece.
Source: Eurostat.

Looking at the government debt allocations between national and foreign holders indicates that, across EU Member States, a significant share of government debt still remains domestically held. As shown in Graph 4.5, the share of debt held debt by domestic financial sector is predominant in a number of countries (e.g. Sweden, Denmark, Czechia, Croatia and Italy with a share around or above 60% of the total debt). As for the domestic non-financial sector, its share is relatively limited with the exception of Member States like Malta, Hungary (about 23% of the total debt), Portugal (17%) and Italy (13%).

A detailed overview of general government debt allocations by different holders indicates that a significant share of government debt is held by domestic central banks - and the ECB for euro area Member States. In 2024, in all euro area Member States but Greece and Estonia, at least one third of general government debt was held by domestic Central Banks and MFIs (see Graph 4.6 below). Largest shares are observed in Malta (48%), Spain (45%), Germany (44%) Italy, Finland Slovenia and Netherland, Luxembourg and Slovakia (all above 40%). For high debt countries, this share varies from less than 20 (Greece) to 35% (France and Portugal). Overall, for the EA as a whole, the share of debt held by domestic Central Banks has significantly increased since 2014 (when this share amounted to less than 3%; see Graph 4.4, notably reflecting asset purchases' programmes.

For almost all EA countries, the detailed overview of general government debt allocation by different holders also indicates the degree of risks, notably refinancing and rollover risks. In some Member States significant shares of general government debt are currently in the hands of non-euro area central banks in the form of reserve assets. The largest shares are recorded for Greece, Belgium, Portugal, Cyprus, Austria, Spain, Slovenia, Italy and France (above 20% of GDP). For other (smaller) euro area economies (i.e., Slovenia, Latvia, Lithuania, Slovakia and Estonia), the rest of the euro area financial sector has become a more important holder of government debt than these issuers' domestic financial sectors, suggesting that home bias is disappearing or transforming, as the euro area grows more integrated financially and financial institutions follow harmonised prudential rules under the Single Rulebook (see Table 4.1 and Graph 4.6).

Graph 4.6: **Holders of general government debt (market value, % of GDP, 2024-Q2)**



(1) Only data for total MFIs (Monetary Financial Institutions) are reported. The split between commercial banks and central banks is an estimate based on annual nominal data. The category 'International reserve holders' represents holdings by international organisations and non-EA central banks as reserve assets. The category '(Rest of) Eurosystem' includes holdings by the ECB. The category 'Non-financial private sector' represents holdings by non -financial corporations (NFCs) and households (HH)., (1) data for Poland is missing.

Source: Commission services based on ECB, Eurostat and IMF

While evidence of domestic versus foreign debt holdings is mixed, the latter is more likely to entail risks when the foreign tenure is not particularly safe or confidence driven. In some Member States, such as Sweden, Malta, Czechia, Italy, Croatia, Hungary and to a lesser extent Netherland, Spain and Portugal, a high share of 2023 general government debt is domestically held (see Table 4.1 and Graph 4.6). Conversely, in a few other cases, relatively larger shares of government debt held by foreign investors outside the euro area that are not reserve asset holders ('unallocated') may bear risks associated to this uncertain and potentially more volatile basis (e.g., Estonia and Lithuania and France with shares above 30% of total debt, respectively).

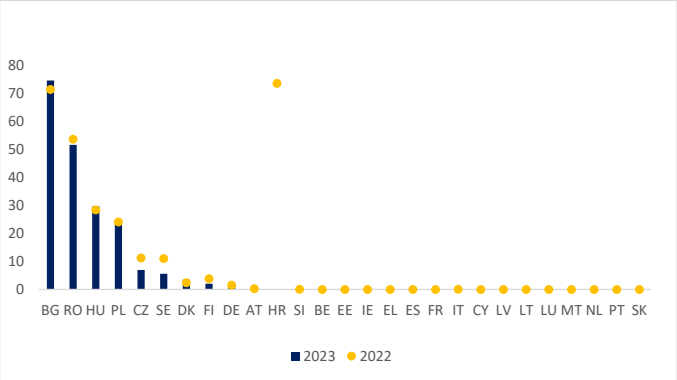
4.1.3. Other factors about debt structure

Currency denomination composition

The share of debt denominated in foreign currency is limited overall, except for few non-euro area Member States. As advanced economies finance themselves overwhelmingly in their own currency, currency-related fiscal risks are largely absent for the EU Member States that have adopted the euro (see Graph 4.7). ([47])

([47]) A domestic currency denomination traditionally protects governments against currency mismatches between a government's interest expenditure and tax revenue. Yet, in some countries, the rationale behind foreign-currency-denominated debt issuance is to attract foreign investors, not willing to bear the foreign currency risk. Ultimately, this may reduce funding costs for these governments (all else being equal) by reducing liquidity premia (see Eller, M. and J. Holler (2018), Digging into the composition of government debt in CESEE: a risk evaluation, Oesterreische Nationalbank (OeNB)).

Graph 4.7: **Public debt in foreign currency (in share of total debt, %)**



Source: Eurostat, ECB.

Foreign currency-denominated debt is large in some Central and Eastern European countries (CEEC). This is the case of Bulgaria and Romania with a share well above 50% of total debt, ([48]) as well as to a lesser extent Hungary and Poland with a share well above 20% of total debt (see Graph 4.7). For all these Member States, hedging of foreign currency positions can mitigate potential exchange rate risks, ([49]) whereas pegs or currency boards also significantly reduce exposure to fiscal risks from the share of public debt in foreign currency. ([50]) Moreover, in these countries, the major share of foreign currency issuances is denominated in euro. Over time it can be noticed that while the share of the foreign currency borrowing has stabilised or slightly decreased in some of these countries (i.e., Czechia, Romania, Sweden), it has increased in others (i.e., Bulgaria, Croatia, Denmark, Hungary, Poland).

Sovereign yield spreads

Another relevant risk factor for the government debt structure is the sovereign yield conditions since higher financing costs put pressure on public finance. As shown above, for most of the Member States the related risks are mitigated and are expected to be gradual thanks mainly to the debt maturities that have been increasing over the past recent years (and the relatively stable financing source coupled with a large and diversified investor basis (see Table 4.1 and Graph 4.6). However, some Member States, mainly non-euro area countries (Hungary, Romania and Poland), may face higher financing costs and the sovereign yields due to differences in terms of monetary policy, i.e. inflation targets, as it has been recently the case (see also Section 1.3).

The analysis of risks arising from the debt profile needs not be confined to these indicators and the associated benchmarks. Other factors, such as the role of the central bank in mitigating short-term liquidity needs, the capacity of the market to absorb debt, influence as well the results of the analysis. The underlying reasons for debt profile vulnerabilities, such as the existence of bank-sovereign feedback loops and contagion, incomplete credit markets, weak debt management practices, may also be important elements in this regard.

4.2. BEYOND GOVERNMENT DEBT: RISKS FROM OTHER DIRECT AND CONTINGENT GOVERNMENT LIABILITIES

This section provides an analysis of the size and, when possible, the evolution of government liabilities other than 'EDP (or Maastricht) debt' in the EU. Such a complementary analysis allows identifying additional risk factors compared to the results of the standard debt sustainability analysis provided in this report (see Chapter 2). Section 4.2.1 looks in particular into government direct liabilities that are not included in the EDP debt, while Sections 4.2.2 and 4.2.3 discuss risks linked to explicit and implicit contingent liabilities. Assessing the potential risks related to those liabilities, including those stemming from the banking sector, is particularly relevant in times of high uncertainty and stress, as vulnerabilities could eventually materialise in the sectors concerned.

([48]) Bulgaria has a currency board since 1997 and nearly all of its foreign currency debt is issued in euro. While the peg is maintained, shocks to debt in foreign currency are virtually zero.

([49]) Hedging operations are not taken into account in the DSM.

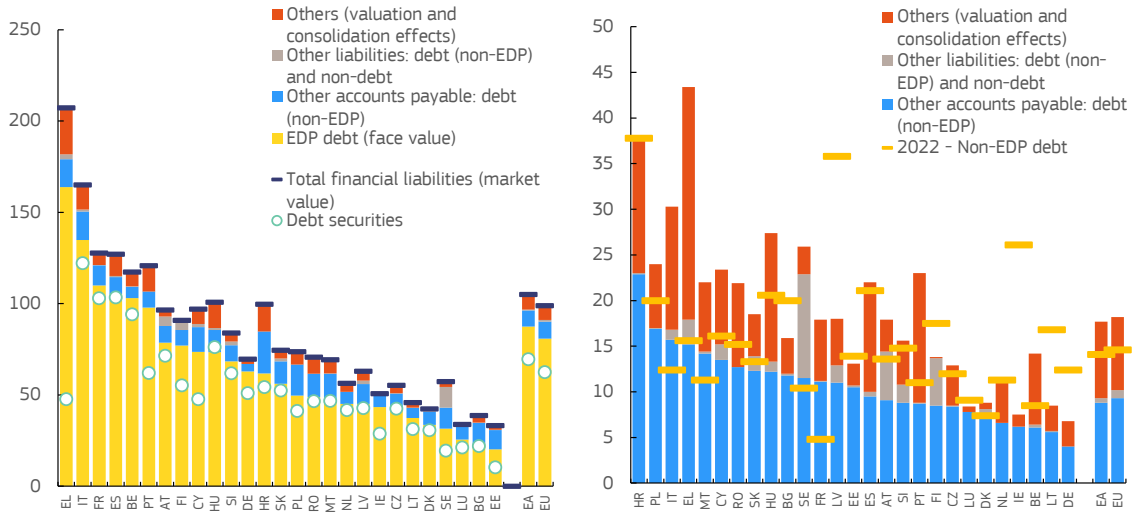
([50]) On the idiosyncrasies of different exchange rate regimes and the extent to which exchange rate shocks could impact the public debt-to-GDP ratios see European Commission (2017), Debt Sustainability Monitor 2016, *European Economy Institutional Paper*, No. 47. - Chapter 2, Box 2.2.

4.2.1. Non-EDP debt: an overview

The EDP debt liabilities were the main component of on-balance government gross liabilities in 2023 in all Member States. In the EU as a whole, the EDP debt was around 81% of GDP in 2023 and accounted for about eight tenths of total gross financial liabilities (see Graph 4.8). In terms of instrument coverage, debt securities, commonly in the form of bills, commercial papers and bonds, account for around eight tenths of the government gross debt in most Member States. Contributions of loans, coins when issued by governments and deposits held by entities classified inside general government tend to be less significant across Member States. ([51])

The difference between total gross liabilities and the EDP debt varies widely across Member States. In 2023, the portion of total gross government liabilities (at market value), not reflected in the EDP debt (measured at face value), ranged from 26% to 43% of GDP in Sweden, Hungary, Italy, Croatia and Greece, and below 10% of GDP in Denmark, Lithuania, Luxembourg, Ireland, and Germany. This difference consists of other debt instruments (so-called non-EDP debt), non-debt financial instruments and a gap due to different valuation and consolidation methods applied to financial liabilities (see Graph 4.8). ([52])

Graph 4.8: **Debt and non-debt financial liabilities (% of GDP, 2023)**

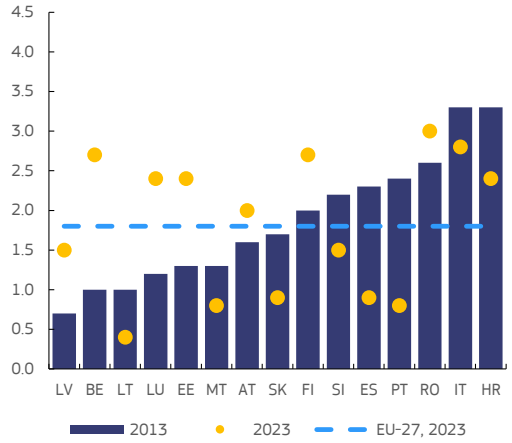


Source: Commission services based on Eurostat.

([51]) The share of loans can nevertheless be significant in some Member States, in particular in those that have benefited over the past years from financial assistance in the form of official loans.

([52]) The valuations of the EDP debt and ESA 2010 balance sheets are different. In particular, total gross EDP debt of the general government is valued at face value, while in ESA 2010, government gross liabilities are valued at market prices.

Graph 4.9: **Trade credits and advances in selected Member States (2013 and 2023)**



Source: Eurostat.

Among non-EDP debt liabilities, 'other accounts payable' is the most significant component. Other accounts payable include trade credits and advances. These are in most cases outstanding short-term liabilities of the government from transactions of goods and services, and to a lesser extent other timing differences in settling obligations. While expenditure for goods and services (not yet paid) is included in ESA government expenditure in line with the accrual principle (and thus impacts the debt), the stock of trade credits and advances payable are not included in the government (EDP) debt. During periods of financial distress, this debt instrument can become an important government financing alternative. For instance, in few Member States, such as Croatia, Italy, Portugal, Spain and Slovenia government trade debt tended to be higher in 2013, some years after the Global Financial Crisis. Over time, stocks of trade credits and advances have receded in these Member States, while increasing in others. For instance, in 2023, as a share of GDP, these liabilities were highest in Romania, Italy, Finland and Belgium (around 3.0% of GDP each, see Graph 4.9), followed by Luxembourg, Estonia, Croatia (2.4% of GDP each), Austria (2%), Latvia and Slovenia (1.5% each), Slovakia and Spain (0.9% each), Malta and Portugal (0.8% each) and Lithuania (0.4%), compared to an EU average of 1.8% of GDP. ([53])

Other liabilities (debt and non-debt financial instruments) are typically a narrow set of total government liabilities (see Graph 4.8)**.** In 2023, these other liabilities were more relevant for Sweden (11.4% of GDP – of which mainly insurance, pensions and standardised guarantees), Austria (5.3% – of which mainly equity and investment funds), Finland (5.2% – of which mainly financial derivatives and employee stock options), Greece (2.7% – of which mainly monetary gold and SDRs), Slovenia (2%), Latvia (1.9%), Cyprus (1.7%) and Slovakia (1.6%), Hungary and Italy (1.1% each), while accounting for less than 1% of GDP in other Member States.

The gap reflecting valuation and consolidation effects can be relatively large in some Member States. Ranging from 0.6% to 25.5% of GDP in 2023, this gap was highest in Greece, Croatia, Portugal and Hungary, In most cases, the magnitude of this gap is affected largely by the impact of different valuation bases for the EDP debt (face value) and gross financial liabilities (market value) and to a lesser extent by the impact of the consolidation method (EDP debt is consolidated both within and between the subsectors of the general government, gross financial liabilities only within subsectors). The consolidation effects are in fact small in most Member States. ([54])

4.2.2. *Explicit* contingent liabilities in the EU

As part of the analysis of contingent liabilities presented in this report, this section contains an overview of explicit contingent liabilities, as reported by Eurostat. Following the IMF definition, *explicit* contingent liabilities are *defined as legal or contractual financial arrangements that give rise to conditional requirements to make payments of economic value*. While ESA2010 does not record government's (explicit) contingent liabilities in government balance sheets, it remains that if certain obligations are called (due to the realisation of adverse uncertain events), such contingencies can have a substantial impact on public finance. Indeed, a high level of contingent liabilities represents an additional risk for public finances. In this context, it is worth complementing an analysis of gross government debt with an assessment of contingent liabilities to have more exhaustive picture of

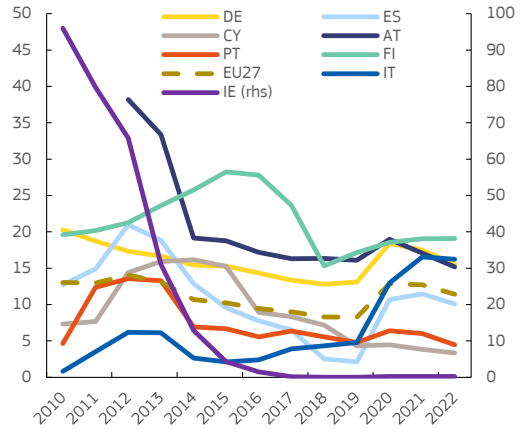
([53]) See Eurostat (2015), Note on Stock of Liabilities of Trade Credits and Advances, and Eurostat (2021a).

([54]) See Eurostat (2024), Stock-flow adjustment for the Member States, the euro area and the EU, for the period 2020-2023, October 2024 EDP notification.

government's liabilities. As concerns the explicit contingent liabilities, they include government guarantees, including those related to government interventions in the financial sector, and liabilities related to off-balance PPPs (public private partnerships). ([55])

Government guarantees and PPPs

Graph 4.10: **Developments in government guarantees in selected EU Member States (% of GDP, 2010-2022)**



Source: Eurostat.

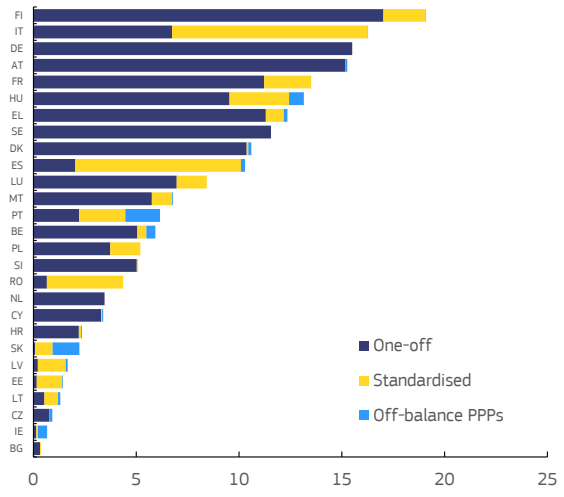
Government guarantees represent a source of potential fiscal cost in several Member States, in case they are called. Government guarantees are typically designed to reimburse a lender in case of possible losses linked to the loans it has provided. Government guarantees are issued to promote economic stability or pursue other public policy objectives, as for example guarantees on student loans or guarantees on the losses incurred by exporters in case of non-payment by a trading partner. In 2022, the highest stock of outstanding government guarantees was recorded in Finland (17% of GDP), Italy, Germany and Austria (about 16% of GDP respectively – see Graph 4.10). In Germany and Austria, guarantees were largely provided to non-financial private entities for export promotion, to public and private financial institutions during the COVID-19 pandemic for instance, and to non-financial public corporations such as road and rail infrastructure companies. ([56]) As for Finland, a sizeable part of the guarantees was related to export guarantees, student loans and funds for supporting housing construction. As concerns Italy, this is mainly explained by measures introduced since 2020 in response to the pandemic crisis and energy crisis. For the EU as a whole, after a peak at 14% of GDP in 2012, public guarantees have progressively declined around 8% of GDP in 2019 reflecting mainly the decline in the use of government guarantee schemes for financial institutions granted in the context of the Global Financial Crisis in a number of Member States. After a rebound in 2020 due to COVID-19 related government guarantee schemes, the recourse to public guarantees has decreased to stabilise around 11.5% of GDP in 2022 (see Graph 4.10).

In most Member States, the largest category of government guarantees relates to one-off guarantees granted under individual contractual arrangements, usually involving more sizeable amounts. In 2022, the stock of one-off guarantees ranged from 17% of GDP in Finland to less than 1% of GDP, i.e., in Czechia, Romania, Lithuania, Bulgaria, Estonia, Ireland, and Slovakia (see Graph 4.11). The total amount committed in standardised guarantee schemes (issued in large numbers for small amounts) carries a more modest risk for future public expenditure in most Member States. These schemes account for between 10% and 1% of GDP, namely in Italy (about 10% of GDP), Spain (8%), Romania (about 4%), Hungary (3%), France, Portugal and Finland (about 2% each), Poland and Luxembourg (about 2% each), Latvia Estonia (about 1% each).

([55]) This information can also be found in the statistical country fiches of this report. Note that some of this information may be overlapping, e.g., guarantees issued in the context of government interventions in the financial sector form a subset of total government guarantees. For this reason, evaluating the total risk by summing up the indicators could overestimate the potential impact.

([56]) See for instance IMF (2018), Austria. Fiscal Transparency Evaluation, *Country Report*, No. 18/193.

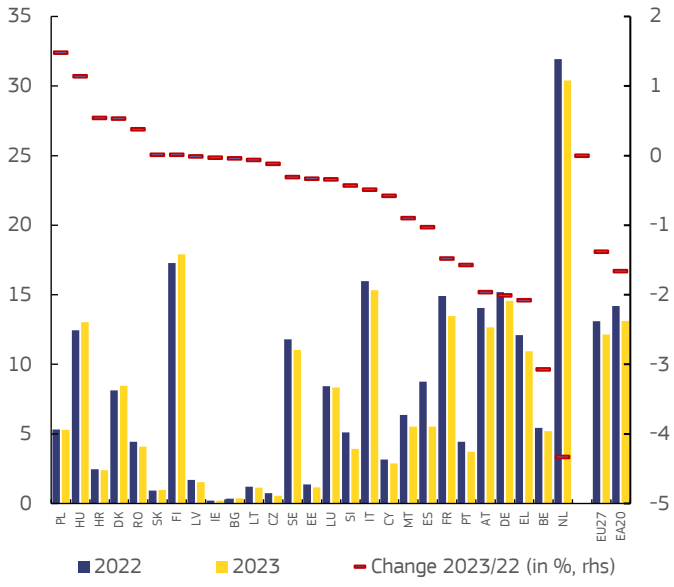
Graph 4.11: **Government guarantees and off-balance PPPs in EU Member States (% of GDP, 2022)**



Source: Eurostat.

Contingent liabilities linked to off-balance public private partnerships (PPPs) are a modest source of risk for most Member States. The use of public private partnerships (PPPs) for economic and social infrastructure projects, such as for the development of transport infrastructures and hospitals, can generate additional liabilities for the government. Depending on the distribution of risks and rewards between private and public partner, assets and liabilities related to PPPs can be recorded either on government's balance sheet or on the private partner's balance sheet. The first ones (on-balance PPPs) affect government's debt directly. However, also for those PPPs where the private partner is exposed to the majority of risks and rewards, and which are therefore recorded off government's balance sheet, government may be contractually obliged to step in under certain circumstances (for example, failure of the private partner). Overall, off-balance PPPs are only affecting few Member States (see Graph 4.11). In 2022, more sizeable contingent liabilities related to off-balance PPPs were recorded in Portugal (about 2% of GDP) and Slovakia (about 1% of GDP).

Graph 4.12: **Stock of government guarantees (2023 level in % of GDP and change 2023/22)**



(1) The 2022/21 change is shown on the RHS.

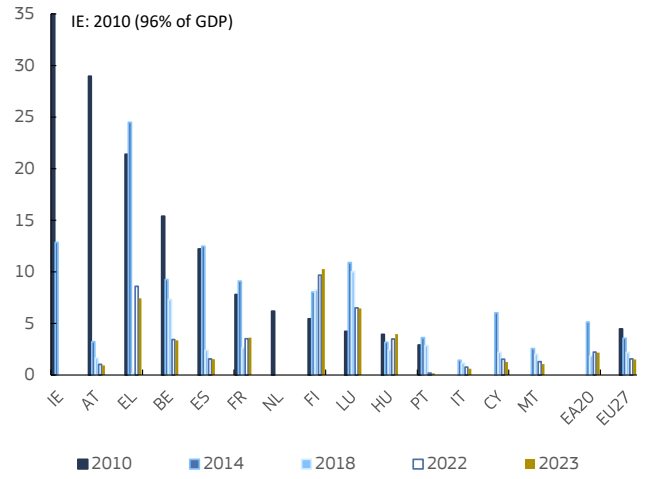
Source: Eurostat.

In 2023, there was a decrease of the level of guarantees in most of the EU Member States. After the surge of guarantees in response to the COVID-19 crisis ([57]), in 2022, the level of government guarantees was further influenced by the ensuing energy crisis, following the Russian aggression against Ukraine. In 2023, a quasi-general decline in stock of guarantees has taken place. The highest rates of government guarantees were recorded in the Netherlands (30.4% of GDP), Finland (17.9%), Italy (15.3%), Germany (14.6%) and France (13.5%). On the lower end of the scale, rates of less than 1% of GDP were recorded in Ireland, Bulgaria, Czechia and Slovakia (Graph 4.12).

([57]) The surge in government guarantees in response to the COVID-19 crisis was contained in most cases, and overall lower than during the Global Financial Crisis. These guarantees schemes have expired in the course on 2020-21, and some of the guarantees might still be called over the near future and eventually be reflected in public debt and deficits.

Contingent liabilities related to government interventions to support financial institutions

Graph 4.13: **Contingent liabilities linked to the financial sector in the EU (in % of GDP, 2010-2023)**



Source: Eurostat.

Contingent liabilities related to government interventions to support financial institutions pursue its declining trend since 2013. Following an increase during and immediately after the Global Financial Crisis (GFC), the financial exposure of the government due to the financial stability schemes has been declining since 2013 in most Member States and in some countries already since 2012 (see Graph 4.13). In 2023, the contingent liabilities linked to financial stability schemes were close to zero in most Member States. Exceptions are Finland (10% of GDP), Greece (9%), Luxembourg (6%), Hungary and France (4% each), Belgium (3%), Cyprus, Malta and Italy (about 1% respectively). The lower level of outstanding contingent liabilities in recent years reflect the fact that improved financial stability did not require a renewal of the expiring guarantees issued as part of support packages for financial institutions and that the creation of the Banking Union and its bank resolution framework provides a credible alternative to direct public support.

4.2.3. Risks from *implicit* contingent liabilities in the EU

Besides the existence of potential explicit contingent liabilities, governments can also have implicit contingent liabilities. Likewise *explicit* contingent liabilities, ESA2010 does not record them in government balance sheets. According to the IMF's definition, implicit contingent liabilities do not arise from a legal or contractual source but are recognised after a condition or event is realised. For instance, ensuring systemic solvency of the national banking sector might be viewed as an implicit contingent liability for a government. Hence, this kind of contingent liabilities, by their nature, are usually more difficult to measure than explicit contingent liabilities. However, given that they can have a significant impact on public finances, the consideration of implicit contingent liabilities contributes to more holistic approach in the assessment of fiscal sustainability risks.

Implicit contingent liabilities related to the banking sector

Based on selected leading indicators of banking – fiscal crises, risks to the government's financial position appear relatively contained in an EU reinforced regulatory context. Adding to the analysis of contingent liabilities stemming from the financial sector (see Section 4.2.2 above), Table 4.2 presents values of selected variables that indirectly capture potential building risks in the banking sector and that have proven in the past to be good leading indicators of banking – fiscal crises. Adverse developments in terms of bank loan-to-deposit ratios and non-performing loans can represent risks to the government's financial position and thus give rise to implicit contingent liabilities. However, the overhaul of the financial regulatory framework for banking, together with historical institutional reforms such as the set-up of the Banking Union, has helped mitigate such risks significantly. ([58])([59])

([58]) It should be noted that besides bank-to-deposit ratio and non-performing loans, other factors like, for instance, bad internal governance and risk management, and poor supervision can lead to runs on banks like recent crises in USA and Switzerland show.

([59]) See for example Carmassi, J., R. Corrias and L. Parisi (2019), "Is taxpayers' money better protected now? An assessment of banking regulatory reforms ten years after the global financial crisis", ECB Macroprudential Bulletin Issue 7, March 2019.

Table 4.2: **Potential triggers for contingent liabilities from the banking sector: Selected indicators, 2023**

	Bank loan-to-deposit ratio		NPL ratio	
	(%)	(annual change in pps.)	(% gross loans)	(annual change in pps.)
BE	89.1	5.7	1.4	0.1
BG	70.3	0.8	6.1	-1.4
CZ	91.4	-2.7	1.4	-0.2
DK	208.0	-1.6	1.3	-0.1
DE	88.3	4.4	1.3	0.2
EE	87.4	-3.2	1.7	0.7
IE	75.4	0.8	2.1	-0.2
EL	63.7	3.0	5.0	-1.2
ES	88.1	1.1	2.8	0.0
FR	100.9	4.1	2.0	0.1
HR	72.4	3.3	5.1	-1.8
IT	80.1	4.3	2.6	-0.2
CY	44.4	0.3	3.3	-0.8
LV	78.3	5.9	6.2	-0.7
LT	63.1	3.9	1.2	-1.6
LU	58.0	1.7	2.1	0.7
HU	68.5	-1.9	3.0	-0.9
MT	58.6	-0.1	2.2	-0.1
NL	108.8	4.5	1.4	0.0
AT	95.9	3.3	2.1	0.4
PL	70.8	-5.4	5.5	-0.2
PT	72.6	0.8	2.9	-0.5
RO	69.2	-1.8	3.0	-0.4
SI	68.8	-1.5	1.7	-0.3
SK	92.8	1.3	3.3	-0.1
FI	125.7	5.5	1.2	0.2
SE	162.8	0.5	1.0	0.2

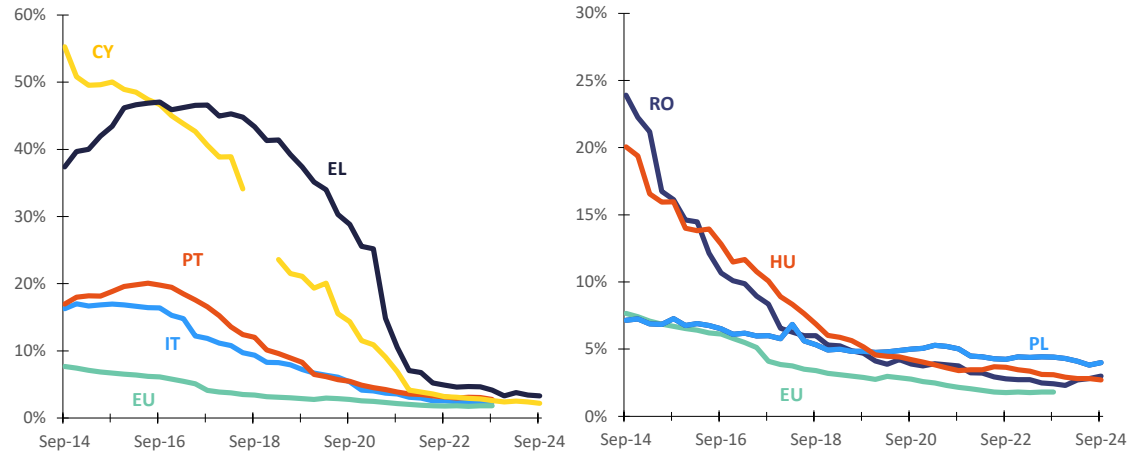
Source: ECB.

Key financial indicators point to contained vulnerabilities from the banking sector. As concerns liquidity risks, the bank loan-to-deposit ratios show that for a majority of Member States banks' total loans in relation to deposit have increased compared to last year, while only a handful of countries record a reduction of the ratio (Table 4.2). However, the related risks are mitigated by the overall EU context of resilience of EU banking sector amid sufficient capital and liquidity buffers and increased banking profitability ([60]). The highest year-on year increases are shown for Latvia (5.9 pps), Belgium (5.7) and Finland (5.5). As for non-performing loans ratios, the decline that has taken place over the past years continues in most Member States. The more sizeable reductions are recorded in Croatia (-1.8 pps.), Lithuania (-1.6) and Greece (1.2), as presented in Table 4.2. In 2024, the highest NPL ratios are recorded for Poland (4%), Greece (3.3%), Romania (3%), Portugal and Italy (about 2.4% each).

The analysis shows that the ability of the euro area banking system to absorb losses while minimising costs to taxpayers – measured via a Loss-Absorbing Score – has increased between 3.5 and 12-fold over the last ten years, depending on the assumptions on the bail-in tool. The increase in the loss-absorbing score is the result of (i) a significant reduction in the average probability of default of banks from 3.5% in 2007 to 1.1% in 2017, less than a third of its pre-crisis value (ii) an increase in the average banks' loss-absorbing capacity due to higher regulatory capital by 1 percentage point relative to total assets, from 7.2% to 8.2%, driven by enhanced capital requirements; (iii) an additional increase due to the new resolution framework that introduced the bail-in as a resolution tool by [4 – 42] percentage points of total assets, on average; and (iv) the potential intervention of the Single Resolution Fund, which further enhances the loss-absorbing capacity of the system by 5% of total assets.

([60]) See also the 2024 Alert Mechanism Report and 2025 Alert Mechanism Report.

Graph 4.14: **Non-performing loans ratios (% of total loans), EU average and selected Member States**



Source: EBA

Stronger regulation and supervision following the 2008 global financial crisis (GFC) and the 2012 Euro area sovereign debt crisis have greatly reduced the probability of government bail-outs. In the years, several new mechanisms and legal provisions have been put in place to increase the resilience of the financial sector, and notably the banking sector, to manage crises and limit their impacts on public finances. ([61]) As a rule, the EU bank resolution framework greatly limits the possibilities of public support for banks that are failing or likely to fail and that enter resolution due to its requirements for using, primarily, the bank's required internal resources and if needed, private, industry-funded safety nets in complement to State aid conditions, such as burden-sharing and establishing long-term viability of aided banks, as laid down in the 2013 Commission Banking Communication ([62]) and other related Crisis Communications. However, banks being wound up under national insolvency law can still receive State aid, with taxpayer money being used to ensure an orderly market exit. Due to large national differences in national insolvency regimes for banks, there could be some cross-country divergences in terms of specific public intervention conditions. Moreover, a Member State can decide to recapitalise a bank in line with market conditions (i.e., if a private investor, the so-called market economy operator, would carry out the transaction on the same terms). While such cases fall outside the scope of the EU State aid rules, it is generally still public money that is used for these purposes.

Overall and against this background, it appears that some (in principle residual) costs for EU public finances stemming from the EU banking sector may still arise. The possibility that some residual costs for governments can still occur in case of systemic crisis for instance, calls for continued monitoring of the potential related fiscal risks arising from *implicit* contingent liabilities from

([61]) See for instance (i) the six Commission 'Crisis Communications', i.e. Communication on the application of State aid rules to measures taken in relation to financial institutions in the context of the current global financial crisis ('2008 Banking Communication') (OJ C 270, 25.10.2008, p. 8); Communication on the recapitalisation of financial institutions in the current financial crisis: limitation of aid to the minimum necessary and safeguards against undue distortions of competition ('Recapitalisation Communication') (OJ C 10, 15.1.2009, p. 2); Communication from the Commission on the treatment of impaired assets in the Community financial sector ('Impaired Assets Communication') (OJ C 72, 26.3.2009, p. 1); Communication on the return to viability and the assessment of restructuring measures in the financial sector in the current crisis under the State aid rules ('Restructuring Communication') (OJ C 195, 19.8.2009, p. 9); Communication from the Commission on the application, from 1 January 2011, of State aid rules to support measures in favour of financial institutions in the context of the financial crisis ('2010 Prolongation Communication') (OJ C 329, 7.12.2010, p. 7) and Communication from the Commission on the application, from 1 January 2012, of State aid rules to support measures in favour of financial institutions in the context of the financial crisis ('2011 Prolongation Communication') (OJ C 356, 6.12.2011, p. 7). and, (ii) the Bank Recovery and Resolution directive (BRRD).

([62]) 2013 Commission Banking Communication, OJ C 216, 30.7.2013, p. 1–15.

the banking sector. ([63]) Such an assessment of contingent liabilities requires an understanding of the probability that systemic crisis episodes occur, as well as the size of such liabilities under various possible scenarios. To this end, the purpose of the present risk analysis, which differs from standard stress test exercises performed by EU bank supervisors([64]), is to estimate, in the context of a probabilistic analysis, the impact of potential banking losses on *implicit* contingent liabilities to public finances in case of the realisation of a hypothetical systemic banking crisis originating from a financial shock similar to that of 2008, in terms of stress on the value of banking assets. Thus, **the aim of this analysis is not of normative nature (to provide any kind of recommendations on how to tackle a major financial crisis). Instead, the objective is to explore what might happen if such extraordinary circumstances occur and under a set of specific and stylised assumptions**.

To assess to which extent vulnerabilities from the financial side of the economy can potentially affect public finances in the EU, banking crisis stress test scenarios of public finances are performed. *Excess* bank losses, i.e. losses in excess of the available total capital of a bank and considered in this exercises as estimates of the *implicit* contingent liabilities' risk for EU public finances, are being simulated in stress scenarios, using the Systemic Model of Banking Originated Losses (SYMBOL).([65]) SYMBOL is a simulation model of bank crises that was developed, during the aftermath of the GFC, by the European Commission's Joint Research Centre (JRC) and Directorate General Financial Stability, Financial Services and Capital Markets Union (DG FISMA). ([66]) By exploiting publicly-available information from EU banks' balance sheets and accounting for existing internal loss-absorbing capacity, resolution tools and safety nets (i.e., total capital, bail-in, resolution funds), SYMBOL allows to simulate a systemic banking crisis event and the size of residual banking losses and recapitalisation needs that may need to be absorbed by the public sector as a last resort. The model generates simulated losses in a financial crisis scenario for each bank in the sample ([67]). A bank is assumed to be resolved/recapitalised or liquidated when its total available capital is falling below the minimum capital requirements (for a given scenario). In the case of resolution, the model considers whether resolution tools (bail-in) and the use of resolution funds would allow to cover losses and cover recapitalisation needs to reach the minimum capital requirement under alternative recapitalisation target scenarios. If not, the *excess* losses are assumed to impact the public finances and can be considered as contingent liabilities.

Overall, the approach used can be described as follows: ([68])

- First, the scenarios are calibrated to reproduce the severity of the 2008-2012 crisis in terms of stress on the value of banking assets, i.e., a severe and systemic financial crisis. ([69])

([63]) See, for instance (i) ECB (2020), 'Liquidity in resolution: estimating possible liquidity gaps for specific banks in resolution and in a systemic crisis. Occasional Paper Series No 250 / November 2020, and (ii) BIS (2020) Bank failure management in the European banking union: What's wrong and how to fix it. Occasional Paper No 15, July 2020.

([64]) See Annex A6 for further details.

([65]) The analysis based on SYMBOL is performed by the European Commission – DG JRC (Ispra).

([66]) The SYMBOL framework is not intended as a stress test of individual European banks as it is done in the context of the EBA/ECB stress testing framework, but rather as an assessment of the potential for the system as a whole to generate *implicit* contingent losses in extreme stress or tail risk scenarios. As such, it is not appropriate to make any comparisons between the SYMBOL and EBA/ECB stress testing frameworks, since both the aims and underlying modelling assumptions (including the assumed stress levels) are different. Furthermore, the SYMBOL has been used by (i) the EBA for the call for advice regarding funding in resolution and insolvency part of the review of the crisis management and deposit insurance framework (available here), and (ii) the European Commission in the impact assessment accompanying the proposal for the reform of bank crisis management and deposit insurance framework (available here). See Annex A6 further details.

([67]) See Annex A6 for further details.

([68]) The approach follows Benczur P., Berti K., Cariboni J., Di Girolamo F. E., Langedijk S., Pagano A., and Petracco Giudici M. (2015). Banking Stress Scenarios for Public Debt Projections. European Economy Economic Papers 548, and the Commission 2022 Debt Sustainability Monitor.

([69]) The period 2008-2012 covers two sub-periods: the 2008-2009 GFC and the euro area sovereign debt crisis in 2011-2012. The *reference stress* and *severe stress* scenarios impose a similarly sized underlying shock but use different assumptions on other model parameters, i.e., the *severe stress* scenario explicitly models that banks are forced to fire-sell their assets which gives rise to significantly higher bank losses (see more details in Annex A6). Also, to estimate the banking loss and

- Second, the scenarios consider the latest available data on banking balance sheets and account for the quality of banking assets based on current situation ([70]). Over the longer-term, non-performing loans (NPLs) are assumed to be reduced to negligible levels ([71]).
- Third, the scenarios take into account, in addition to banks' total capital, the existing tools and safety nets for bank recovery and resolution (bail-in and resolution funds – RF) to partly cover banks' losses and recapitalisation needs ([72]) ([73]).

Fourth, banks' *excess* losses (i.e., losses in excess of the available total capital of a bank) and recapitalisation needs (i.e., funds necessary to restore the bank's minimum level of total capital) that cannot be covered by legal safety net are assumed to fall on national public finances and are considered as *implicit* contingent liabilities. The model assumes that the failure of any individual bank is determined by the size of the losses, compared to the actual regulatory capital available to absorb them. A bank is resolved/recapitalised or liquidated as a result of its actual total capital falling below its minimum capital requirements for the scenario considered ([74]).

- Fifth, the bail-in and safety nets are assumed to prevent the onset of any further contagion effects. However, a "severe stress" scenario with a partial failure of this assumption is also presented.

Finally, less significant institutions are assumed to be liquidated in case of residual losses and recapitalisation needs, while significant institutions might be recapitalised or liquidated ([75]).

We report results for alternative scenarios, considering two different crisis situations and three different final (required) level of capitalisation. Specifically,

The two crisis situations are a *reference stress* scenario and a *severe stress* scenario:

- *Reference stress scenario*: In this scenario, bank losses are simulated for a hypothetical stress scenario, without the modelling for 'fire sales' mechanism (as described below). The losses due to NPLs (as per balance sheet) are calculated by using a constant recovery rate (RR).

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recapitalisation needs that each Member States would be expected to face in case of a potential major financial crisis, the focus is on the extreme realisations of the common factor (including recapitalisation needs) obtained from SYMBOL. For instance, bank losses and recapitalisation needs triggered by the global financial crisis are proxied by state aid data, in particular the total recapitalisation and asset relief provided to banks over 2008-12 (around EUR 615 billion), see European Commission (2014), State Aid Scoreboard 2014, and Benczur et al (2015) op.cit.

([70]) The 'current situation' refers to the 'short-term' results - occurring in one-year time - assuming constant bank balance sheets (end of 2023) in line with the current situation where there is a full implementation of the EU financial Regulation.

([71]) See Annex A6 for more details.

([72]) The SYMBOL results presented in this section do not take into account in the safety net cascade the Common Backstop to the Single Resolution Fund (SRF) recently added to the existing arsenal.

([73]) It should be borne in mind that the focus of the SYMBOL model being the banking sector, it assumes that the banks' losses and recapitalisation needs (partly) disappear once the safety nets are applied. In practice, these losses and recapitalisation needs are transferred to other sectors (e.g., domestic insurance, pension funds or households, or foreign sector) that hold bail-inable bonds and related contingent liabilities. When including these effects, final results could be higher.

([74]) Resolution in this exercise refers to bail-in with recapitalisation, i.e., banks are resolved by restructuring and continuing on the market. In practice, other instruments can be used such as sale of business/bridge bank tool where the bank may exit the market and there is no need to recapitalise it so that it continues to comply with minimum capital requirements. See the SRB MREL dashboard for more information (https://www.srb.europa.eu/en/content/mrel-dashboard-0).

([75]) This assumption is consistent with the fact that entities under direct ECB supervision do not go automatically into resolution if they fail, as the SRB decides on a case-by-case basis whether to put a failing bank in resolution or to liquidate it under normal insolvency proceedings. To model the decision on public interest, we divide the banks into three groups: GSIBs, significant institutions s (excluding GSIBs), and less significant institutions. We associate each group with a probability of going into resolution if failing or likely to fail. For GSIBs and their subsidiaries, this probability is set to 100% (i.e., GSIBs will always be resolved); for significant entities, we consider an 80% resolution probability, and the remaining institutions will always go into insolvency when failing (i.e., with a resolution probability equal to 0%). Furthermore, it should be noted that some *less significant institutions* in the Banking Union are currently earmarked for resolution and not for liquidation, thus this assumption is not fully aligned with the actual choice of liquidating versus resolving a bank.

- *Severe stress scenario*: Building on the reference stress scenario, this scenario is introduced as a robustness check to test the impact of an extreme hypothetical situation with a partial failure of the assumption that the safety nets can completely prevent contagion. To this end, a 'fire sales' mechanism is formally included by increasing the asset correlation among banks, and which assumes that, during a systemic financial crisis, banks that are exposed to the same shock would have a common negative impact on the value of the assets and would be forced to liquidate assets to keep their liquidity position. This eventually affects the banks' asset value, and severity of the crisis, compared to the *reference stress* scenario.

The three alternative levels of minimum required capitalisation at the end of each simulation are set at: 4.5% (plus GSIBs/OSIIs buffers); 8% (plus GSIBs/OSIIs buffers); and 10.5% (without GSIBs/OSIIs buffers) of the bank's risk weighted assets (RWA):

4.5% level is intended as a scenario where a low level of recapitalisation protecting banks from immediate insolvency is assumed to be sufficient to directly stem the systemic consequences of a crisis or to allow the intervention of other sources of capital not impacting public finances ([76]).

8% plus GSII/OSII buffers level is selected to represent a situation where minimum mandatory capital requirements excluding capital conservation buffers are assumed to be necessary in a financial crisis situation ([77]).

10.5% is selected to represent a situation where some form of buffer on top of minimum regulatory capital is assumed to be necessary to stem the systemic consequences of a crisis or allow the intervention of additional private financing ([78]).

Simulated residual banks' losses and recapitalisation needs are overall limited thanks to loss absorption capacity and the safety nets. Tables A6.2 and A6.3 (in Annex A6) show, based on the current situation, the simulated bank losses in excess (i.e., after duly applying all the different layers of the legal safety nets), and which would be considered as *implicit* contingent liabilities for governments. This positive development is mostly due to the fundamentally stronger bank capital and liquidity positions in the EU. Banks also rely on strengthened risk management processes brought about by the EU financial reforms agenda.

([76]) This is the minimum requirement for Common Equity Tier 1 capital. This level was originally selected as it is the minimum level of capitalisation at which the European Stability Mechanism can deploy the Direct Bank Recapitalisation tool. The Direct Bank Recapitalisation tool is going to be superseded by the Single Resolution Fund Backstop once the ESM Treaty enters into force. Several conditions (regarding bank restructuring, financial reforms, co-payment, and state aid rules) apply to the Direct Bank Recapitalisation tool. See ESM explainers for additional information https://www.esm.europa.eu/about-us/explainers#what-is-the-common-backstop-.

([77]) This is the minimum requirement for Total Capital, plus the main systemic risk buffers. This level was selected as a proxy for the minimum level of capital which should be maintained at all times to avoid triggering supervisory action. This level should also include additional Pillar 2 requirements set by regulators in the Supervisory Review and Evaluation Process. For additional details see the explainer by European Central Bank https://www.bankingsupervision.europa.eu/about/banking-supervision-explained/html/hold_capital.en.html

([78]) The required level of capitalisation of 10.5% of the bank's Risk Weighted Asset (RWA) represents the minimum level of capital and capital conservation buffer set by the Capital Requirement directive (CRD) IV. It should, nevertheless, be noted that in practice the capital buffer requirements should not be considered as hard minimum requirements as they are meant to be used in bad economic times.

Table 4.3: **Implicit contingent liabilities from banks' excess losses and recapitalisation needs (% of GDP, 2023)**

	Reference stress				Severe stress			
	Excess losses	Recap needs 4.5%	Recap needs 8%	Recap needs 10.5%	Excess losses	Recap needs 4.5%	Recap needs 8%	Recap needs 10.5%
	To deficit and debt	Directly to debt	Directly to debt	Directly to debt	To deficit and debt	Directly to debt	Directly to debt	Directly to debt
BE	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.2%	0.3%
BG	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.2%
CZ	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
DK	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%
DE	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%
EE	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.2%
IE	0.1%	0.1%	0.2%	0.3%	0.1%	0.2%	0.4%	0.9%
EL	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.3%	0.5%
ES	0.0%	0.1%	0.2%	0.3%	0.1%	0.2%	0.6%	0.9%
FR	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	0.3%
HR	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
IT	0.0%	0.0%	0.1%	0.1%	0.1%	0.1%	0.2%	0.4%
CY	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.2%	0.2%
LV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
LT	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
LU	0.1%	0.2%	1.0%	2.6%	0.3%	0.7%	3.1%	6.7%
HU	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
MT	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
NL	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.3%	0.3%
AT	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.2%
PL	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%
PT	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%	0.1%	0.2%
RO	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
SI	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.2%
SK	0.1%	0.1%	0.4%	0.6%	0.1%	0.3%	0.8%	0.9%
FI	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%
SE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%

(1) When the sample, as illustrated in Annex A6 (Table A6.1), either includes a small number of banks or covers a low share of total assets, results should be interpreted with caution, since a minor change to any bank's data or the addition of a new bank could have significant effects on results.

Source: Commission services.

More in details, the results point to limited *implicit* contingent liabilities risks coming from the banking sector for almost all Members States, but Luxembourg, mainly explained by the structural features of its banking sector (in relation to national GDP). Under the *reference stress* scenario, the expected budgetary impact of a major crisis seems contained for most Member States with losses and recapitalisation needs generally not exceeding 1% of the GDP (see Table 4.3). ([79]) The highest figures are recorded for Luxembourg (2.7% of GDP) with a recapitalisation assumption of 10.5%. Under the *severe stress* scenario, a more significant impact is being simulated, with combined potential losses and recapitalisation needs reaching up to 1% of GDP in most Member States. In a few countries, they would exceed 1% of GDP, and up to 7% of GDP in Luxembourg. There are several reasons why Luxembourg exhibits a high magnitude of losses. First of all, the size of the banking sector (in terms of assets) in Luxembourg is nearly EUR 1 trillion as compared to its GDP of approximately EUR 80 billion. In addition, about 25% of its GDP comes from the financial sector. As a result, for Luxembourg, any substantial change to even a mid-sized bank in terms of its capital management is expected to imply non-negligible effects in the SYMBOL results. In addition, it is also

([79]) We consider the 1% of GDP as a threshold to provide a comparison with the historical cost of banking crises, including the GFC.

worth noting that most of the banks in Luxembourg are part of large European and international banking groups ([80]).

Table 4.4: **Model-based probabilities of public finances being hit by more than 3% of GDP, in the event of a severe crisis (i.e., involving excess losses and recapitalisation needs in at least three different EU Member States), 2023**

	Recapitalization at 4.5%		Recapitalization at 8%		Recapitalization at 10.5%	
	Reference stress	Severe stress	Reference stress	Severe stress	Reference stress	Severe stress
BE	0.0%	0.1%	0.0%	0.2%	0.1%	0.3%
BG	0.0%	0.1%	0.0%	0.1%	0.0%	0.1%
CZ	0.0%	0.1%	0.0%	0.1%	0.0%	0.1%
DK	0.1%	0.1%	0.1%	0.3%	0.1%	0.3%
DE	0.0%	0.1%	0.0%	0.1%	0.0%	0.1%
EE	0.0%	0.0%	0.0%	0.1%	0.0%	0.2%
IE	0.1%	0.3%	0.2%	0.6%	0.3%	1.0%
EL	0.0%	0.2%	0.0%	0.3%	0.1%	0.5%
ES	0.0%	0.3%	0.1%	0.6%	0.2%	1.0%
FR	0.0%	0.1%	0.0%	0.2%	0.0%	0.3%
HR	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
IT	0.0%	0.1%	0.0%	0.2%	0.0%	0.4%
CY	0.0%	0.2%	0.0%	0.3%	0.0%	0.3%
LV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
LT	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%
LU	0.3%	0.8%	1.6%	5.0%	6.2%	17.0%
HU	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%
MT	0.0%	0.1%	0.1%	0.1%	0.1%	0.2%
NL	0.1%	0.2%	0.1%	0.4%	0.1%	0.4%
AT	0.0%	0.1%	0.0%	0.2%	0.0%	0.2%
PL	0.0%	0.1%	0.0%	0.1%	0.0%	0.2%
PT	0.0%	0.1%	0.0%	0.2%	0.0%	0.3%
RO	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SI	0.0%	0.0%	0.0%	0.1%	0.0%	0.1%
SK	0.0%	0.2%	0.0%	0.3%	0.0%	0.4%
FI	0.1%	0.2%	0.1%	0.3%	0.1%	0.4%
SE	0.0%	0.1%	0.0%	0.1%	0.0%	0.1%

(1) The losses considered are the excess losses after the safety net (i.e., including bail-in and the resolution funds). (2) Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%). (3) The map is calibrated conditional on having (a) the banking sector in distress, and (b) at least three Member States with government's contingent liabilities.

Source: Commission services.

In case of a systemic banking crisis, only for a limited set of Member States (Luxembourg, Ireland and to a lesser extent Spain and Greece), the probability for *implicit* contingent liabilities to have an impact on public finances greater than 3% of GDP is significant. Drawing from the previous results, SYMBOL allows estimating at country level the *probability* that public finances are significantly (i.e. more than 3% of GDP) hit by losses and recapitalisation needs in case of a major banking crisis. ([81]) Table 4.4 shows, based on the current situation, the probability to have a significant impact on public finances (of banks *excess* losses and recapitalisation needs). Although increasing with the recapitalisation assumption, the *reference stress* scenario estimates point, overall, at a very low probability for all Member States except Luxembourg, in the event of a major banking crisis (once accounting for the loss absorbing capacity and the legal safety net cascade). Under

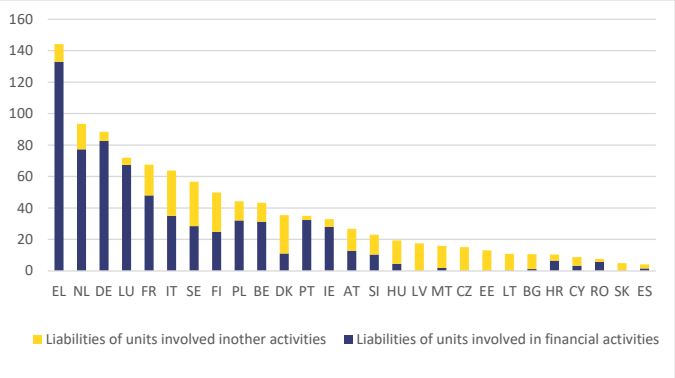
([80]) Specifically, one particular bank based in Luxembourg exhibited an increase in its perceived riskiness due to a capital optimisation of its group as well as due to an increase in its total assets. However, its default risks are highly mitigated by the bank strong ties to its group which would likely inject it with more capital if needed.

([81]) It should be noted that these are not "real world" probabilities but theoretical ones, but model-based measures that should not be interpreted in absolute terms. By reporting such *theoretical* probability on how public finances might significantly (i.e., by at least 3% of GDP) affected in a systemic banking crisis, SYMBOL provides additional contingent liability risk measure i.e., the probability distribution of the amount of public funds needed to cover losses after exhausting the protection provided by the financial safety nets. This follows the approach of Benczur, P., Cannas, G., Cariboni, J., Di Girolamo, F., Maccaferri, S. and Petracco Giudici, M. (2017). Evaluating the effectiveness of the new EU bank regulatory framework: a farewell to bail-out, Journal of financial stability, 33, 2017, pp. 207-223, ISSN 1572-3089.

the more extreme stress scenario, this probability becomes more significant in few additional Member States, in particular Ireland, Greece, and Spain.

Implicit contingent liabilities from other sectors: Non-financial public entities outside general government

Graph 4.15: **Liabilities of public corporations outside general government (% of GDP), 2022**

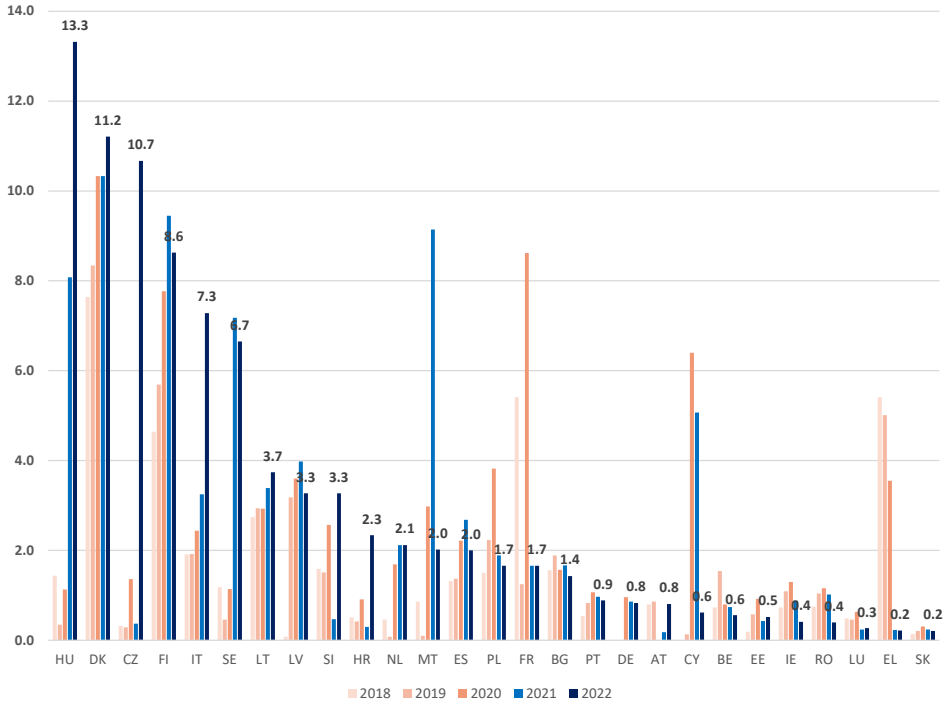


(1) France and Netherlands: data refers to 2021.
Source: Eurostat.

Overall, the level of liabilities of public corporations classified outside general government varies widely among the EU Member States. Liabilities of general government-controlled entities classified outside general government (public corporations) are defined as the stock of liabilities at the end of the year, usually based on the business accounts of corporations for which government has the ability to determine the general policy or programme (as defined by ESA 2010, Annex A, paragraph 20.18). In 2022, liabilities of public corporations were highest in Greece (144.1 % of GDP), followed by Netherlands (93.5 %), Germany (88.4 %), Luxembourg (72.0 %) and France (67.5 %). The inclusion of liabilities of public banks controlled by general government explains the high level of liabilities in a number of Member States. Most of these liabilities consist of deposits held by households or by other private or public entities (see Graph 4.15).

In general, financial institutions have much higher amounts of debt liabilities compared with the non-financial corporations. By contrast, small amounts of public corporation liabilities were recorded in Spain (4.2 %), Slovakia (4.9 %); Romania (7.6 %), Cyprus (8.8 %) and Croatia (10.5 %), with a clear predominance of liabilities of non-financial corporations (see Graph 4.15). Over time, the importance of liabilities of non-financial corporations has marked a significant increase in a number of Member States, which in 2022 recorded the highest figures like Hungary (13.3% of GDP), Denmark (11.2%), Czechia (10.7%), Finland (8.6%), Italy (7.3%) and Sweden (6.7%). In comparison, the share of liabilities of non-financial corporations has receded in Member States like France, Cyprus and Greece which show significant decrease since 2018 (see Graph 4.16).

Graph 4.16: **Liabilities of government controlled non-financial entities classified outside general government (% of GDP), 2022**

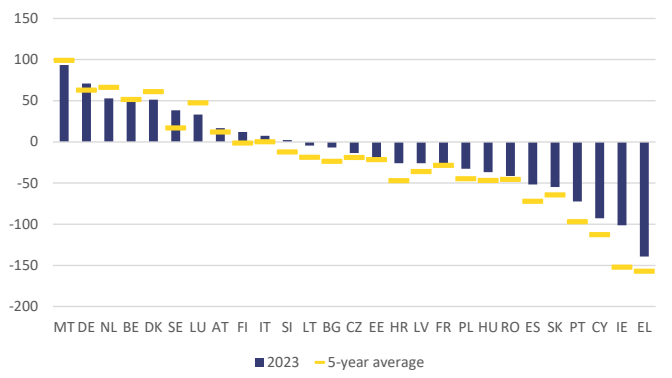


Source: Eurostat.

4.2.4. Additional liabilities or mitigating factors from other sectors:

Net investment position

Graph 4.17: **Net investment position (% of GDP), 2023**



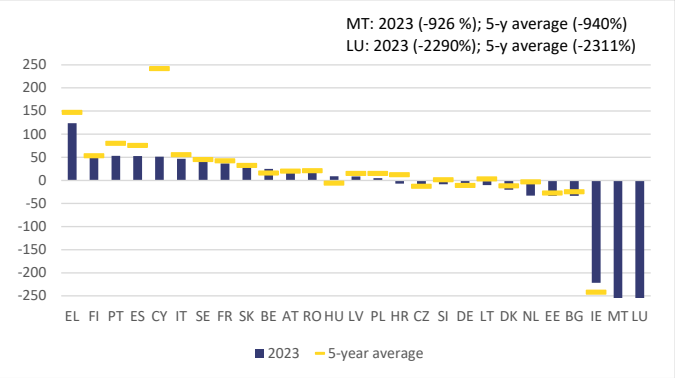
Source: Eurostat.

In 2023, the net international investment positions (NIIP) have continued to increase in almost all Member States. As defined by Eurostat, the international investment position (IIP) is an economy's financial statement that shows, at a point in time, the value of financial assets of residents of an economy that are claims on non-residents or are gold bullion held as reserve assets, and the liabilities of residents of an economy to non-residents. The difference between the assets and liabilities is the net position in the IIP (NIIP) and represents either a net claim (positive) on or a net liability (negative) to the rest of the world. Additionally, the NIIP at the end of a specific period reflects not only financial flows but also other changes (changes in volume, exchange rate changes, and other price changes) during the period, all of which affect the current value of a country's total claims on non-residents and total liabilities to non-residents. Hence, economies with higher positions in financial liabilities abroad than financial assets have a negative net IIP and are considered as net borrowers or debtors. In 2023, the top net borrowing economies in the EU, % of GDP, were Greece (-139.3% of GDP), Ireland (-101.4%), Cyprus (-92.7%)

and Portugal (-72.3%). In the opposite, the strongest positions are recorded by Malta (93.4%), Germany (70.8%) and Netherlands (52.9%). Over time, for most Member States, the NIIPs have improved (see Graph 4.17). The increases can mainly be attributed to higher external balances in most net-debtor countries and also high nominal GDP growth in 2023.

Net external debt

Graph 4.18: **Net external debt (% of GDP); 2023**

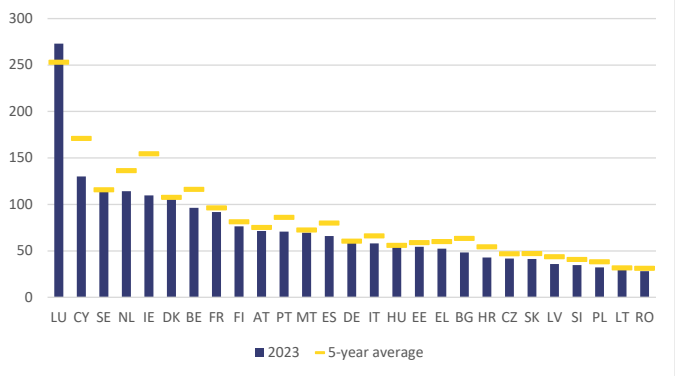


Source: Eurostat.

In 2023, the net external debt has pursued its decline in almost all Member States. Net external debt is defined as gross external debt (i.e. total outstanding amount of the actual current - and not contingent- liabilities that an economy owes to foreign creditors) net of external assets in debt instruments. The main differences between NIIP and net external debt are (i) the absence of all equity and investment fund shares components, financial derivatives and gold bullion in the latter, and the fact that (ii) net external debt is calculated as liabilities minus assets. It has the opposite sign from net IIP (which is calculated as assets minus liabilities). In 2023, Member States recording the highest net external debt as percentage of GDP are Greece (123.8 %), Finland (56.8 %), Portugal (53 %), Spain (52.4%) and Cyprus (51.3 %). On the other side, Luxembourg and Malta recorded by far the largest negative net external debt (assets higher than liabilities), reflecting their specific position as major financial hubs. Over time for most Member States, net external debt has been reduced in an EU context where external balances are increasing and under way to recover pre-pandemic levels, buoyant credit growth had been corrected, and banking systems being strengthened (see Graph 4.18).

Private sector debt

Graph 4.19: **Non-financial corporation debt (% of GDP), 2023**



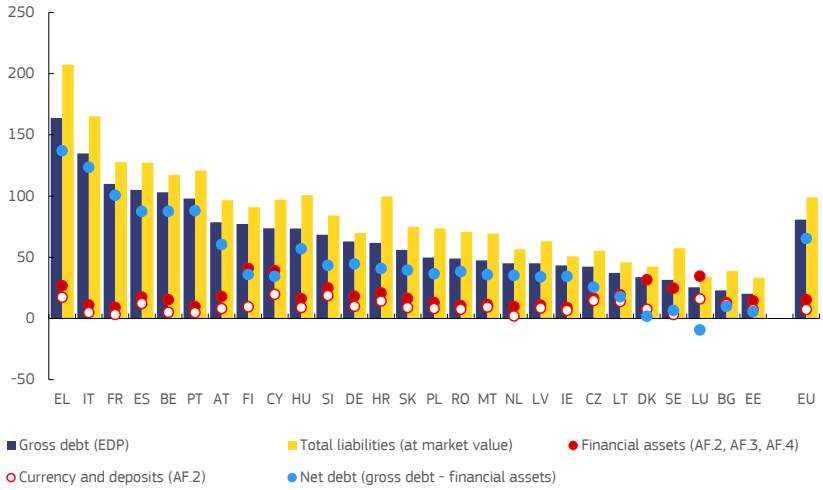
Source: Eurostat.

In 2023, non-financial corporate (NFC) debt-to-GDP ratios continued to decline in almost all EU Member States. The private sector debt is the stock of liabilities held by the sectors non-financial corporations, households and non-profit institutions serving households (S.11_S.14_S.15). The instruments that are taken into account to compile private sector debt are debt securities (F.3) and loans (F.4). In 2023, deleveraging continued in nearly all EU Member States primarily reflecting elevated inflation rates and, in many countries, decreases in corporate net credit flows despite a slowdown in real GDP growth. As shown in Graph 4.19), the ratio was, by far, the highest in Luxembourg (273.1% of GDP), followed by Cyprus (130.2%), Sweden (117.2%), Netherlands (114.23%), Ireland (10.9.7%) and Denmark (108.6%).

4.3. GOVERNMENT ASSETS AND NET DEBT

In 2023, the net debt ([82]) in the EU was about 15 pps. of GDP lower than gross debt, with sizeable differences across Member States. This essentially reflects the large variation of government financial assets across Member States, which is due to the set-up of pension systems, the past realisation of contingent events, or country-specific fiscal policies such as maintenance of large cash buffers. The difference between gross and net debt was more than 30 pps. of GDP for Finland, Cyprus, Luxembourg and Denmark; and between 20 and 30 pps. in the cases of Greece, Sweden, Slovenia, and Croatia (see Graph 4.20). The difference between gross and net debt is less than 10 pps. of GDP for Ireland and France. For Luxembourg, among the Member States with the lowest gross debt, net debt is even negative (-9.2% of GDP) as the value of financial assets (34.7% of GDP) exceeds the outstanding government debt (25.5% of GDP) at face value. Among the Member States considered, for those with the highest government debt, i.e., Greece, Italy, Portugal, France, Spain and Belgium, the net debt is around 16 pps. of GDP lower than gross debt (though for Greece, the difference is higher at about 27 pps. of GDP due to large cash buffers). Also in net terms, these countries have the highest debt burden among EU Member States. Overall, Member States rankings for indebtedness are similar when comparing gross and net debt.

Graph 4.20: **Gross and net debt, total liabilities and financial assets in 2023 (% of GDP)**

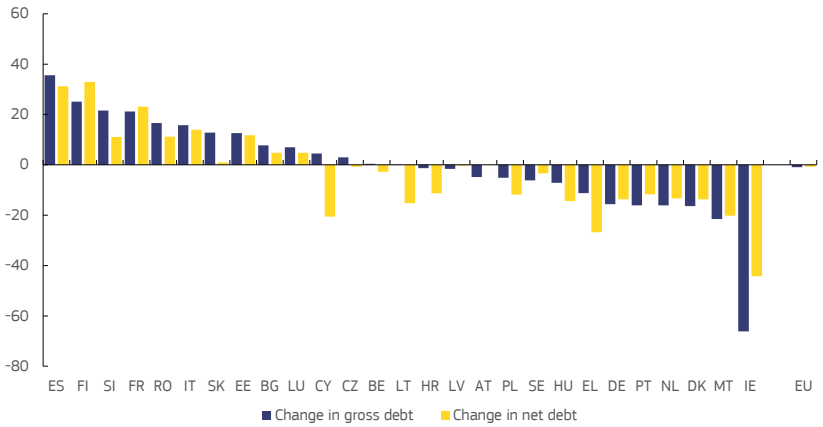


Source: Commission services based on Eurostat data.

Over the past decade, gross and net debt ratios have decreased in a small majority of Member States and increased in others. The largest decrease in both gross and net debt ratios is recorded in Ireland, Germany, Malta, Denmark and Germany. A large (positive) difference between changes in gross and net debt is found for Cyprus (25.1 pps). In this country, gross debt rose by about 4.5 pps. of GDP between 2011 and 2023, while over the same period, net debt decreased by 20.6 pps. of GDP (see Graph 4.21). The large-scale financial sector rescue operations after the global financial crisis led to higher deficits and debt that are now significantly receding. These rescue operations had also involved the accumulation of financial assets, strengthening the net international investment position (also see Graph 4.17 and Graph 4.19 above). This example illustrates how net debt figures help interpreting increases in gross debt that result from financial assistance to the private sector.

([82]) Measured as the difference between, on the one hand, EDP debt and, on the other hand, financial assets in the form of currency and deposits (AF.2), debt securities (AF.3) and loans (AF.4).

Graph 4.21: **Change in gross and net government debt ratio (pps., 2011-2023)**



(1) The following financial assets are considered for the calculations of net debt: currency and deposits (AF.2), debt securities (AF.3) and loans (AF.4).

Source: Commission services based on Eurostat.

Part II

Country fiches

DATA SOURCES

The country fiches provide, for each Member State, an assessment of fiscal sustainability risks. They cover the short, medium and long term, and highlight key aggravating and mitigating risk factors. They also include a set of tables and charts with further details.

The projections are based on the Commission 2024 autumn forecast. They are based on the commonly agreed methodology of the Economic Policy Committee (EPC) for projecting medium-term GDP growth. They also reflect the agreed long-term economic and budgetary projections of the Ageing Report 2024, jointly prepared by the European Commission and the EPC. The cut-off date for the preparation of the report was 31 December 2024 unless specified otherwise. More details on the Commission's multi-dimensional approach, indicators, decision trees and thresholds underpinning the risk classification can be found in the methodological annex.

More specific data sources and information are presented below.

1. Overview of key fiscal sustainability risks

Summary of the results.

2. Short-term fiscal sustainability risks

S0 indicator – Early-detection indicator of fiscal stress based on 25 fiscal and financial-competitiveness variables, including government gross financing needs (see Chapter 1 and Annex A2).

Market perception of sovereign risk

10-year bond yield spreads to the German Bund – ECB, interest rate statistics database, long-term interest rate for convergence purposes, 10 years maturity, denominated in Euro, basis points, monthly average, cut-off date: 31 December 2024.

SovCISS – Composite indicator of sovereign stress – ECB, pure number, monthly, available for 11 euro area countries (AT, BE, DE, ES, FI, FR, EL, IE, IT, NL and PT), , cut-off date: 31 December 2024.

Long-term sovereign credit rating – Local currency long-term sovereign credit rating by S&P, Moody's and Fitch; cut-off date: 31 December 2024.

3. Medium-term fiscal sustainability risks

Debt sustainability analysis (DSA) – A set of *deterministic projections* including a baseline and alternative scenarios and stress tests (see Section 2.1 and Box 2.1) along with *stochastic projections* (see Section 2.2 and Annex A4), which all together lead to the medium-term risk classification (see Annex A1).

4. Long-term fiscal sustainability risks

S2 indicator – Long-term sustainability gap indicator measuring the permanent adjustment in the structural primary balance, compared to the baseline, required to stabilise public debt over the long term (see Section 3.1 and Annex A5).

S1 indicator – Long-term sustainability gap indicator measuring the permanent adjustment in the structural primary balance, compared to the baseline, required to reach a debt-to-GDP ratio of 60% by 2070 (see Section 3.2 and Annex A5).

5. Additional aggravating and mitigating risk factors for fiscal sustainability

Risks related to the structure of government debt, the net international investment position and contingent liabilities. The qualification of factors is based either on thresholds derived from a signalling approach or on a comparison with other Member States or the EU average.

Risks related to the structure of government debt financing and net International Investment position

Government debt structure

Share of short-term government debt – Eurostat, general government consolidated gross debt, original maturity of less than 1 year, as % of total, available for all countries except for DK and NL, downloaded in December 2024.

Share of short-term government debt (for DK) – Eurostat, annual financial accounts for the general government, short-term debt, as % of total, downloaded in January 2025.

Share of short-term government debt (for NL) – Eurostat, general government, as % of GDP, government consolidated gross debt at face value (currency and deposits, short-term debt securities, short-term loans) as share of total government consolidated gross debt, downloaded in January 2025.

Share of government debt held by non-residents – Eurostat, general government consolidated gross debt, rest of the world, all maturities, as % of total, available for all countries except EL, downloaded in December 2024.

Average residual maturity (debt securities and all debt) - ECB, general government consolidated gross debt, total residual maturity in years, available for all countries, downloaded in December 2024.

Net external debt - Eurostat, as % of GDP, downloaded in January 2025.

Net International Investment Position (IIP) – Eurostat, as % of GDP, downloaded in January 2025. For EU, European Commission's computations.

Non-financial corporations' debt - Eurostat, as % of GDP, downloaded in December 2024.

Gross government debt by maturity **-** Eurostat, general government consolidated gross debt, original maturity of less than 1 year, as % of total, available for all countries, downloaded in December 2024.

Risks related to government's contingent liabilities

Risks related to government's contingent liabilities

Guarantees (State guarantees, one-off guarantees, and standardised guarantees) – Eurostat, as % of GDP, downloaded in January 2025.

Public-private partnerships (PPPs) – Eurostat, as % of GDP, downloaded in January 2025.

Contingent liabilities of general government related to support to financial **institutions** – Eurostat, as % of GDP, downloaded in January 2025.

Government's contingent liability risks from the banking sector

Bank loan-to-deposit ratio – ECB, loan-to-deposit ratio for domestic banking groups and stand-alone banks, foreign (EU and non-EU) controlled subsidiaries and foreign (EU and non-EU) controlled branches, downloaded in January 2025.

Share of non-performing loans – ECB, share of gross non-performing loans and advances for domestic banking groups and stand-alone banks, as % of total gross loans and advances, downloaded in January 2025.

SYMBOL model – Model estimating the potential impact of simulated bank losses on public finances (see Annex A6).

6. Historical background

Historical data – European Commission.

Fiscal consolidation space – Position of the average structural primary balance assumed in the projections within the country's past distribution of structural primary balances. The historical distributions start at the earliest in 1980, depending on data availability, and notably exclude major crisis years, such as the Global Financial Crisis (2008-09) and the COVID-19 pandemic (2020-21).

7. Underlying assumptions of the deterministic debt projections

See Box 2.1. in Chapter 2.

1. BELGIUM

This annex assesses fiscal sustainability risks for Belgium over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are overall low. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([83]). Government gross financing needs are expected to remain large, at around 20% of GDP over 2025-2026. Financial markets' perceptions of sovereign risk in 2024 have been stable, as confirmed by the unchanged ratings of the main rating agencies.

2 – Medium-term fiscal sustainability risks are high.

Under the DSA baseline, debt is projected to increase over the medium term, reaching around 126% of GDP in 2035 ([84]). The increase in the government debt ratio is partially driven by the assumed structural primary deficit of 2.2% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing. This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([85]). Moreover, ageing-related expenditure is projected to increase, weighing on public finances. At the same time, the baseline projection benefits from a still favourable (although declining) snowball effect. Government gross financing needs are expected to remain large and to increase over the projection period, reaching around 23% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the debt ratio would exceed the baseline level by around 9 pps. by 2035. Under both the *lower SPB scenario* (in which the SPB in 2025 deteriorates by 50% more than in the forecast) and *the financial stress scenario* (in which interest rates temporarily increase by 1.8 pps. compared with the baseline), the debt ratio would be broadly the same as in the baseline scenario. In contrast, under the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of -0.7% of GDP), the debt ratio would be lower than the baseline level by around 11 pps. by 2035.

The stochastic projections run around the baseline indicate high risk due to the high probability of debt increasing over the next five years ([86])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 78%, pointing to high risk given the high initial debt level. Some uncertainty surrounds the baseline debt projection, as measured

([83]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([84]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 2.2% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 1.3%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([85]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([86]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

by the difference of around 28 pps. between the 10th and 90th debt distribution percentiles in five years' time.

3 – Long-term fiscal sustainability risks are high. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([87]). The high risk stems from the projected increase in ageing-related costs and the unfavourable initial deficit and debt levels.

The S2 indicator points to high risk. It signals that Belgium would need to improve its structural primary balance in 2026 by 6.7% of GDP to ensure that debt stabilises over the long term. This result is mainly driven by the projected increase in ageing costs, which contributes 3.7 pps., of which 2.3 pps. stemming from pension expenditure and 2 pps. jointly from health care and long-term care expenditure, partially offset by a negative contribution from education. The remainder of the needed effort is due to the unfavourable budgetary position, contributing 3.1 pps.

The S1 indicator points to medium risk. This indicator shows that a significant fiscal effort of 5.4% of GDP would be needed for Belgium in 2026 to reduce its debt to 60% of GDP by 2070. This result is driven by the projected increase in ageing costs, contributing 2.2 pps., the initial high levels of deficit and debt, with the current unfavourable budgetary position contributing 2.2 pps. and the excess of debt over 60% of GDP contributing an additional 1 pp.

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors relate to (i) the increase in refinancing rates, (ii) high gross financing needs (Section 1.2), (iii) the large share of government debt held by non-residents (Section 4.1.2), and (iv) the lack of fiscal coordination among the different government levels, with several of the federated entities displaying fiscal vulnerabilities. On the other hand, risk-mitigating factors include (i) the long average of debt maturity, which allows for a more gradual transmission of rising interest rates to the debt burden, (ii) relatively stable financing sources, with a diversified, and large investor base, and (iii) government debt being fully denominated in euro (Section 4.1).

([87]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
		Deterministic scenarios									
Overall (S0)	Overall		Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
LOW	HIGH	Overall	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	MEDIUM	HIGH
		Debt level (2035), % of GDP	126.4	115.7	127.2	135.8	127.7				
		Debt peak year	2035	2035	2035	2035	2035				
		Fiscal consolidation space	91%	89%	91%	91%	91%				
		Probability of debt ratio exceeding in 2029 its 2024 level						78%			
		Difference between 90th and 10th percentiles (% of GDP)						28.1			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

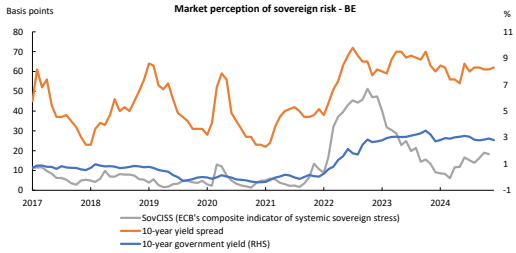
2. Short-term fiscal sustainability risks

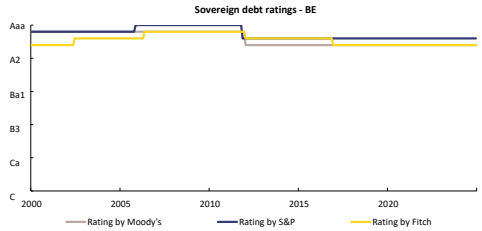
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.35**
Fiscal sub-component	0.36	0.57
Financial competitiveness sub-component	0.49	0.24

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	62.0

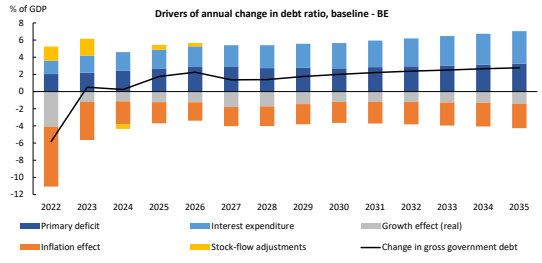
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

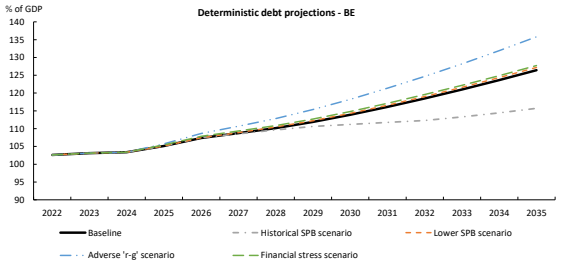


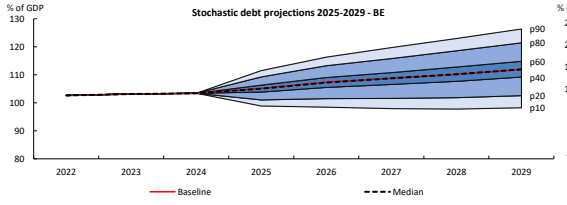


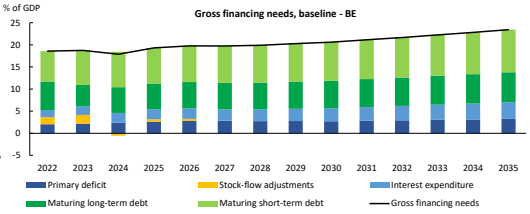
3. Medium-term fiscal sustainability risks

Belgium - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**102.6**	**103.1**	**103.4**	**105.1**	**107.4**	**108.7**	**110.1**	**111.9**	**113.9**	**116.1**	**118.5**	**121.0**	**123.7**	**126.4**
Change in the ratio (-1+2+3)	*-5.8*	*0.5*	*0.2*	*1.7*	*2.3*	*1.4*	*1.4*	*1.8*	*2.0*	*2.2*	*2.4*	*2.5*	*2.7*	*2.8*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-2.0**	**-2.2**	**-2.4**	**-2.6**	**-2.9**	**-2.9**	**-2.7**	**-2.8**	**-2.7**	**-2.8**	**-2.9**	**-3.0**	**-3.1**	**-3.3**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-2.6***	***-2.1***	***-2.0***	***-2.2***	***-2.3***	***-2.5***	***-2.6***	***-2.8***	***-2.7***	***-2.8***	***-2.9***	***-3.0***	***-3.1***	***-3.3***
(1.1.1) Structural primary balance (before CoA)	*-2.6*	*-2.1*	*-2.0*	*-2.2*	*-2.2*	*-2.2*	*-2.2*	*-2.2*	*-2.2*	*-2.2*	*-2.2*	*-2.2*	*-2.2*	*-2.2*
(1.1.2) Cost of ageing (CoA)					*0.1*	*0.3*	*0.5*	*0.6*	*0.6*	*0.7*	*0.8*	*0.9*	*1.0*	*1.2*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*
(1.2) Cyclical component	***0.6***	***0.1***	***-0.2***	***-0.4***	***-0.6***	***-0.4***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***-0.2***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-9.5**	**-3.6**	**-1.6**	**-1.4**	**-1.0**	**-1.5**	**-1.4**	**-1.0**	**-0.7**	**-0.6**	**-0.6**	**-0.5**	**-0.5**	**-0.5**
(2.1) Interest expenditure	*1.6*	*2.0*	*2.2*	*2.3*	*2.4*	*2.5*	*2.7*	*2.8*	*2.9*	*3.1*	*3.3*	*3.4*	*3.6*	*3.8*
(2.2) Growth effect (real)	*-4.1*	*-1.2*	*-1.1*	*-1.2*	*-1.3*	*-1.8*	*-1.7*	*-1.5*	*-1.2*	*-1.2*	*-1.2*	*-1.3*	*-1.3*	*-1.4*
(2.3) Inflation effect	*-6.9*	*-4.4*	*-2.7*	*-2.5*	*-2.1*	*-2.2*	*-2.3*	*-2.4*	*-2.4*	*-2.5*	*-2.6*	*-2.7*	*-2.8*	*-2.8*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**1.6**	**2.0**	**-0.5**	**0.5**	**0.4**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*1.6*	*2.0*	*-0.5*	*0.5*	*0.4*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-4.2	-4.1	-4.2	-4.4	-4.7	-5.0	-5.3	-5.6	-5.7	-5.9	-6.2	-6.5	-6.7	-7.0
Gross financing needs	18.6	18.7	17.9	19.3	19.8	19.7	19.9	20.3	20.6	21.1	21.7	22.2	22.8	23.4









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**6.7**	**6.7**	**7.4**	**9.0**
of which					
Initial budgetary position		3.0	3.1	3.2	3.1
Ageing costs		3.6	3.7	4.2	5.9
of which	*Pensions*	2.2	2.3	2.9	2.2
	Health care	0.5	0.5	0.5	1.1
	Long-term care	1.5	1.5	1.4	3.2
	Education	-0.7	-0.6	-0.6	-0.6
Required structural primary balance related to S2		**4.3**	**4.6**	**5.2**	**6.9**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**5.3**	**5.4**	**5.9**	**6.7**
of which					
Initial budgetary position		2.2	2.2	2.5	2.2
Debt requirement		1.0	1.0	0.9	1.0
Ageing costs		2.1	2.2	2.5	3.5
of which	*Pensions*	1.3	1.4	1.7	1.4
	Health care	0.4	0.3	0.3	0.8
	Long-term care	1.0	1.0	1.0	1.8
	Education	-0.6	-0.5	-0.5	-0.5
Required structural primary balance related to S1		**2.9**	**3.2**	**3.7**	**4.5**

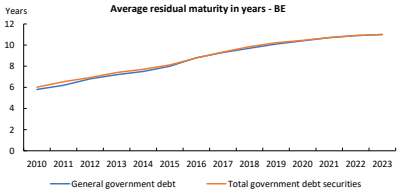
5. Additional aggravating and mitigating risk factors for fiscal sustainability

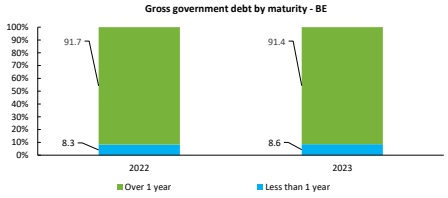
Public debt structure (2023) (% of total debt)	BE	EU
Share of short-term government debt	8.6	9.2
Share of gov't debt held by non-residents	55.6	n.a.
of which Non-EA residents	25.9	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	BE	EU
Net external debt	25	n.a.
Net international investment position (NIIP)	51.5	0.9
Non-financial corporations debt	96.4	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	BE 2020	2021	2022	2023	EU 2023
State guarantees		**9.7**	**9.2**	**8.3**	**9.4**	**8.5**	**5.4**	**5.2**	**7.4**
of which	*One-off guarantees*	*9.3*	*8.8*	*7.9*	*8.9*	*7.9*	*5.0*	*4.8*	*6.1*
	Standardised guarantees	*0.4*	*0.4*	*0.4*	*0.5*	*0.6*	*0.4*	*0.4*	*1.3*
Contingent liabilities related to support to financial institutions		**7.8**	**7.3**	**6.5**	**6.1**	**4.9**	**3.4**	**3.4**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	7.8	7.3	6.5	6.1	4.9	3.4	3.4	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.3***	***0.3***	***0.4***	***0.4***	***0.5***	***0.4***	***0.4***	***0.2***

Government contingent liability risks from banking sector (2023)	BE %	BE annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	89.1	5.7	n.a.	n.a.
Share of non-performing loans	1.4	0.1	1.9	0.1

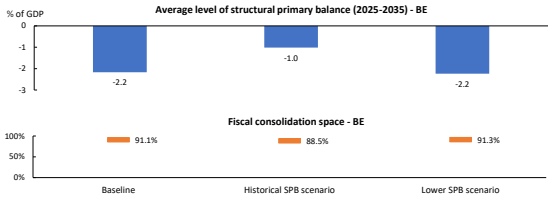
"n.a." means not available

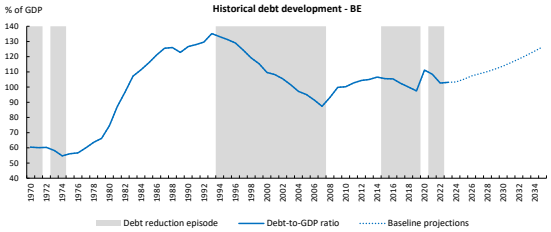
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)

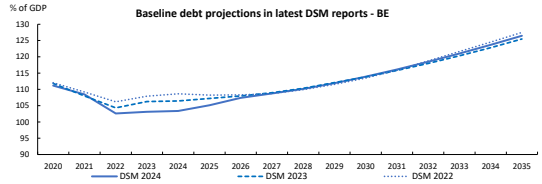
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.01%	0.09%	0.04%	0.18%	0.07%	0.29%

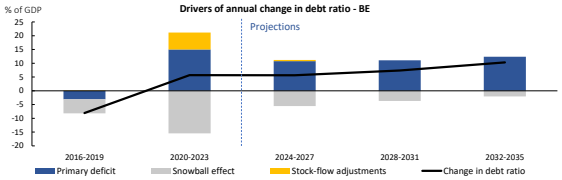
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	103.4	105.1	107.4	108.7	110.1	111.9	113.9	116.1	118.5	121.0	123.7	126.4
Primary balance	-2.4	-2.6	-2.9	-2.9	-2.7	-2.8	-2.7	-2.8	-2.9	-3.0	-3.1	-3.3
Structural primary balance (before CoA)	-2.0	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2
Real GDP growth	1.1	1.2	1.2	1.7	1.6	1.4	1.1	1.1	1.1	1.1	1.1	1.2
Potential GDP growth	1.7	1.6	1.4	1.4	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.2
Inflation rate	2.7	2.4	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.4	2.3
Implicit interest rate (nominal)	2.2	2.3	2.4	2.5	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2
Gross financing needs	17.9	19.3	19.8	19.7	19.9	20.3	20.6	21.1	21.7	22.2	22.8	23.4
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	103.4	105.1	107.5	108.6	109.6	110.6	111.2	111.7	112.3	113.3	114.5	115.7
Primary balance	-2.4	-2.6	-2.7	-2.4	-2.1	-1.8	-1.6	-1.5	-1.4	-1.5	-1.6	-1.8
Structural primary balance (before CoA)	-2.0	-2.2	-1.8	-1.4	-1.0	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
Real GDP growth	1.1	1.2	1.0	1.6	1.3	1.2	1.4	1.4	1.4	1.1	1.1	1.2
Gross financing needs	17.9	19.3	19.6	19.3	19.3	19.3	19.2	19.3	19.4	19.7	20.0	20.4
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	103.4	105.4	107.8	109.3	110.9	112.7	114.8	117.1	119.6	122.2	124.9	127.7
Implicit interest rate (nominal)	2.2	2.6	2.5	2.6	2.7	2.7	2.8	2.9	3.0	3.1	3.2	3.2
Gross financing needs	17.9	19.6	20.0	19.9	20.1	20.5	20.8	21.4	21.9	22.5	23.1	23.7
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	103.4	105.1	107.4	108.9	110.5	112.2	114.3	116.6	119.0	121.6	124.3	127.2
Primary balance	-2.4	-2.7	-2.9	-2.9	-2.9	-2.8	-2.8	-2.9	-3.0	-3.1	-3.2	-3.3
Structural primary balance (before CoA)	-2.0	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2
Real GDP growth	1.1	1.3	1.2	1.7	1.5	1.5	1.1	1.1	1.1	1.1	1.1	1.2
Gross financing needs	17.9	19.3	19.8	19.8	20.1	20.4	20.7	21.3	21.8	22.4	23.0	23.6
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	103.4	105.7	108.6	110.7	112.8	115.4	118.2	121.4	124.7	128.2	131.9	135.8
Implicit interest rate (nominal)	2.2	2.4	2.5	2.6	2.8	2.9	3.0	3.1	3.2	3.3	3.5	3.5
Real GDP growth	1.1	0.7	0.7	1.2	1.1	0.9	0.6	0.6	0.6	0.6	0.6	0.7
Gross financing needs	17.9	19.5	20.1	20.2	20.5	21.1	21.6	22.3	23.0	23.8	24.5	25.4

2. BULGARIA

This annex assesses fiscal sustainability risks for Bulgaria over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([88]). Government gross financing needs are expected to remain small, at around 3 % of GDP on average over 2025-2026. Financial markets' perceptions of sovereign risk are investment grade, as confirmed by the main rating agencies.

2 – Medium-term fiscal sustainability risks are medium.

Under the DSA baseline, debt is projected to increase steadily over the medium term, reaching around 39% of GDP in 2035 ([89]). The increase in the government debt ratio is partially driven by the assumed structural primary deficit of 2.3% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing. This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([90]). At the same time, the baseline projection benefits from a still favourable (although declining) snowball effect up to 2032 and age-related expenditure is projected to fall until 2035. Government gross financing needs are expected to increase over the projection period, reaching around 5% of GDP in 2035.

The deterministic stress tests do not identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against alternative deterministic scenarios. Under the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of -0.6% of GDP), the debt ratio would be about 14 pps. lower in 2035. The other scenarios lead to higher debt levels than the baseline. The *lower SPB scenario* (in which the SPB in 2025 deteriorates by 50% more than in the forecast) and the *financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline) result in a debt ratio in 2035 similar to the baseline projection. Finally, the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the debt ratio would exceed the baseline level by around 3 pps. by 2035.

The stochastic projections run around the baseline indicate medium risk due to the high uncertainty of the baseline projection ([91])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 60%, pointing to low risk given the modest initial debt level. However, high uncertainty surrounds the baseline debt projection, as measured by the difference of 51 pps. between the 10th and 90th debt distribution percentiles in five years' time.

([88]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([89]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 2.3% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 1.8%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([90]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([91]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

3 – Long-term fiscal sustainability risks are low. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([92]). The low-risk classification reflects a projected decrease in age-related spending and a debt level below the 60% mark, which partially compensate for the debt-increasing impact of the initial unfavourable budgetary position.

The S2 indicator points to low risk. It signals that Bulgaria would need to improve its structural primary balance by 2% of GDP to ensure that debt stabilises over the long term. The projected decrease in ageing costs - in particular declining pension spending - lowers the required adjustment by 0.8 pps., partly compensating for the 2.7 pps. adjustment that would be needed to stabilise the debt ratio given the initial budgetary position.

The S1 indicator also points to low risk. This indicator shows that a fiscal effort of 1.6% of GDP would be needed for Bulgaria to prevent the debt ratio from exceeding 60% of GDP by 2070. The remaining drivers are similar as for the S2 indicator.

4 – Finally, several additional risk factors need to be considered in the assessment. Risk-increasing factors are related to the structure of the government debt (Section 4.1.3) and the share of non-performing loans in the Bulgarian banking sector (Section 4.2.3). Risks due to the high share of debt denominated in foreign currency are mitigated by the currency board that is in place since 1997. Risk-mitigating factors are related to the low share of short-term government debt (Section 4.1.1) and the small amount of general government contingent liabilities (Section 4.2).

([92]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
Overall (S0)	Overall		Deterministic scenarios					Stochastic projections	S2	S1	Overall (S1 + S2)
			Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress				
LOW	MEDIUM	Overall	LOW	LOW	LOW	LOW	LOW	MEDIUM	LOW	LOW	LOW
		Debt level (2035), % of GDP	39.3	25.6	40.5	42.0	39.6				
		Debt peak year	2035	2030	2035	2035	2035				
		Fiscal consolidation space	95%	84%	95%	95%	95%				
		Probability of debt ratio exceeding in 2029 its 2024 level						60%			
		Difference between 90th and 10th percentiles (% of GDP)						51.0			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

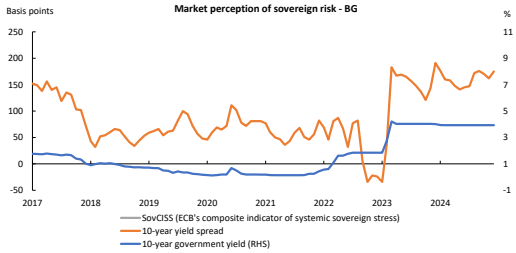
2. Short-term fiscal sustainability risks

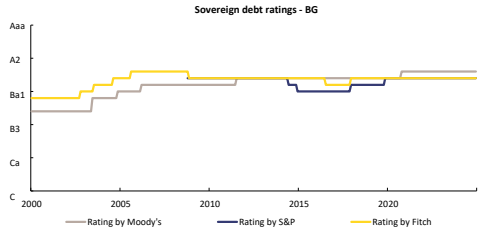
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.20**
Fiscal sub-component	0.36	0.26
Financial competitiveness sub-component	0.49	0.17

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	175.0

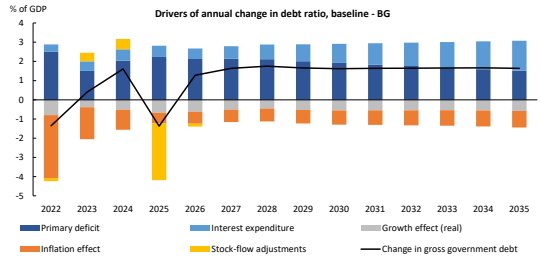
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

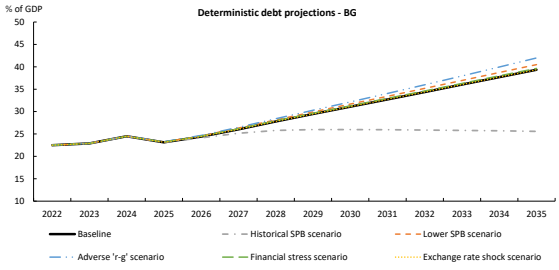


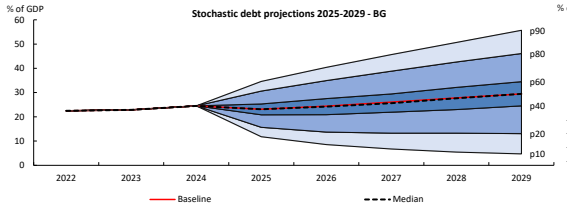


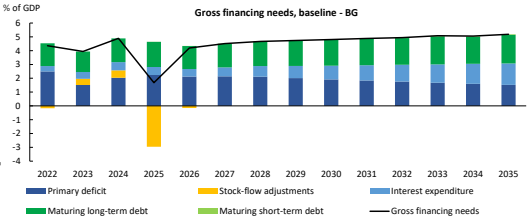
3. Medium-term fiscal sustainability risks

Bulgaria - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**22.5**	**22.9**	**24.5**	**23.1**	**24.4**	**26.0**	**27.8**	**29.5**	**31.1**	**32.7**	**34.4**	**36.0**	**37.7**	**39.3**
Change in the ratio (-1+2+3)	*-1.4*	*0.4*	*1.6*	*-1.4*	*1.3*	*1.6*	*1.8*	*1.7*	*1.6*	*1.6*	*1.6*	*1.7*	*1.7*	*1.6*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-2.5**	**-1.5**	**-2.0**	**-2.2**	**-2.1**	**-2.1**	**-2.1**	**-2.0**	**-1.9**	**-1.8**	**-1.8**	**-1.7**	**-1.6**	**-1.5**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-3.0***	***-1.8***	***-2.1***	***-2.3***	***-2.3***	***-2.3***	***-2.2***	***-2.0***	***-1.9***	***-1.8***	***-1.8***	***-1.7***	***-1.6***	***-1.5***
(1.1.1) Structural primary balance (before CoA)	*-3.0*	*-1.8*	*-2.1*	*-2.3*	*-2.3*	*-2.3*	*-2.3*	*-2.3*	*-2.3*	*-2.3*	*-2.3*	*-2.3*	*-2.3*	*-2.3*
(1.1.2) Cost of ageing (CoA)					*0.0*	*-0.1*	*-0.2*	*-0.3*	*-0.4*	*-0.5*	*-0.6*	*-0.7*	*-0.8*	*-0.9*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*
(1.2) Cyclical component	***0.5***	***0.3***	***0.1***	***0.1***	***0.2***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-3.7**	**-1.6**	**-1.0**	**-0.6**	**-0.7**	**-0.5**	**-0.4**	**-0.3**	**-0.3**	**-0.2**	**-0.1**	**0.0**	**0.1**	**0.1**
(2.1) Interest expenditure	*0.4*	*0.5*	*0.6*	*0.6*	*0.5*	*0.7*	*0.8*	*0.9*	*1.0*	*1.1*	*1.2*	*1.3*	*1.5*	*1.6*
(2.2) Growth effect (real)	*-0.8*	*-0.4*	*-0.5*	*-0.7*	*-0.6*	*-0.5*	*-0.5*	*-0.5*	*-0.6*	*-0.5*	*-0.5*	*-0.5*	*-0.6*	*-0.6*
(2.3) Inflation effect	*-3.3*	*-1.7*	*-1.0*	*-0.6*	*-0.6*	*-0.6*	*-0.7*	*-0.7*	*-0.7*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.9*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**-0.2**	**0.4**	**0.5**	**-3.0**	**-0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.2*	*0.4*	*0.5*	*-3.0*	*-0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-3.4	-2.3	-2.7	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-3.0	-3.0	-3.0	-3.1
Gross financing needs	4.4	3.9	4.9	1.7	4.2	4.5	4.7	4.7	4.8	4.9	4.9	5.1	5.1	5.2









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**2.4**	**2.0**	**2.2**	**4.5**
of which					
Initial budgetary position		2.9	2.7	2.7	2.7
Ageing costs		-0.5	-0.8	-0.6	1.8
of which	*Pensions*	-1.0	-1.2	-1.0	-1.2
	Health care	0.3	0.3	0.2	1.0
	Long-term care	0.2	0.2	0.2	1.9
	Education	0.0	0.0	0.0	0.0
Required structural primary balance related to S2		**-0.3**	**-0.4**	**-0.1**	**2.2**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**1.6**	**1.2**	**1.4**	**2.5**
of which					
Initial budgetary position		2.7	2.5	2.6	2.5
Debt requirement		-0.7	-0.7	-0.6	-0.7
Ageing costs		-0.4	-0.7	-0.6	0.7
of which	*Pensions*	-0.9	-1.1	-1.0	-1.1
	Health care	0.3	0.3	0.3	0.9
	Long-term care	0.1	0.1	0.1	0.9
	Education	0.0	0.0	0.0	0.0
Required structural primary balance related to S1		**-1.0**	**-1.1**	**-0.9**	**0.2**

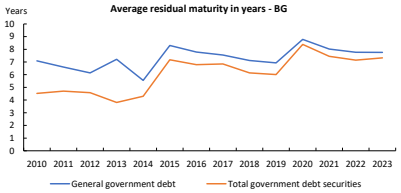
5. Additional aggravating and mitigating risk factors for fiscal sustainability

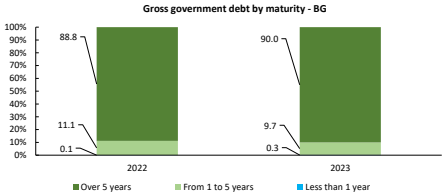
Public debt structure (2023) (% of total debt)	BG	EU
Share of short-term government debt	0.3	9.2
Share of gov't debt held by non-residents	47.1	n.a.
of which Non-EA residents	5.2	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	BG	EU
Net external debt	-33.6	n.a.
Net international investment position (NIIP)	-6.8	0.9
Non-financial corporations debt	48.3	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		BG 2017	2018	2019	2020	2021	2022	2023	EU 2023
State guarantees		**0.3**	**0.2**	**0.1**	**0.2**	**0.4**	**0.4**	**0.4**	**7.4**
of which	*One-off guarantees*	*0.2*	*0.1*	*0.1*	*0.2*	*0.4*	*0.3*	*0.3*	*6.1*
	Standardised guarantees	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	*1.3*
Contingent liabilities related to support to financial institutions		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.2***

Government contingent liability risks from banking sector (2023)	BG %	BG annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	70.3	0.8	n.a.	n.a.
Share of non-performing loans	6.1	-1.4	1.9	0.1

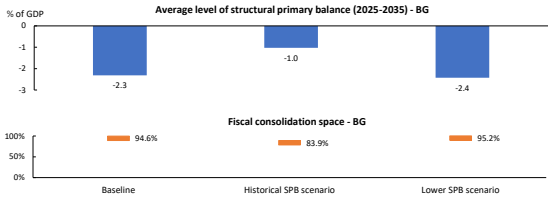
"n.a." means not available

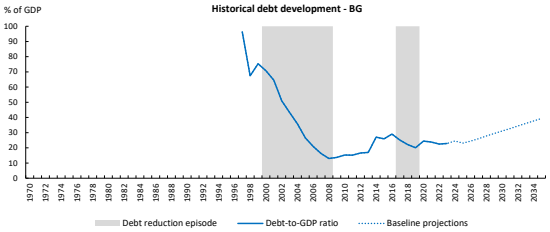
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)

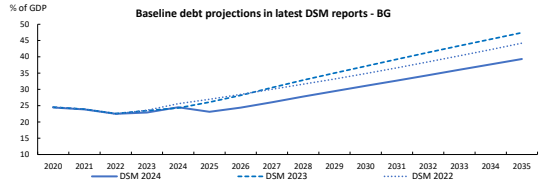
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.00%	0.05%	0.00%	0.11%	0.00%	0.13%

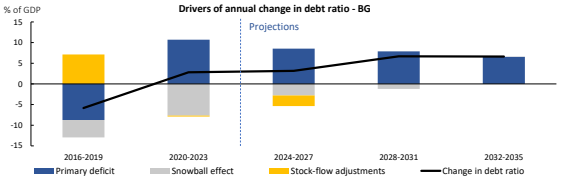
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross public debt	24.5	23.1	24.4	26.0	27.8	29.5	31.1	32.7	34.4	36.0	37.7	39.3
Primary balance	-2.0	-2.2	-2.1	-2.1	-2.1	-2.0	-1.9	-1.8	-1.8	-1.7	-1.6	-1.5
Structural primary balance (before CoA)	-2.1	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3
Real GDP growth	2.4	2.9	2.8	2.2	1.8	2.0	2.0	1.8	1.7	1.6	1.6	1.6
Potential GDP growth	3.2	2.8	2.4	2.4	2.1	2.1	2.0	1.8	1.7	1.6	1.6	1.6
Inflation rate	4.8	2.3	2.8	2.7	2.7	2.6	2.6	2.5	2.5	2.4	2.4	2.3
Implicit interest rate (nominal)	2.8	2.5	2.5	2.8	3.1	3.3	3.5	3.7	3.9	4.0	4.2	4.3
Gross financing needs	4.9	1.7	4.2	4.5	4.7	4.7	4.8	4.9	4.9	5.1	5.1	5.2
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	24.5	23.1	24.1	25.2	25.8	26.0	26.0	26.0	25.9	25.8	25.7	25.6
Primary balance	-2.0	-2.2	-1.8	-1.5	-1.0	-0.5	-0.4	-0.2	-0.1	0.0	0.1	0.1
Structural primary balance (before CoA)	-2.1	-2.3	-1.9	-1.5	-1.1	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
Real GDP growth	2.4	2.9	2.5	2.0	1.8	1.9	2.2	2.0	1.9	1.6	1.6	1.6
Gross financing needs	4.9	1.7	3.9	3.8	3.5	3.0	2.9	2.7	2.6	2.5	2.3	2.3
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	24.5	23.2	24.5	26.2	27.9	29.6	31.3	32.9	34.6	36.3	38.0	39.6
Implicit interest rate (nominal)	2.8	2.7	2.7	3.0	3.2	3.4	3.6	3.8	4.0	4.1	4.2	4.3
Gross financing needs	4.9	1.7	4.2	4.6	4.7	4.8	4.9	4.9	5.0	5.1	5.1	5.2
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	24.5	23.2	24.6	26.3	28.1	29.9	31.7	33.4	35.2	37.0	38.7	40.5
Primary balance	-2.0	-2.3	-2.2	-2.2	-2.2	-2.1	-2.0	-1.9	-1.9	-1.8	-1.7	-1.6
Structural primary balance (before CoA)	-2.1	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4
Real GDP growth	2.4	3.0	2.8	2.2	1.9	1.9	2.0	1.8	1.7	1.6	1.6	1.6
Gross financing needs	4.9	1.8	4.3	4.6	4.8	4.9	5.0	5.1	5.1	5.3	5.3	5.4
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	24.5	23.3	24.7	26.5	28.4	30.3	32.1	34.0	36.0	37.9	40.0	42.0
Implicit interest rate (nominal)	2.8	2.6	2.6	3.0	3.3	3.6	3.9	4.1	4.3	4.4	4.6	4.7
Real GDP growth	2.4	2.4	2.3	1.7	1.3	1.5	1.5	1.3	1.2	1.1	1.1	1.1
Gross financing needs	4.9	1.7	4.2	4.6	4.8	4.9	5.0	5.1	5.2	5.4	5.4	5.6
6. Exchange rate depreciation scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	24.5	23.1	24.4	26.1	27.8	29.5	31.1	32.7	34.4	36.0	37.7	39.3
Exchange rate depreciation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

3. CZECHIA

This annex assesses fiscal sustainability risks for Czechia over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([93]). Government gross financing needs are expected to remain low, at around 6% over 2025-2026. Financial markets' perceptions of sovereign risk remain positive, as confirmed by the CDS spread and the 'AA' rating that the three major rating agencies assigned to Czech government debt.

2 – Medium-term fiscal sustainability risks are medium.

Under the DSA baseline, debt is projected to increase but remain below 60% of GDP in the medium term, reaching around 55% of GDP in 2035 ([94]). The debt increase is due to the assumed structural primary deficit of 0.4% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing ([95]). This structural primary balance (SPB) level is somewhat in line compared with past fiscal performance ([96]). Moreover, ageing-related expenditure is projected to increase, weighing on public finances. At the same time, the baseline projection benefits from a still favourable (although strongly declining) snowball effect up to 2031. Government gross financing needs are expected to increase over the projection period and reach around 10% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against alternative deterministic scenarios (Graph 1). All scenarios lead to higher debt levels than the baseline in 2035 with particularly adverse developments under the *adverse interest-growth rate differential scenario* (in which the *interest-growth rate* deteriorates by 1 pp. compared with the baseline), the debt ratio would be higher than under the baseline by around 4 pps. of GDP in 2034. Under the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of -0.9% of GDP) the debt ratio would be higher than under the baseline by about 3 pps. of GDP in 2034. Under the *lower structural primary balance (SPB) scenario* (in which the SPB in 2025 deteriorates by 50% more than in the forecast), the debt ratio would be higher than under the baseline by about 1 pp. of GDP in 2034. The smallest adverse impact on the debt ratio is projected for 2034 under the *financial stress scenario* (i.e. interest rates temporarily increase by 1 pp. compared with the baseline), resulting in a broadly unchanged debt compared with the baseline.

([93]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([94]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 0.4 % of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 1.5%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([95]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that Czechia commits to in its medium-term plan beyond 2025 is not taken into account in the projection.

([96]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

The stochastic projections run around the baseline indicate low risk, due to a low probability of debt increasing over the next five years ([97])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 61%, pointing to low risk given the relatively low initial debt level. Low uncertainty surrounds the baseline debt projection, as measured by the difference of around 25 pps. of GDP between the 10th and 90th debt distribution percentiles in five years' time.

3 – Long-term fiscal sustainability risks are medium. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([98]). The medium risk stems from the projected increase in ageing costs and to a smaller extent, the unfavourable initial budgetary position.

The S2 indicator points to medium risk. It signals that relative to the baseline, Czechia would need to improve its structural primary balance by 5.4 pps. of GDP to ensure that debt stabilises over the long term. This result is mainly driven by the projected increase in ageing-related costs (contributing 4.2 pps. of GDP), and to a lesser extent the unfavourable initial budgetary position (1.2 pp.). Ageing cost developments are primarily driven by the projected increase in public pension expenditure (contributing 2.3 pps.), with the projected increase in health care, long-term care and education spending, contributing jointly 1.9 pps.

The S1 indicator also points to medium risk. This indicator shows that Czechia would need to improve its fiscal position by 3.6 pps. of GDP in 2025 to bring its debt to 60% of GDP by 2070. This result is also mainly driven by the projected increase in age-related public spending (contributing 3.2 pps. of GDP), and to a lesser extent the unfavourable initial budgetary position (0.8 pps.), partly offset by the debt requirement, contributing -0.3 pps.

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors are related to the level of interest rates as while interest rates and credit spreads have declined since the highs of 2022-2023, they remain above the last 10 years average (Section 1.3). On the other hand, risk-mitigating factors include (i) the reduced share of short-term debt, (ii) the relatively stable financing sources (with a diversified and large investor base), (iii) the currency denomination of debt (Section 4.1), and (iv) a pension reform adopted at the end of 2024, which also has the potential to mitigate some of the long-term ageing-related fiscal sustainability risks.

([97]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

([98]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
Overall (S0)	Overall		Deterministic scenarios: Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
		Overall	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM	LOW			
		Debt level (2035), % of GDP	53.3	56.8	53.9	57.3	53.7				
LOW	MEDIUM	Debt peak year	2035	2035	2035	2035	2035		MEDIUM	MEDIUM	MEDIUM
		Fiscal consolidation space	42%	45%	43%	42%	42%				
		Probability of debt ratio exceeding in 2029 its 2024 level						61%			
		Difference between 90th and 10th percentiles (% of GDP)						24.5			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

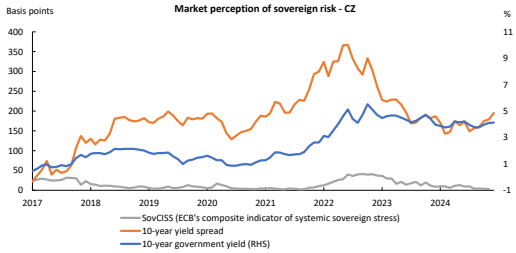
2. Short-term fiscal sustainability risks

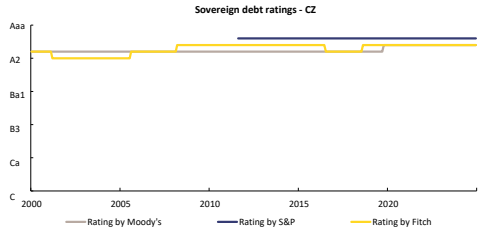
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.20**
Fiscal sub-component	0.36	0.12
Financial competitiveness sub-component	0.49	0.25

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	195.0

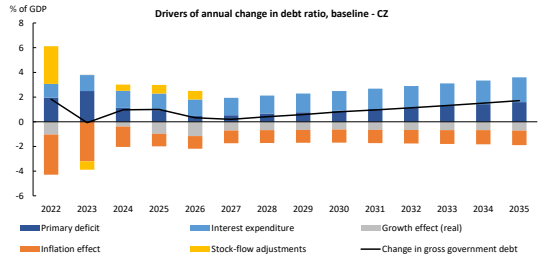
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

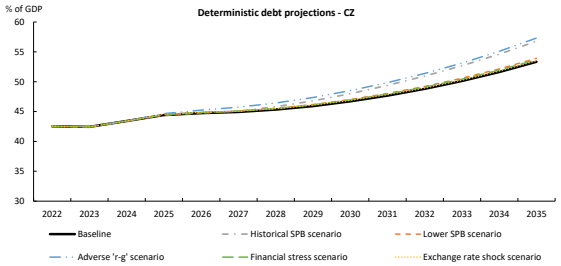


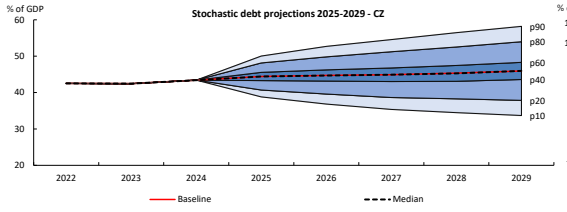


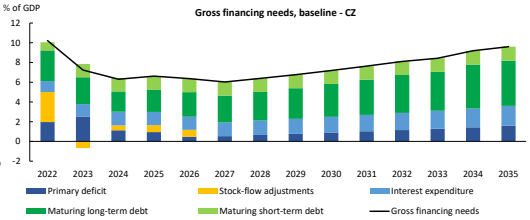
3. Medium-term fiscal sustainability risks

Czechia - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**42.5**	**42.4**	**43.4**	**44.4**	**44.7**	**44.9**	**45.3**	**45.9**	**46.7**	**47.7**	**48.8**	**50.1**	**51.6**	**53.3**
Change in the ratio (-1+2+3)	*1.8*	*-0.1*	*1.0*	*1.0*	*0.3*	*0.2*	*0.4*	*0.6*	*0.8*	*1.0*	*1.1*	*1.3*	*1.5*	*1.7*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-2.0**	**-2.5**	**-1.1**	**-0.9**	**-0.5**	**-0.5**	**-0.7**	**-0.8**	**-0.9**	**-1.0**	**-1.2**	**-1.3**	**-1.4**	**-1.6**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-2.2***	***-1.9***	***-0.3***	***-0.4***	***-0.3***	***-0.4***	***-0.6***	***-0.8***	***-0.9***	***-1.0***	***-1.2***	***-1.3***	***-1.4***	***-1.6***
(1.1.1) Structural primary balance (before CoA)	*-2.2*	*-1.9*	*-0.3*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*
(1.1.2) Cost of ageing (CoA)					*-0.1*	*0.0*	*0.2*	*0.3*	*0.4*	*0.5*	*0.6*	*0.7*	*0.9*	*1.0*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.2*
(1.2) Cyclical component	***0.3***	***-0.6***	***-0.8***	***-0.5***	***-0.2***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-3.2**	**-1.9**	**-0.6**	**-0.7**	**-0.9**	**-0.3**	**-0.3**	**-0.2**	**-0.1**	**-0.1**	**0.0**	**0.0**	**0.1**	**0.1**
(2.1) Interest expenditure	*1.1*	*1.3*	*1.4*	*1.3*	*1.3*	*1.4*	*1.5*	*1.5*	*1.6*	*1.7*	*1.7*	*1.8*	*1.9*	*2.0*
(2.2) Growth effect (real)	*-1.0*	*0.0*	*-0.4*	*-1.0*	*-1.2*	*-0.7*	*-0.7*	*-0.7*	*-0.6*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*
(2.3) Inflation effect	*-3.2*	*-3.2*	*-1.6*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.2*	*-1.2*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**3.0**	**-0.7**	**0.5**	**0.7**	**0.7**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*3.2*	*-0.6*	*0.4*	*0.7*	*0.7*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*-0.2*	*-0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-3.3	-3.2	-1.7	-1.8	-1.7	-1.8	-2.1	-2.3	-2.5	-2.7	-2.9	-3.1	-3.3	-3.6
Gross financing needs	10.2	7.2	6.3	6.6	6.4	6.0	6.4	6.8	7.2	7.6	8.1	8.4	9.2	9.6









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**4.8**	**5.4**	**5.6**	**7.5**
of which					
Initial budgetary position		0.8	1.2	1.3	1.2
Ageing costs		4.0	4.2	4.3	6.3
of which	*Pensions*	2.0	2.3	2.5	2.3
	Health care	0.6	0.6	0.6	1.5
	Long-term care	1.2	1.2	1.1	2.4
	Education	0.1	0.1	0.1	0.1
Required structural primary balance related to S2		**4.6**	**5.0**	**5.2**	**7.1**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**3.0**	**3.6**	**3.8**	**4.8**
of which					
Initial budgetary position		0.4	0.8	0.8	0.8
Debt requirement		-0.3	-0.3	-0.3	-0.3
Ageing costs		2.9	3.2	3.3	4.3
of which	*Pensions*	1.6	1.9	2.0	1.8
	Health care	0.5	0.5	0.5	1.1
	Long-term care	0.7	0.7	0.7	1.3
	Education	0.1	0.1	0.1	0.1
Required structural primary balance related to S1		**2.9**	**3.2**	**3.4**	**4.4**

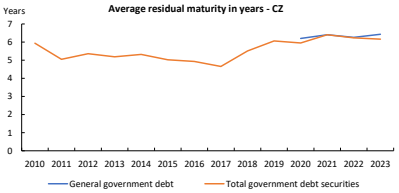
5. Additional aggravating and mitigating risk factors for fiscal sustainability

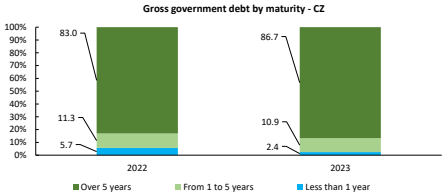
Public debt structure (2023) (% of total debt)	CZ	EU
Share of short-term government debt	2.4	9.2
Share of gov't debt held by non-residents	23.7	n.a.
of which Non-EA residents	7.1	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	CZ	EU
Net external debt	-8.3	n.a.
Net international investment position (NIIP)	-13.4	0.9
Non-financial corporations debt	41.8	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		CZ 2017	2018	2019	2020	2021	2022	2023	EU 2023
State guarantees		**0.2**	**0.2**	**0.2**	**0.7**	**0.9**	**0.7**	**0.6**	**7.4**
of which	*One-off guarantees*	*0.2*	*0.2*	*0.2*	*0.7*	*0.9*	*0.7*	*0.6*	*6.1*
	Standardised guarantees	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.3*
Contingent liabilities related to support to financial institutions		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.0***	***0.0***	***0.0***	***0.0***	***0.2***	***0.1***	***0.1***	***0.2***

Government contingent liability risks from banking sector (2023)	CZ %	CZ annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	91.4	-2.7	n.a.	n.a.
Share of non-performing loans	1.4	-0.2	1.9	0.1

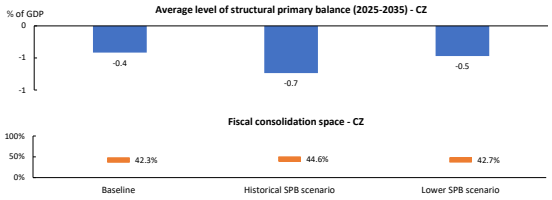
"n.a." means not available

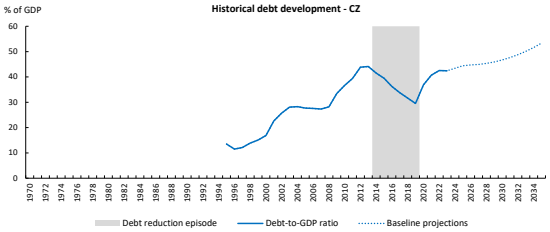
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)

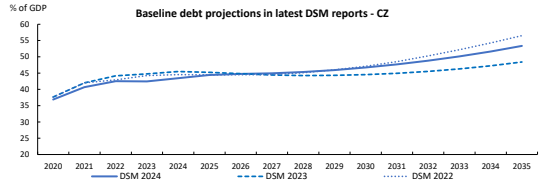
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.00%	0.06%	0.00%	0.09%	0.00%	0.12%

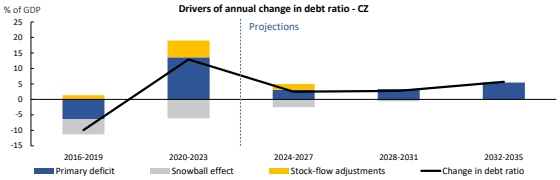
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	43.4	44.4	44.7	44.9	45.3	45.9	46.7	47.7	48.8	50.1	51.6	53.3
Primary balance	-1.1	-0.9	-0.5	-0.5	-0.7	-0.8	-0.9	-1.0	-1.2	-1.3	-1.4	-1.6
Structural primary balance (before CoA)	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
Real GDP growth	1.0	2.4	2.7	1.7	1.6	1.5	1.4	1.5	1.5	1.4	1.4	1.4
Potential GDP growth	1.6	1.6	1.8	1.5	1.4	1.4	1.4	1.5	1.5	1.4	1.4	1.4
Inflation rate	4.0	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.3
Implicit interest rate (nominal)	3.4	3.2	3.1	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.0
Gross financing needs	6.3	6.6	6.4	6.0	6.4	6.8	7.2	7.6	8.1	8.4	9.2	9.6
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	43.4	44.4	44.8	45.1	45.8	46.8	48.0	49.4	50.9	52.7	54.6	56.8
Primary balance	-1.1	-0.9	-0.5	-0.7	-0.9	-1.2	-1.3	-1.4	-1.6	-1.7	-1.8	-2.0
Structural primary balance (before CoA)	-0.3	-0.4	-0.5	-0.6	-0.7	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
Real GDP growth	1.0	2.4	2.8	1.7	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4
Gross financing needs	6.3	6.6	6.4	6.2	6.7	7.2	7.7	8.2	8.8	9.2	10.0	10.5
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	43.4	44.5	44.8	45.1	45.5	46.1	47.0	47.9	49.1	50.4	51.9	53.7
Implicit interest rate (nominal)	3.4	3.4	3.2	3.4	3.5	3.6	3.6	3.7	3.8	3.9	4.0	4.1
Gross financing needs	6.3	6.7	6.4	6.1	6.4	6.8	7.2	7.7	8.2	8.5	9.2	9.7
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	43.4	44.4	44.8	45.0	45.5	46.2	47.0	48.0	49.2	50.6	52.2	53.9
Primary balance	-1.1	-1.0	-0.5	-0.6	-0.7	-0.8	-1.0	-1.1	-1.2	-1.3	-1.5	-1.6
Structural primary balance (before CoA)	-0.3	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Real GDP growth	1.0	2.4	2.7	1.6	1.5	1.5	1.4	1.5	1.5	1.4	1.4	1.4
Gross financing needs	6.3	6.6	6.4	6.1	6.5	6.8	7.3	7.7	8.2	8.5	9.3	9.7
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	43.4	44.7	45.2	45.7	46.4	47.4	48.5	49.9	51.4	53.1	55.1	57.3
Implicit interest rate (nominal)	3.4	3.3	3.3	3.4	3.6	3.7	3.9	4.0	4.1	4.2	4.4	4.4
Real GDP growth	1.0	1.9	2.2	1.2	1.1	1.0	0.9	1.0	1.0	0.9	0.9	0.9
Gross financing needs	6.3	6.7	6.5	6.2	6.6	7.0	7.5	8.1	8.6	9.0	9.9	10.4
6. Exchange rate depreciation scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	43.4	44.6	44.9	45.1	45.5	46.1	46.9	47.8	49.0	50.3	51.8	53.5
Exchange rate depreciation	0.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4. DENMARK

This annex assesses fiscal sustainability risks for Denmark over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([99]). Government gross financing needs are expected to reach around 5% of GDP on average over 2025-2026. Financial markets' perceptions of sovereign risk remain positive, as confirmed by the CDS spread and the 'AAA' rating that the three major rating agencies assigned to Danish government debt.

2 – Medium-term fiscal sustainability risks are low.

Under the DSA baseline, debt is projected to decline significantly and remain well below the 60% reference value in the medium term, reaching around 17% of GDP in 2035 ([100]). The debt reduction is supported by the assumed structural primary surplus of 2.1% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing ([101]). This structural primary balance (SPB) level is in line with past fiscal performance ([102]). Moreover, ageing-related expenditure is projected to increase, weighing on public finances. At the same time, the baseline projection benefits from a still favourable (although declining) snowball effect. Government gross financing needs are expected to remain limited and on declining path over the projection period and reach around 2% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against alternative deterministic scenarios. Only under the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of 2.5% of GDP) the debt ratio would be lower than under the baseline by about 3 pps. of GDP in 2034. All the other scenarios lead to higher debt levels than the baseline in 2035 with particularly adverse developments under the *lower structural primary balance (SPB) scenario* (in which the SPB in 2025 deteriorates by 50% more than in the forecast), the debt ratio would be higher than under the baseline by about 9 pps. of GDP in 2034. Under the *adverse interest-growth rate differential scenario* (in which the *interest-growth rate* deteriorates by 1 pp. compared with the baseline), the debt ratio would be higher than under the baseline by around 2 pps. of GDP in 2034. Under the *financial stress scenario* (i.e. interest rates temporarily increase by 1 pp. compared with the baseline) the debt ratio would be broadly unchanged.

([99]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([100]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary surplus, before changes in ageing costs, of 2.1 % of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 1.3%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([101]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that Denmark commits to in its medium-term plan beyond 2025 is not taken into account in the projection.

([102]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

The stochastic projections run around the baseline indicate low risk, due to a low probability of debt increasing over the next five years ([103])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of only 13%, pointing to low risk given the low debt level. Low uncertainty surrounds the baseline debt projection, as measured by the difference around 17 pps. of GDP between the 10th and 90th debt distribution percentiles in five years' time.

3 – Long-term fiscal sustainability risks are low. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([104]). The low risk stems from favourable initial budgetary position, which is partly offset by the projected increase in ageing costs.

The S2 indicator points to low risk. It signals that relative to the baseline, Denmark could relax its structural primary balance by 0.5 pps. of GDP to ensure that debt stabilises over the long term. This result is mainly driven by the favourable initial budgetary position (contributing -1.2 pps. of GDP), which is partially offset by the projected increase in ageing-related costs (contribution of 0.7 pps.). Ageing cost developments are primarily driven by a projected increase in long-term care (2.7 pps.) and health-care spending (0.6 pps.), which is partly offset by the decrease in public pension and education expenditure, contributing -2.1 pps. and -0.6 pps. respectively.

The S1 indicator also points to low risk. This indicator shows that Denmark could relax its fiscal position by 1.7 pps. of GDP in 2026 and still ensure that its debt reaches 60% of GDP by 2070. This result is also mainly driven by the favourable initial budgetary position (contributing -1.7 pps. of GDP) and to a lesser extent the debt requirement (-0.7 pps.), which is partly offset by the projected increase of the ageing-related public expenditure, contributing 1.2 pps.

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors are related to contingent liability risks stemming from the private sector, although contingent liability risks stemming from the banking sector are rather low (Sections 4.2.3 and 4.2.4). These risks remain currently limited due to its relatively low level and the low take-up. On the other hand, risk-mitigating factors include (i) the lengthening of debt maturity in recent years, (ii) relatively stable financing sources (with a diversified and large investor base), (iii) the currency denomination of debt, and (iv) low borrowing costs (Section 4.1). In addition, Denmark's positive net international investment position (stronger compared to 2020) helps mitigating vulnerabilities. Finally, the financial assets of the general government implies that the government is in a net positive financial position (Section 4.2.4).

([103]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

([104]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
			Deterministic scenarios								
Overall (S0)	Overall		Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
		Overall	LOW	LOW	LOW	LOW	LOW	LOW			
		Debt level (2035), % of GDP	16.6	13.2	25.9	18.4	16.8				
LOW	LOW	Debt peak year	2025	2025	2025	2025	2025		LOW	LOW	LOW
		Fiscal consolidation space	71%	68%	90%	71%	71%				
		Probability of debt ratio exceeding in 2029 its 2024 level						13%			
		Difference between 90th and 10th percentiles (% of GDP)						17.4			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

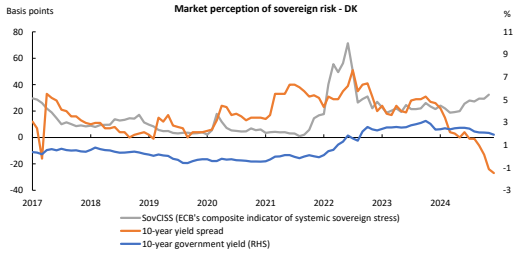
2. Short-term fiscal sustainability risks

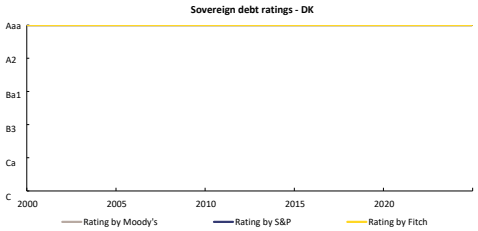
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.28**
Fiscal sub-component	0.36	0.04
Financial competitiveness sub-component	0.49	0.41

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	-27.0

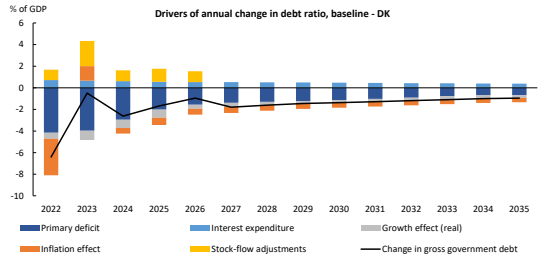
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

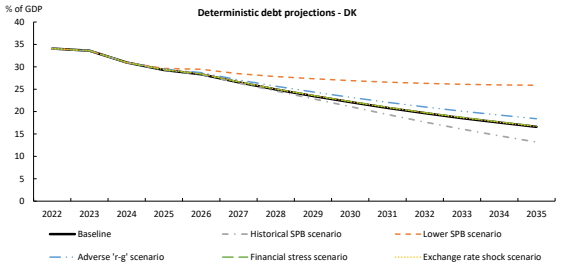


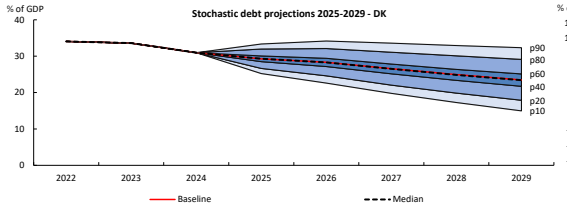


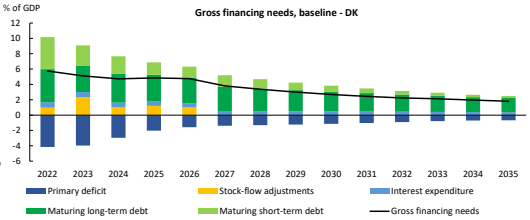
3. Medium-term fiscal sustainability risks

Denmark - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**34.1**	**33.6**	**31.0**	**29.3**	**28.3**	**26.5**	**24.9**	**23.5**	**22.1**	**20.8**	**19.6**	**18.5**	**17.5**	**16.6**
Change in the ratio (-1+2+3)	*-6.4*	*-0.5*	*-2.6*	*-1.7*	*-1.0*	*-1.8*	*-1.6*	*-1.5*	*-1.4*	*-1.3*	*-1.2*	*-1.1*	*-1.0*	*-1.0*
of which														
(1) Primary balance (1.1+1.2+1.3)	**4.2**	**4.0**	**3.0**	**2.0**	**1.6**	**1.4**	**1.3**	**1.2**	**1.1**	**1.0**	**0.9**	**0.8**	**0.7**	**0.7**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***4.8***	***4.8***	***4.0***	***2.1***	***1.9***	***1.6***	***1.4***	***1.2***	***1.1***	***1.0***	***0.9***	***0.8***	***0.7***	***0.7***
(1.1.1) Structural primary balance (before CoA)	*4.8*	*4.8*	*4.0*	*2.1*	*2.1*	*2.1*	*2.1*	*2.1*	*2.1*	*2.1*	*2.1*	*2.1*	*2.1*	*2.1*
(1.1.2) Cost of ageing (CoA)					*0.3*	*0.6*	*0.8*	*1.0*	*1.1*	*1.2*	*1.4*	*1.5*	*1.6*	*1.6*
(1.1.3) Others (taxes and property income)					*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*
(1.2) Cyclical component	***-0.6***	***-0.6***	***-0.5***	***-0.1***	***-0.3***	***-0.2***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***-0.2***	***-0.6***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-3.2**	**1.1**	**-0.7**	**-0.9**	**-0.4**	**-0.4**	**-0.3**	**-0.2**	**-0.2**	**-0.3**	**-0.3**	**-0.3**	**-0.3**	**-0.3**
(2.1) Interest expenditure	*0.7*	*0.7*	*0.6*	*0.6*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.4*	*0.4*	*0.4*	*0.4*
(2.2) Growth effect (real)	*-0.6*	*-0.9*	*-0.8*	*-0.8*	*-0.4*	*-0.4*	*-0.3*	*-0.2*	*-0.2*	*-0.2*	*-0.3*	*-0.3*	*-0.3*	*-0.3*
(2.3) Inflation effect	*-3.4*	*1.3*	*-0.5*	*-0.7*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.4*	*-0.4*	*-0.4*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**1.0**	**2.3**	**1.0**	**1.2**	**1.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*0.7*	*2.3*	*1.0*	*1.2*	*1.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	4.1	4.1	3.4	1.5	1.3	1.0	0.9	0.7	0.7	0.6	0.5	0.4	0.3	0.3
Gross financing needs	5.8	5.1	4.7	4.8	4.8	3.8	3.4	3.0	2.7	2.4	2.2	2.1	2.0	1.8









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**-1.7**	**-0.5**	**-0.3**	**0.6**
of which					
Initial budgetary position		-2.5	-1.2	-1.2	-1.2
Ageing costs		0.8	0.7	0.9	1.8
of which	*Pensions*	-2.1	-2.1	-1.8	-2.1
	Health care	0.7	0.6	0.6	1.4
	Long-term care	2.8	2.7	2.6	3.0
	Education	-0.6	-0.5	-0.5	-0.5
Required structural primary balance related to S2		**1.2**	**1.6**	**1.8**	**2.7**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**-2.7**	**-1.7**	**-1.5**	**-1.0**
of which					
Initial budgetary position		-2.9	-1.7	-1.7	-1.7
Debt requirement		-0.7	-0.7	-0.6	-0.7
Ageing costs		0.8	0.7	0.8	1.4
of which	*Pensions*	-1.2	-1.2	-1.1	-1.2
	Health care	0.4	0.4	0.4	0.9
	Long-term care	1.9	1.9	1.9	2.1
	Education	-0.4	-0.3	-0.3	-0.3
Required structural primary balance related to S1		**0.2**	**0.4**	**0.6**	**1.1**

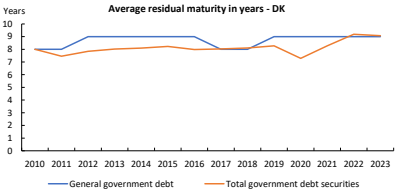
5. Additional aggravating and mitigating risk factors for fiscal sustainability

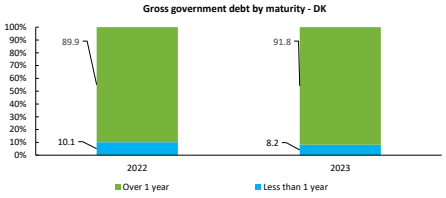
Public debt structure (2023) (% of total debt)		DK	EU
Share of short-term government debt		8.2	9.2
Share of gov't debt held by non-residents		27.2	n.a.
of which	*Non-EA residents*	6.6	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	DK	EU
Net external debt	-20.3	n.a.
Net international investment position (NIIP)	51.3	0.9
Non-financial corporations debt	108.6	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	DK 2020	2021	2022	2023	EU 2023
State guarantees		**11.6**	**11.8**	**11.4**	**7.8**	**7.6**	**8.1**	**8.5**	**7.4**
of which	*One-off guarantees*	*11.6*	*11.8*	*11.4*	*7.6*	*7.5*	*8.1*	*8.4*	*6.1*
	Standardised guarantees	*0.0*	*0.0*	*0.0*	*0.3*	*0.1*	*0.1*	*0.1*	*1.3*
Contingent liabilities related to support to financial institutions		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.2***	***0.2***	***0.2***	***0.2***	***0.2***	***0.2***	***0.2***	***0.2***

Government contingent liability risks from banking sector (2023)	DK %	DK annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	208.0	-1.6	n.a.	n.a.
Share of non-performing loans	1.3	-0.1	1.9	0.1

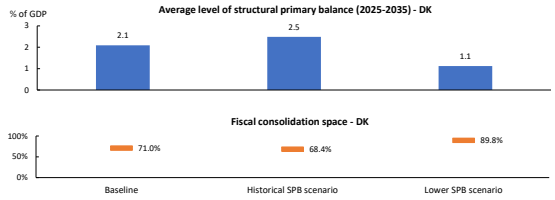
"n.a." means not available

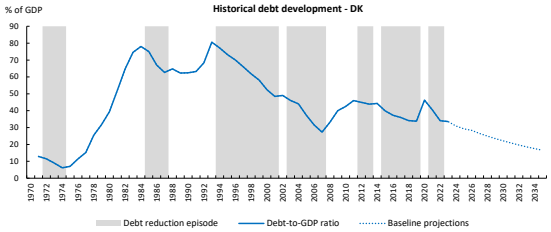
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)

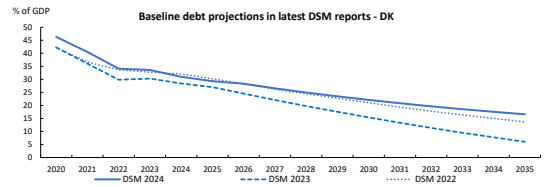
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.07%	0.14%	0.09%	0.27%	0.09%	0.26%

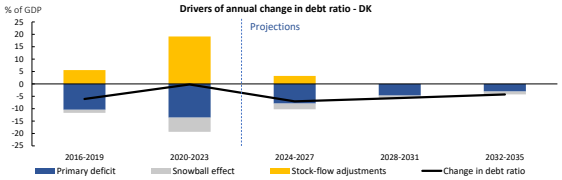
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross public debt	31.0	29.3	28.3	26.5	24.9	23.5	22.1	20.8	19.6	18.5	17.5	16.6
Primary balance	3.0	2.0	1.6	1.4	1.3	1.2	1.1	1.0	0.9	0.8	0.7	0.7
Structural primary balance (before CoA)	4.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Real GDP growth	2.4	2.5	1.3	1.4	1.1	0.9	0.9	1.1	1.3	1.5	1.6	1.5
Potential GDP growth	2.1	1.9	1.7	1.3	0.9	0.8	0.9	1.1	1.3	1.5	1.6	1.5
Inflation rate	1.6	2.2	1.9	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.4	2.3
Implicit interest rate (nominal)	1.9	1.9	1.9	1.9	2.0	2.0	2.1	2.1	2.2	2.2	2.2	2.3
Gross financing needs	4.7	4.8	4.8	3.8	3.4	3.0	2.7	2.4	2.2	2.1	2.0	1.8
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	31.0	29.3	28.3	26.4	24.6	22.9	21.1	19.4	17.7	16.1	14.6	13.2
Primary balance	3.0	2.0	1.6	1.6	1.5	1.5	1.5	1.5	1.4	1.3	1.2	1.2
Structural primary balance (before CoA)	4.0	2.1	2.2	2.3	2.5	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Real GDP growth	2.4	2.5	1.2	1.4	1.0	0.8	1.0	1.2	1.4	1.5	1.6	1.5
Gross financing needs	4.7	4.8	4.7	3.6	3.1	2.6	2.1	1.7	1.4	1.2	0.9	0.7
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	31.0	29.3	28.4	26.6	25.1	23.6	22.3	21.0	19.8	18.7	17.7	16.8
Implicit interest rate (nominal)	1.9	2.1	2.0	2.0	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3
Gross financing needs	4.7	4.9	4.8	3.8	3.4	3.1	2.7	2.5	2.3	2.2	2.0	1.9
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	31.0	29.6	29.4	28.5	27.8	27.3	26.9	26.6	26.3	26.1	26.0	25.9
Primary balance	3.0	1.5	0.9	0.6	0.4	0.3	0.2	0.1	-0.1	-0.2	-0.3	-0.3
Structural primary balance (before CoA)	4.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Real GDP growth	2.4	3.3	1.1	1.3	0.9	0.8	0.9	1.1	1.3	1.5	1.6	1.5
Gross financing needs	4.7	5.3	5.6	4.8	4.8	4.8	4.7	4.8	4.8	4.9	4.9	4.9
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	31.0	29.5	28.7	27.1	25.7	24.4	23.2	22.1	21.0	20.1	19.2	18.4
Implicit interest rate (nominal)	1.9	2.0	2.0	2.1	2.2	2.3	2.4	2.4	2.5	2.5	2.6	2.7
Real GDP growth	2.4	2.0	0.8	0.9	0.6	0.4	0.4	0.6	0.8	1.0	1.1	1.0
Gross financing needs	4.7	4.9	4.8	3.9	3.6	3.2	3.0	2.7	2.6	2.5	2.3	2.2
6. Exchange rate depreciation scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	31.0	29.4	28.4	26.6	25.0	23.6	22.2	20.9	19.7	18.6	17.6	16.7
Exchange rate depreciation	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

5. GERMANY

This annex assesses fiscal sustainability risks for Germany over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks (.[105]). Government gross financing needs are expected to remain relatively large, at around 15% of GDP over 2025-2026. Financial markets' perceptions of sovereign risk are investment grade, as confirmed by the main rating agencies.

2 – Medium-term fiscal sustainability risks are medium.

Under the DSA baseline, debt is projected to slightly increase over the medium term, reaching around 66% of GDP in 2035 (.[106]). The increase in the government debt ratio is partially driven by the assumed structural primary deficit of 0.2% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing. This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past (.[107]). Moreover, ageing-related expenditure is projected to increase significantly, weighing on public finances. At the same time, the baseline projection benefits from a still favourable (although declining) snowball effect up. Government gross financing needs are expected to increase to high levels over the projection period, reaching around 16% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. Three scenarios lead to higher debt levels than the baseline. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the debt ratio would exceed the baseline by around 5 pps. by 2035. Under the *financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline) and the *lower SPB scenario* (in which the improvement in the SPB forecast for 2025 is halved), the debt ratio would be around 1 pp. higher than in the baseline by 2035. Finally, under the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of -1.3% of GDP), the debt ratio would be around 8 pps. lower than under the baseline by 2035.

The stochastic projections run around the baseline indicate low risk (.[108]). These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 47%, pointing to medium risk given the initial debt level. At the same time, low uncertainty surrounds the baseline debt projection, as measured by the difference of around 15 pps. between the 10th and 90th debt distribution percentiles in five years' time.

([105]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([106]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 0.2% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 0.9%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([107]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([108]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

3 – Long-term fiscal sustainability risks are medium. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([109]). The medium risk stems from the projected increase in ageing-related costs and by the unfavourable initial deficit.

The S2 indicator points to medium risk. It signals that Germany would need to improve its structural primary balance by 2.1% of GDP to ensure that debt stabilises over the long term. This result is mainly driven by the projected increase in ageing costs, which contributes 1.4 pps., of which 0.4 pps. stem from pension expenditure and 1.1 pps. jointly from health care, long-term care and education expenditure. The remaining required fiscal effort is due to the unfavourable budgetary position, contributing 0.7 pps.

The S1 indicator points to low risk. This indicator shows that a fiscal effort of 1.4% of GDP would be needed for Germany to reduce its debt to 60% of GDP by 2070. This result is also mainly driven by the projected increase in ageing costs (contributing 1.1 pps.). The initial unfavourable deficit and high debt level contribute an additional 0.3 pps.

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors are related to the recent high share of short-term government debt. On the other-hand, risk-mitigating factors include the lengthening of debt maturity in recent years, relatively stable financing sources (with a diversified and large investor base), a low share of public debt held in foreign currency and Germany's positive net international investment position.

([109]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
Overall (S0)	Overall		Deterministic scenarios: Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
LOW	MEDIUM	Overall	MEDIUM	LOW	MEDIUM	MEDIUM	MEDIUM	LOW	MEDIUM	LOW	MEDIUM
		Debt level (2035), % of GDP	65.9	57.7	66.7	71.5	66.4				
		Debt peak year	2035	2025	2035	2035	2035				
		Fiscal consolidation space	73%	50%	73%	73%	73%				
		Probability of debt ratio exceeding in 2029 its 2024 level						47%			
		Difference between 90th and 10th percentiles (% of GDP)						15.2			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

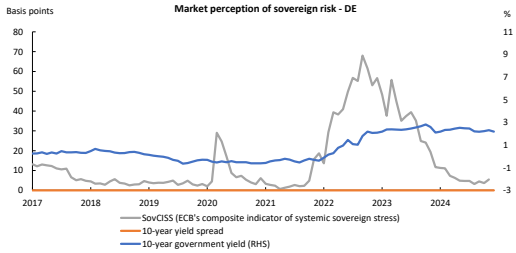
2. Short-term fiscal sustainability risks

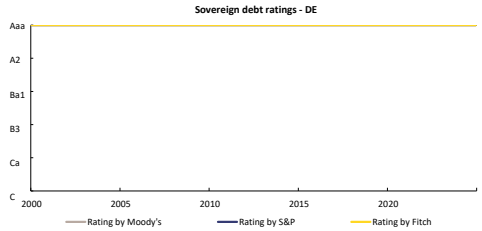
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.18**
Fiscal sub-component	0.36	0.08
Financial competitiveness sub-component	0.49	0.24

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	0.0

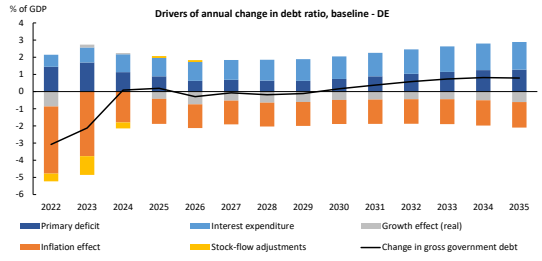
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

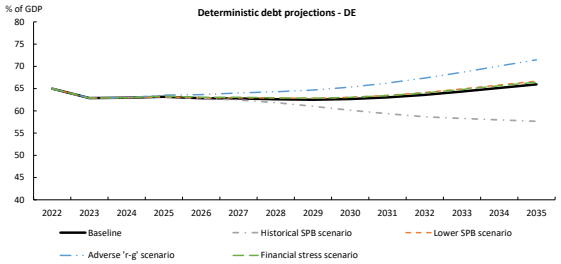


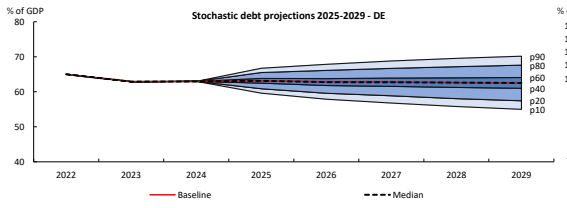


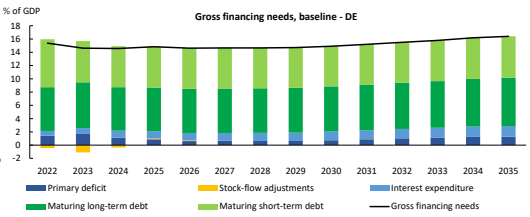
3. Medium-term fiscal sustainability risks

Germany - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**65.0**	**62.9**	**63.0**	**63.2**	**62.9**	**62.8**	**62.6**	**62.5**	**62.7**	**63.0**	**63.6**	**64.3**	**65.2**	**65.9**
Change in the ratio (-1+2+3)	*-3.1*	*-2.1*	*0.1*	*0.2*	*-0.3*	*-0.1*	*-0.2*	*-0.1*	*0.2*	*0.4*	*0.6*	*0.7*	*0.8*	*0.8*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-1.4**	**-1.7**	**-1.1**	**-0.9**	**-0.6**	**-0.7**	**-0.6**	**-0.6**	**-0.7**	**-0.9**	**-1.0**	**-1.1**	**-1.2**	**-1.3**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-1.3***	***-1.3***	***-0.3***	***-0.2***	***-0.3***	***-0.5***	***-0.6***	***-0.6***	***-0.7***	***-0.9***	***-1.0***	***-1.1***	***-1.2***	***-1.3***
(1.1.1) Structural primary balance (before CoA)	*-1.3*	*-1.3*	*-0.3*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*	*-0.2*
(1.1.2) Cost of ageing (CoA)					*0.1*	*0.3*	*0.4*	*0.5*	*0.6*	*0.8*	*0.9*	*1.0*	*1.1*	*1.2*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*
(1.2) Cyclical component	***0.1***	***-0.4***	***-0.8***	***-0.7***	***-0.3***	***-0.2***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***-0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-4.1**	**-2.7**	**-0.7**	**-0.8**	**-1.0**	**-0.8**	**-0.8**	**-0.7**	**-0.6**	**-0.5**	**-0.5**	**-0.4**	**-0.4**	**-0.5**
(2.1) Interest expenditure	*0.7*	*0.9*	*1.0*	*1.1*	*1.1*	*1.2*	*1.2*	*1.3*	*1.3*	*1.4*	*1.4*	*1.5*	*1.6*	*1.6*
(2.2) Growth effect (real)	*-0.9*	*0.2*	*0.1*	*-0.4*	*-0.7*	*-0.5*	*-0.6*	*-0.6*	*-0.5*	*-0.5*	*-0.4*	*-0.4*	*-0.5*	*-0.6*
(2.3) Inflation effect	*-3.9*	*-3.8*	*-1.8*	*-1.5*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.5*	*-1.5*	*-1.5*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**-0.5**	**-1.1**	**-0.3**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.6*	*-1.1*	*-0.3*	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-2.0	-2.1	-1.4	-1.3	-1.4	-1.6	-1.8	-1.9	-2.1	-2.3	-2.5	-2.6	-2.8	-2.9
Gross financing needs	15.4	14.6	14.6	14.8	14.6	14.7	14.7	14.7	14.9	15.2	15.5	15.8	16.2	16.4









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**2.0**	**2.1**	**2.3**	**3.6**
of which					
Initial budgetary position		0.5	0.7	0.8	0.7
Ageing costs		1.5	1.4	1.5	2.9
of which	*Pensions*	0.5	0.4	0.4	0.4
	Health care	0.5	0.5	0.4	1.2
	Long-term care	0.4	0.4	0.5	1.2
	Education	0.2	0.2	0.2	0.2
Required structural primary balance related to S2		**1.8**	**1.9**	**2.1**	**3.4**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**1.2**	**1.4**	**1.5**	**2.3**
of which					
Initial budgetary position		0.0	0.2	0.3	0.2
Debt requirement		0.1	0.1	0.1	0.1
Ageing costs		1.2	1.1	1.1	2.0
of which	*Pensions*	0.3	0.3	0.3	0.3
	Health care	0.3	0.3	0.3	0.8
	Long-term care	0.4	0.3	0.4	0.8
	Education	0.1	0.1	0.1	0.1
Required structural primary balance related to S1		**1.0**	**1.1**	**1.3**	**2.1**

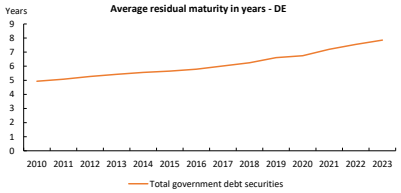
5. Additional aggravating and mitigating risk factors for fiscal sustainability

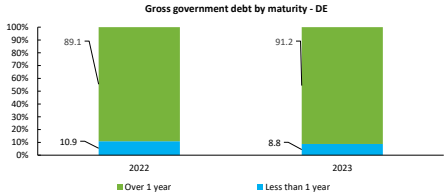
Public debt structure (2023) (% of total debt)	DE	EU
Share of short-term government debt	8.8	9.2
Share of gov't debt held by non-residents	45.2	n.a.
of which Non-EA residents	12.3	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	DE	EU
Net external debt	-9.1	n.a.
Net international investment position (NIIP)	70.8	0.9
Non-financial corporations debt	59.6	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	DE 2020	2021	2022	2023	EU 2023
State guarantees		**13.4**	**12.8**	**13.1**	**18.2**	**17.2**	**15.2**	**14.6**	**7.4**
of which	*One-off guarantees*	*13.4*	*12.8*	*13.1*	*18.2*	*17.2*	*15.2*	*14.6*	*6.1*
	Standardised guarantees	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.3*
Contingent liabilities related to support to financial institutions		**0.3**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.2***

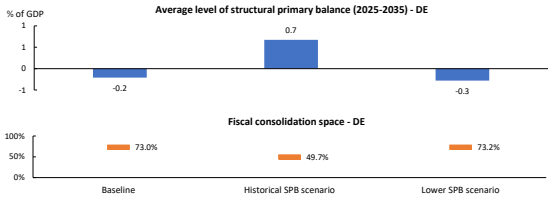
Government contingent liability risks from banking sector (2023)	DE %	DE annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	88.3	4.4	n.a.	n.a.
Share of non-performing loans	1.3	0.2	1.9	0.1

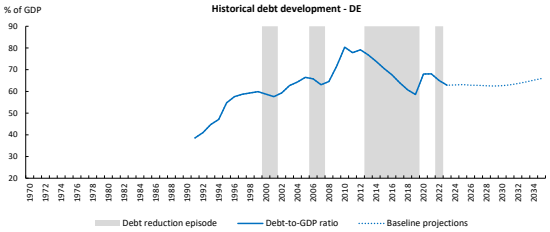
"n.a." means not available

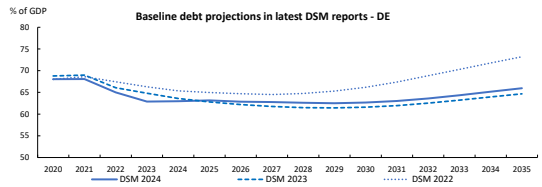
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)					
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.00%	0.11%	0.00%	0.13%	0.00%	0.13%

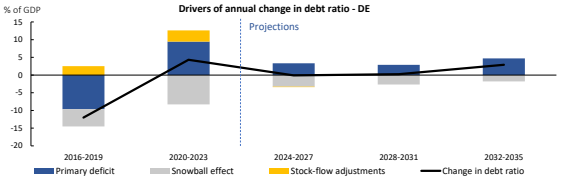
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	63.0	63.2	62.9	62.8	62.6	62.5	62.7	63.0	63.6	64.3	65.2	65.9
Primary balance	-1.1	-0.9	-0.6	-0.7	-0.6	-0.6	-0.7	-0.9	-1.0	-1.1	-1.2	-1.3
Structural primary balance (before CoA)	-0.3	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Real GDP growth	-0.1	0.7	1.2	0.9	1.1	1.0	0.8	0.8	0.7	0.7	0.8	1.0
Potential GDP growth	0.6	0.5	0.5	0.6	0.8	0.8	0.8	0.8	0.7	0.7	0.8	1.0
Inflation rate	2.9	2.4	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.3
Implicit interest rate (nominal)	1.7	1.8	1.8	1.9	2.0	2.1	2.2	2.2	2.3	2.4	2.5	2.5
Gross financing needs	14.6	14.8	14.6	14.7	14.7	14.7	14.9	15.2	15.5	15.8	16.2	16.4
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	63.0	63.2	62.8	62.4	61.8	61.0	60.1	59.4	58.7	58.3	58.0	57.7
Primary balance	-1.1	-0.9	-0.4	-0.3	-0.1	0.2	0.2	0.1	0.1	0.0	-0.1	-0.1
Structural primary balance (before CoA)	-0.3	-0.2	0.1	0.4	0.6	0.9	0.9	0.9	0.9	0.9	0.9	0.9
Real GDP growth	-0.1	0.7	1.0	0.7	0.8	0.9	1.0	1.0	1.0	0.7	0.8	1.0
Gross financing needs	14.6	14.8	14.5	14.3	14.1	13.8	13.6	13.6	13.5	13.5	13.6	13.6
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	63.0	63.3	63.1	63.1	62.9	62.8	63.0	63.4	64.0	64.8	65.6	66.4
Implicit interest rate (nominal)	1.7	2.0	1.9	2.0	2.1	2.2	2.2	2.3	2.4	2.4	2.5	2.6
Gross financing needs	14.6	15.0	14.7	14.8	14.8	14.8	15.0	15.3	15.6	15.9	16.3	16.5
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	63.0	63.2	62.9	62.9	62.9	62.8	63.0	63.5	64.1	64.9	65.8	66.7
Primary balance	-1.1	-0.9	-0.7	-0.7	-0.7	-0.7	-0.8	-1.0	-1.1	-1.2	-1.3	-1.3
Structural primary balance (before CoA)	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Real GDP growth	-0.1	0.7	1.2	0.9	1.0	1.1	0.8	0.8	0.7	0.7	0.8	1.0
Gross financing needs	14.6	14.9	14.7	14.7	14.8	14.8	15.0	15.3	15.7	16.0	16.4	16.6
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	63.0	63.5	63.7	64.0	64.3	64.7	65.3	66.2	67.4	68.7	70.1	71.5
Implicit interest rate (nominal)	1.7	1.9	2.0	2.1	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
Real GDP growth	-0.1	0.2	0.7	0.4	0.6	0.5	0.3	0.3	0.2	0.2	0.3	0.5
Gross financing needs	14.6	15.0	14.9	15.0	15.2	15.3	15.7	16.1	16.6	17.0	17.5	17.9

6. ESTONIA

This annex assesses fiscal sustainability risks for Estonia over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low overall. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([110]). Government gross financing needs are expected to remain limited, at around 3.5% of GDP in 2025-2026. Financial markets' perceptions of sovereign risk are investment grade, as confirmed by the main rating agencies.

2 – Medium-term fiscal sustainability risks are low.

Under the DSA baseline, debt is projected to increase steadily over the medium term, reaching around 30% of GDP in 2035, thus staying well below the 60% reference value ([111]). The increase in the government debt ratio is driven by the assumed structural primary deficit of 0.5% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in the cost of ageing ([112]). This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([113]). Age-related expenditure is projected to remain broadly unchanged. The baseline projection benefits from a still favourable (although declining) snowball effect up to 2029. Government gross financing needs are expected to remain limited, averaging around 3% of GDP in the period up to 2035.

The deterministic stress tests do not identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. All four scenarios lead to slightly higher debt levels than the baseline. Under the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of -0.6% of GDP), the debt ratio would be 1 pp. higher in 2035. The *lower SPB scenario* (in which the SPB in 2025 deteriorates by 50% more than in the forecast) results in a 2.5 pps. higher debt ratio in 2035. Government debt exceeds the baseline projection by about 2 pps. of GDP in 2035 under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1 pp. compared with the baseline). Finally, under the *financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline) the 2035 debt ratio is projected to be broadly unchanged compared with the baseline.

The stochastic projections run around the baseline point to low risk given the low initial debt level ([114])**.** The stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 64%, pointing to low risk given the modest initial debt level. Some

([110]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([111]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 0.5% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 0.8%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([112]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that Estonia commits to in its medium-term plan beyond 2025 is not taken into account in the projection.

([113]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([114]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

uncertainty surrounds the baseline debt projection, as measured by the difference of around 29 pps. of GDP between the 10th and 90th debt distribution percentiles in five years' time.

3 – Long-term fiscal sustainability risks are low. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([115]). The low-risk classification reflects the projected decrease in age-related spending and the low debt level.

The S2 indicator points to low risk. It signals that Estonia would need to improve its structural primary balance by just 0.2% of GDP to ensure that debt stabilises over the long term. The projected decrease in ageing costs, in particular declining pension spending, lowers the required adjustment by 0.5 pps., almost offsetting the required adjustment of 0.7 pps. that would be needed to stabilise the debt ratio given the initial budgetary position.

The S1 indicator also points to low risk. This indicator shows that a small loosening of the SPB of 0.3% of GDP would result in a debt ratio of 60% of GDP in 2070. This result is mainly driven by the distance from the 60% debt ratio, which more than offsets the 0.6 pps. adjustment required because of the initial deficit.

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors relate to the recent increase in interest rates (Section 1.3) and the large share of government debt held by non-residents (Section 4.1.2). On the other hand, risk-mitigating factors include the low gross financing needs (Section 1.2), the modest contingent liabilities (Sections 4.2.2 and 4.2.3) and the fact that the overall still low government debt is fully denominated in euro (Section 4.1.3).

([115]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% of GDP by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)							Long term		
Overall (S0)	Overall		Deterministic scenarios: Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
LOW	LOW	Overall	LOW	LOW	LOW	LOW	LOW	LOW	LOW	LOW	LOW
		Debt level (2035), % of GDP	29.5	30.6	32.0	31.6	29.9				
		Debt peak year	2035	2035	2035	2035	2035				
		Fiscal consolidation space	62%	62%	63%	62%	62%				
		Probability of debt ratio exceeding in 2029 its 2024 level						64%			
		Difference between 90th and 10th percentiles (% of GDP)						29.5			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

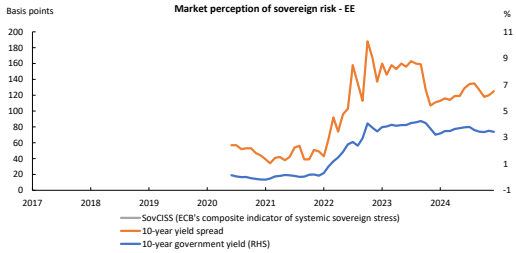
2. Short-term fiscal sustainability risks

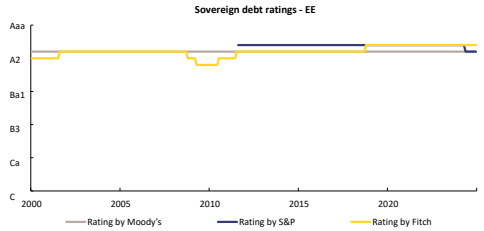
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.43**
Fiscal sub-component	0.36	0.12
Financial competitiveness sub-component	0.49	0.59

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	125.0

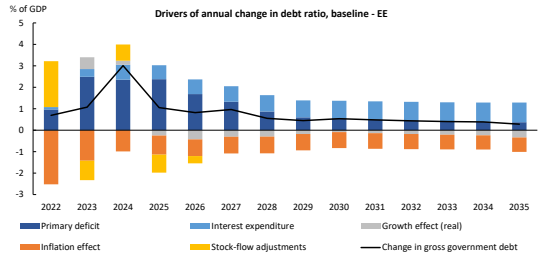
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

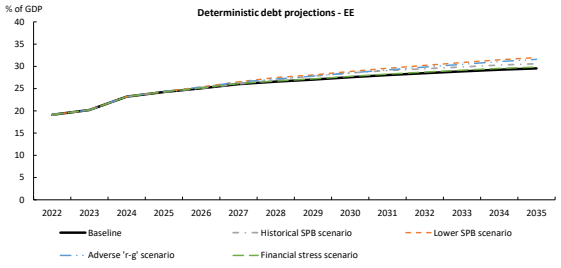


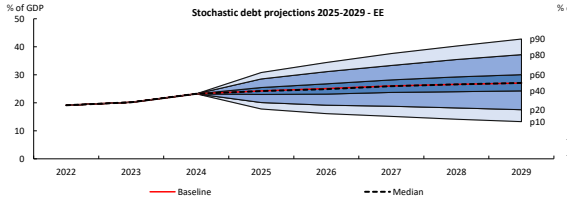


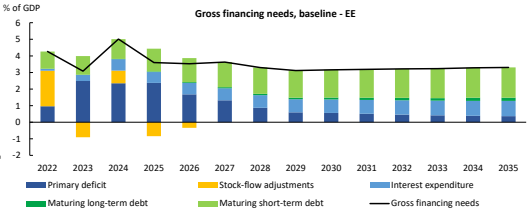
3. Medium-term fiscal sustainability risks

Estonia - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**19.1**	**20.2**	**23.2**	**24.2**	**25.1**	**26.0**	**26.6**	**27.0**	**27.6**	**28.0**	**28.5**	**28.9**	**29.3**	**29.5**
Change in the ratio (-1+2+3)	*0.7*	*1.1*	*3.0*	*1.0*	*0.8*	*1.0*	*0.6*	*0.4*	*0.5*	*0.5*	*0.4*	*0.4*	*0.4*	*0.3*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-1.0**	**-2.5**	**-2.4**	**-2.4**	**-1.7**	**-1.3**	**-0.9**	**-0.6**	**-0.6**	**-0.5**	**-0.5**	**-0.4**	**-0.4**	**-0.4**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-1.2***	***-0.8***	***-0.1***	***-0.5***	***-0.6***	***-0.6***	***-0.6***	***-0.6***	***-0.6***	***-0.5***	***-0.5***	***-0.4***	***-0.4***	***-0.4***
(1.1.1) Structural primary balance (before CoA)	*-1.2*	*-0.8*	*-0.1*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*
(1.1.2) Cost of ageing (CoA)					*0.0*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.2*	*-0.2*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(1.2) Cyclical component	***0.1***	***-1.7***	***-2.3***	***-1.8***	***-1.1***	***-0.7***	***-0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-2.4**	**-0.5**	**-0.1**	**-0.5**	**-0.5**	**-0.4**	**-0.3**	**-0.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**-0.1**
(2.1) Interest expenditure	*0.1*	*0.4*	*0.7*	*0.7*	*0.7*	*0.7*	*0.8*	*0.8*	*0.8*	*0.8*	*0.9*	*0.9*	*0.9*	*0.9*
(2.2) Growth effect (real)	*0.0*	*0.6*	*0.2*	*-0.3*	*-0.4*	*-0.3*	*-0.3*	*-0.2*	*-0.1*	*-0.1*	*-0.2*	*-0.2*	*-0.2*	*-0.3*
(2.3) Inflation effect	*-2.5*	*-1.4*	*-1.0*	*-0.9*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**2.1**	**-0.9**	**0.8**	**-0.8**	**-0.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*2.1*	*-0.9*	*0.8*	*-0.8*	*-0.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-1.4	-1.1	-0.8	-1.2	-1.2	-1.3	-1.4	-1.4	-1.4	-1.3	-1.3	-1.3	-1.3	-1.3
Gross financing needs	4.3	3.1	5.0	3.6	3.5	3.6	3.3	3.1	3.2	3.2	3.2	3.2	3.3	3.3









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**-0.4**	**0.2**	**0.4**	**5.6**
of which					
Initial budgetary position		0.1	0.7	0.8	0.8
Ageing costs		-0.5	-0.5	-0.4	4.8
of which	*Pensions*	-1.1	-1.1	-0.9	-1.0
	Health care	0.5	0.5	0.5	1.4
	Long-term care	0.5	0.5	0.5	4.9
	Education	-0.5	-0.5	-0.5	-0.5
Required structural primary balance related to S2		**-0.4**	**-0.3**	**-0.1**	**5.0**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**-0.9**	**-0.3**	**-0.1**	**2.1**
of which					
Initial budgetary position		0.0	0.6	0.7	0.6
Debt requirement		-0.8	-0.8	-0.7	-0.8
Ageing costs		-0.1	-0.1	-0.1	2.3
of which	*Pensions*	-0.4	-0.4	-0.3	-0.4
	Health care	0.4	0.4	0.3	1.0
	Long-term care	0.3	0.3	0.3	2.1
	Education	-0.4	-0.4	-0.4	-0.4
Required structural primary balance related to S1		**-0.9**	**-0.8**	**-0.7**	**1.5**

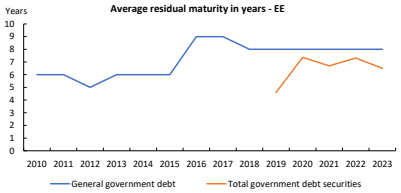
5. Additional aggravating and mitigating risk factors for fiscal sustainability

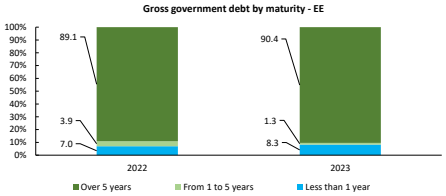
Public debt structure (2023) (% of total debt)		EE	EU
Share of short-term government debt		8.3	9.2
Share of gov't debt held by non-residents		79.8	n.a.
of which	*Non-EA residents*	7.2	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	EE	EU
Net external debt	-33.5	n.a.
Net international investment position (NIIP)	-21.1	0.9
Non-financial corporations debt	54.5	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	EE 2020	2021	2022	2023	EU 2023
State guarantees		**1.7**	**1.6**	**1.4**	**2.0**	**1.7**	**1.4**	**1.2**	**7.4**
of which	*One-off guarantees*	*0.0*	*0.0*	*0.0*	*0.2*	*0.2*	*0.2*	*0.2*	*6.1*
	Standardised guarantees	*1.7*	*1.5*	*1.4*	*1.8*	*1.5*	*1.2*	*1.0*	*1.3*
Contingent liabilities related to support to financial institutions		**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.7
	Securities issued under liquidity schemes	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.0
	Special purpose entity	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.0
Public-private partnerships (PPPs)		***0.1***	***0.1***	***0.1***	***0.1***	***0.0***	***0.0***	***0.0***	***0.2***

Government contingent liability risks from banking sector (2023)	EE		EU	
	%	annual change in pps.	%	annual change in pps.
Bank loans-to-deposits ratio	87.4	-3.2	n.a.	n.a.
Share of non-performing loans	1.7	0.7	1.9	0.1

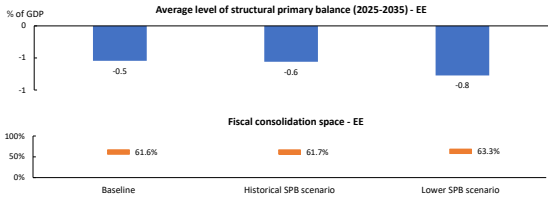
"n.a." means not available

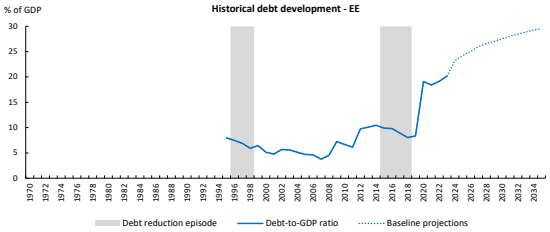
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)

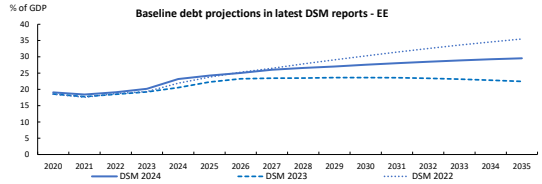
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.00%	0.04%	0.01%	0.10%	0.02%	0.16%

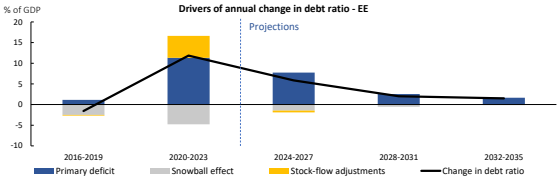
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	23.2	24.2	25.1	26.0	26.6	27.0	27.6	28.0	28.5	28.9	29.3	29.5
Primary balance	-2.4	-2.4	-1.7	-1.3	-0.9	-0.6	-0.6	-0.5	-0.5	-0.4	-0.4	-0.4
Structural primary balance (before CoA)	-0.1	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Real GDP growth	-1.0	1.1	1.9	1.3	1.2	0.7	0.3	0.5	0.7	0.8	0.9	1.2
Potential GDP growth	0.1	0.2	0.3	0.5	0.2	0.2	0.3	0.5	0.7	0.8	0.9	1.2
Inflation rate	5.1	4.0	3.3	3.2	3.1	3.0	2.8	2.7	2.6	2.5	2.4	2.3
Implicit interest rate (nominal)	3.6	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.2	3.2	3.2	3.3
Gross financing needs	5.0	3.6	3.5	3.6	3.3	3.1	3.2	3.2	3.2	3.2	3.3	3.3
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	23.2	24.2	25.1	26.0	27.0	27.8	28.5	29.1	29.5	29.9	30.3	30.6
Primary balance	-2.4	-2.4	-1.7	-1.3	-1.1	-0.9	-0.8	-0.6	-0.5	-0.4	-0.4	-0.4
Structural primary balance (before CoA)	-0.1	-0.5	-0.5	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
Real GDP growth	-1.0	1.1	1.9	1.3	0.7	0.5	0.6	0.7	0.9	0.8	0.9	1.2
Gross financing needs	5.0	3.6	3.5	3.6	3.6	3.5	3.5	3.4	3.3	3.4	3.4	3.4
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	23.2	24.3	25.1	26.1	26.7	27.2	27.7	28.3	28.7	29.1	29.5	29.9
Implicit interest rate (nominal)	3.6	3.2	3.1	3.1	3.2	3.2	3.2	3.2	3.2	3.3	3.3	3.3
Gross financing needs	5.0	3.6	3.6	3.7	3.3	3.2	3.2	3.2	3.3	3.3	3.3	3.4
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	23.2	24.4	25.4	26.5	27.5	28.1	28.9	29.6	30.2	30.9	31.5	32.0
Primary balance	-2.4	-2.5	-1.9	-1.5	-1.2	-0.8	-0.8	-0.7	-0.7	-0.6	-0.6	-0.6
Structural primary balance (before CoA)	-0.1	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
Real GDP growth	-1.0	1.3	1.8	1.2	0.9	0.9	0.3	0.5	0.7	0.8	0.9	1.2
Gross financing needs	5.0	3.7	3.7	3.9	3.7	3.4	3.5	3.6	3.6	3.6	3.7	3.8
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	23.2	24.4	25.3	26.5	27.2	27.8	28.5	29.2	29.8	30.5	31.1	31.6
Implicit interest rate (nominal)	3.6	3.1	3.1	3.2	3.2	3.3	3.3	3.4	3.4	3.5	3.5	3.6
Real GDP growth	-1.0	0.6	1.4	0.8	0.7	0.2	-0.2	0.0	0.2	0.3	0.4	0.7
Gross financing needs	5.0	3.6	3.6	3.7	3.4	3.2	3.3	3.4	3.4	3.5	3.5	3.6

7. IRELAND

This annex assesses fiscal sustainability risks for Ireland over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([116]). Government gross financing needs are expected to remain low, at around 2.5% of GDP over 2025-2026. Irish sovereign debt maintains its positive market presence and investor confidence. All major rating agencies have a "AA" rating on Ireland.

2 – Medium-term fiscal sustainability risks are low.

Under the DSA baseline, debt is projected to decline steadily over the medium term, reaching around 13% of GDP in 2035 ([117]). The increase in the government debt ratio is partially driven by the assumed structural primary surplus of 2.7% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing ([118]). This structural primary balance (SPB) level is relatively high compared with past fiscal performance ([119]). Ageing-related expenditure is projected to increase, weighing on public finances. At the same time, the baseline projection benefits from a still favourable (although declining) snowball effect. Moreover, government gross financing needs are expected to remain low and to decrease over the projection period.

The deterministic stress tests do not identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. Under the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of -1.6% of GDP), the debt ratio would exceed the baseline level by around 31 pps. by 2035, although remaining well below 60% of GDP. Under the *lower SPB scenario* (in which the SPB in 2025 deteriorates by 50% more than in the forecast) and the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the debt ratio would increase by around 4 pps. and 2 pps., respectively. Under the *financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline) the debt ratio would be broadly unchanged compared with the baseline.

The stochastic projections run around the baseline indicate low risk due to the low probability of debt increasing over the next five years ([120])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 16%, pointing to low risk given the low initial debt level. Some uncertainty surrounds the baseline debt projection, as

([116]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([117]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary surplus, before changes in ageing costs, of 2.7% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2030 (average of 2.9%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([118]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that Ireland commits to in its medium-term plan beyond 2025 is not taken into account in the projection.

([119]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([120]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

measured by the difference of around 35 pps. between the 10th and 90th debt distribution percentiles in five years' time.

3 – Long-term fiscal sustainability risks are medium. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([121]). The medium risk stems from the projected increase in ageing-related costs.

The S2 indicator points to medium risk. It signals that Ireland would need to improve its structural primary balance by 2.2% of GDP to ensure that debt stabilises over the long term. This result is mainly driven by the projected increase in ageing costs, which contributes 4.5 pps., of which 2.6 pps. stem from pension expenditure and 2.4 pps. jointly from health care and long-term care expenditure, partially offset by a negative contribution from education (contributing -0.5 pps.). The favourable initial budgetary position partly offsets the ageing costs (contributing -2.3 pps.).

The S1 indicator points to low risk. This indicator shows that Ireland would not need to improve its fiscal position to bring its debt to 60% of GDP by 2070. The projected increase in ageing costs (contributing 3.2 pps.) is offset by the high initial fiscal surplus (contributing -2.8 pps.) and the current distance of the government debt ratio from the 60% reference value (-0.5 pps. of GDP).

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors relate to a relatively large share of short-term public debt as well as public debt held by non-residents (Section 4.1), and (iii) the negative net international investment position, though this largely reflects the presence of multinationals and the International Financial Services Centre (Section 4.2.4). Alternative metrics to GDP suggest higher fiscal sustainability risks. On the other hand, risk-mitigating factors include relatively stable financing sources with a diversified and large investor base and the currency denomination of debt (Section 4.1).

([121]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)							Long term		
Overall (S0)	Overall		Deterministic scenarios: Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
		Overall	LOW	LOW	LOW	LOW	LOW	LOW			
		Debt level (2035), % of GDP	13.4	44.1	17.5	15.0	13.6				
LOW	LOW	Debt peak year	2025	2035	2025	2025	2025		MEDIUM	LOW	MEDIUM
		Fiscal consolidation space	44%	79%	48%	44%	44%				
		Probability of debt ratio exceeding in 2029 its 2024 level						16%			
		Difference between 90th and 10th percentiles (% of GDP)						35.5			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

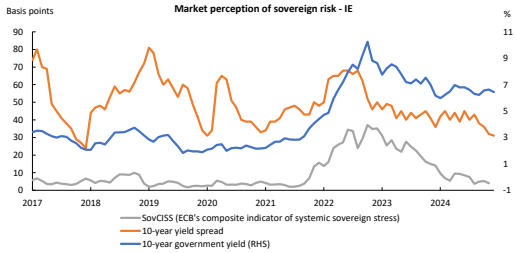
2. Short-term fiscal sustainability risks

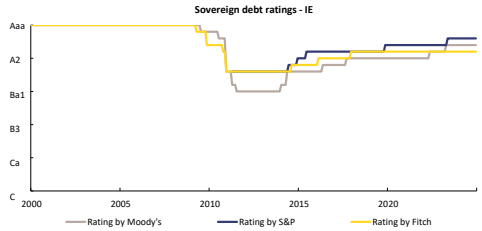
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.22**
Fiscal sub-component	0.36	0.00
Financial competitiveness sub-component	0.49	0.33

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	31.0

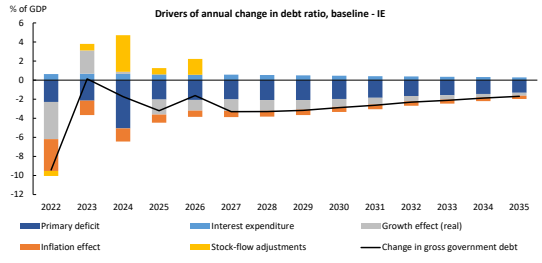
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

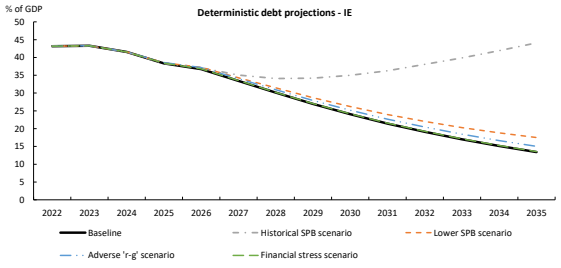


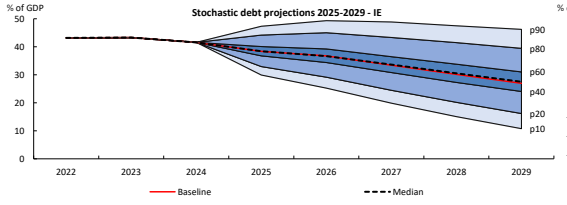


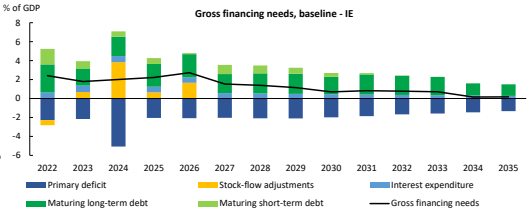
3. Medium-term fiscal sustainability risks

Ireland - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**43.1**	**43.3**	**41.6**	**38.3**	**36.7**	**33.4**	**30.1**	**27.0**	**24.1**	**21.4**	**19.1**	**17.0**	**15.1**	**13.4**
Change in the ratio (-1+2+3)	*-9.4*	*0.1*	*-1.7*	*-3.2*	*-1.6*	*-3.3*	*-3.3*	*-3.2*	*-2.9*	*-2.6*	*-2.3*	*-2.1*	*-1.9*	*-1.7*
of which														
(1) Primary balance (1.1+1.2+1.3)	**2.3**	**2.2**	**5.1**	**2.0**	**2.1**	**2.0**	**2.1**	**2.1**	**2.0**	**1.9**	**1.7**	**1.6**	**1.5**	**1.3**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-3.1***	***1.7***	***3.6***	***2.7***	***2.5***	***2.3***	***2.2***	***2.1***	***2.0***	***1.9***	***1.7***	***1.6***	***1.5***	***1.3***
(1.1.1) Structural primary balance (before CoA)	*-3.1*	*1.7*	*3.6*	*2.7*	*2.7*	*2.7*	*2.7*	*2.7*	*2.7*	*2.7*	*2.7*	*2.7*	*2.7*	*2.7*
(1.1.2) Cost of ageing (CoA)					*0.2*	*0.4*	*0.5*	*0.6*	*0.7*	*0.8*	*1.0*	*1.1*	*1.2*	*1.3*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(1.2) Cyclical component	***5.4***	***0.4***	***-1.2***	***-0.6***	***-0.4***	***-0.3***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***2.7***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-6.6**	**1.6**	**-0.5**	**-1.8**	**-1.2**	**-1.3**	**-1.2**	**-1.1**	**-0.9**	**-0.8**	**-0.6**	**-0.5**	**-0.4**	**-0.4**
(2.1) Interest expenditure	*0.6*	*0.7*	*0.6*	*0.6*	*0.6*	*0.6*	*0.5*	*0.5*	*0.5*	*0.4*	*0.4*	*0.3*	*0.3*	*0.3*
(2.2) Growth effect (real)	*-3.9*	*2.4*	*0.2*	*-1.6*	*-1.1*	*-1.2*	*-1.1*	*-1.0*	*-0.8*	*-0.7*	*-0.6*	*-0.5*	*-0.4*	*-0.3*
(2.3) Inflation effect	*-3.3*	*-1.5*	*-1.4*	*-0.8*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.5*	*-0.5*	*-0.5*	*-0.4*	*-0.4*	*-0.3*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**-0.5**	**0.7**	**3.8**	**0.7**	**1.7**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.5*	*0.7*	*3.8*	*0.7*	*1.7*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-3.7	1.0	2.9	2.1	1.9	1.7	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.0
Gross financing needs	2.4	1.8	2.0	2.2	2.7	1.5	1.4	1.1	0.7	0.8	0.8	0.7	0.2	0.2









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**4.0**	**2.2**	**2.1**	**3.5**
of which					
Initial budgetary position		-0.6	-2.3	-2.3	-2.3
Ageing costs		4.5	4.5	4.4	5.8
of which	*Pensions*	2.6	2.6	2.6	2.6
	Health care	1.3	1.3	1.2	2.0
	Long-term care	1.1	1.1	1.0	1.6
	Education	-0.5	-0.5	-0.4	-0.5
Required structural primary balance related to S2		**4.8**	**4.9**	**4.8**	**6.1**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**1.7**	**-0.2**	**-0.1**	**0.7**
of which					
Initial budgetary position		-1.1	-2.8	-2.8	-2.9
Debt requirement		-0.4	-0.5	-0.5	-0.5
Ageing costs		3.2	3.2	3.1	4.1
of which	*Pensions*	2.0	2.0	2.0	2.0
	Health care	0.9	0.9	0.9	1.5
	Long-term care	0.7	0.7	0.7	0.9
	Education	-0.4	-0.4	-0.4	-0.4
Required structural primary balance related to S1		**2.5**	**2.5**	**2.6**	**3.4**

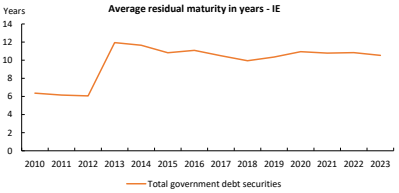
5. Additional aggravating and mitigating risk factors for fiscal sustainability

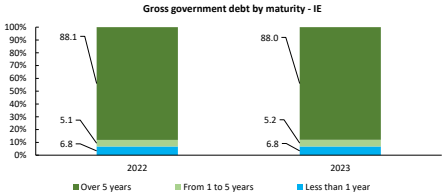
Public debt structure (2023) (% of total debt)	IE	EU
Share of short-term government debt	6.8	9.2
Share of gov't debt held by non-residents	54.2	n.a.
of which Non-EA residents	7.3	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	IE	EU
Net external debt	-221.5	n.a.
Net international investment position (NIIP)	-101.4	0.9
Non-financial corporations debt	109.7	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	IE 2020	2021	2022	2023	EU 2023
State guarantees		**0.2**	**0.0**	**0.0**	**0.2**	**0.2**	**0.2**	**0.2**	**7.4**
of which	*One-off guarantees*	*0.1*	*0.0*	*0.0*	*0.2*	*0.2*	*0.1*	*0.1*	*6.1*
	Standardised guarantees	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*1.3*
Contingent liabilities related to support to financial institutions		**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.8***	***0.7***	***0.7***	***0.7***	***0.6***	***0.5***	***0.4***	***0.2***

Government contingent liability risks from banking sector (2023)	IE %	IE annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	75.4	0.8	n.a.	n.a.
Share of non-performing loans	2.1	-0.2	1.9	0.1

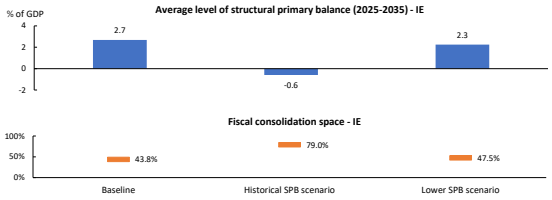
"n.a." means not available

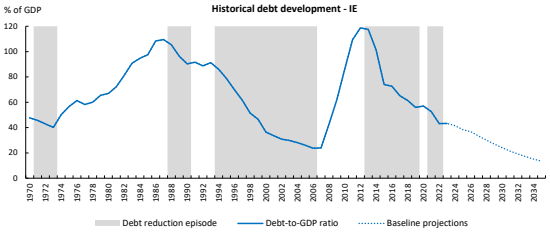
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)

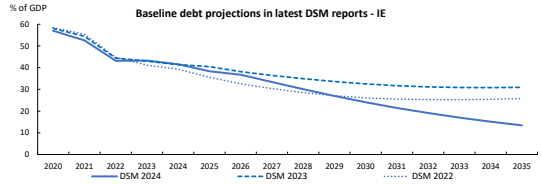
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.13%	0.26%	0.20%	0.59%	0.31%	1.03%

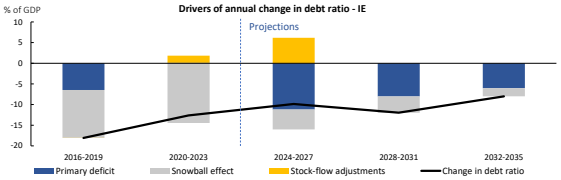
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	41.6	38.3	36.7	33.4	30.1	27.0	24.1	21.4	19.1	17.0	15.1	13.4
Primary balance	5.1	2.0	2.1	2.0	2.1	2.1	2.0	1.9	1.7	1.6	1.5	1.3
Structural primary balance (before CoA)	3.6	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Real GDP growth	-0.5	4.0	3.1	3.4	3.6	3.5	3.2	3.0	2.8	2.5	2.2	2.1
Potential GDP growth	2.6	2.9	2.7	3.2	3.2	3.3	3.2	3.0	2.8	2.5	2.2	2.1
Inflation rate	3.3	2.1	1.7	1.8	1.9	2.0	2.0	2.1	2.2	2.3	2.4	2.3
Implicit interest rate (nominal)	1.5	1.5	1.5	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.0
Gross financing needs	2.0	2.2	2.7	1.5	1.4	1.1	0.7	0.8	0.8	0.7	0.2	0.2
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	41.6	38.3	37.1	35.1	34.1	34.2	35.0	36.3	38.1	39.9	41.9	44.1
Primary balance	5.1	2.0	1.4	0.6	-0.3	-1.3	-1.7	-2.1	-2.6	-2.7	-2.8	-2.9
Structural primary balance (before CoA)	3.6	2.7	1.6	0.6	-0.5	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6
Real GDP growth	-0.5	4.0	3.9	4.0	3.7	3.6	2.7	2.5	2.2	2.5	2.2	2.1
Gross financing needs	2.0	2.2	3.4	2.1	3.2	4.3	4.6	5.8	6.6	7.2	6.6	7.2
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	41.6	38.4	36.8	33.5	30.2	27.1	24.2	21.6	19.2	17.1	15.3	13.6
Implicit interest rate (nominal)	1.5	1.7	1.6	1.7	1.7	1.8	1.8	1.9	1.9	2.0	2.0	2.0
Gross financing needs	2.0	2.2	2.7	1.5	1.4	1.2	0.7	0.9	0.8	0.7	0.2	0.2
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	41.6	38.5	37.2	34.3	31.5	28.7	26.2	24.0	22.0	20.3	18.8	17.5
Primary balance	5.1	1.8	1.7	1.7	1.6	1.7	1.5	1.4	1.2	1.2	1.0	0.9
Structural primary balance (before CoA)	3.6	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Real GDP growth	-0.5	4.3	3.0	3.4	3.4	3.5	3.2	3.0	2.8	2.5	2.2	2.1
Gross financing needs	2.0	2.3	3.1	1.7	1.7	1.6	1.3	1.6	1.6	1.6	1.0	1.1
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	41.6	38.6	37.2	34.0	30.9	27.9	25.2	22.7	20.4	18.4	16.6	15.0
Implicit interest rate (nominal)	1.5	1.6	1.6	1.8	1.8	1.9	1.9	2.0	2.1	2.1	2.2	2.2
Real GDP growth	-0.5	3.5	2.6	2.9	3.1	3.0	2.7	2.5	2.3	2.0	1.7	1.6
Gross financing needs	2.0	2.2	2.8	1.6	1.5	1.3	0.9	1.0	1.0	0.9	0.3	0.4

8. GREECE

This annex assesses fiscal sustainability risks for Greece over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low overall. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([122]). Government gross financing needs are expected to remain low, at around 10% of GDP over 2025-2026. Greece maintains investment grade in its sovereign credit rating from three of the four major credit rating agencies by the cut-off date of this report.

2 – Medium-term fiscal sustainability risks are high.

Under the DSA baseline, debt is projected to decline but to remain high over the medium term, reaching around 119% of GDP in 2035 ([123]). The reduction in the government debt ratio is driven by the assumed structural primary surplus of 1.7% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing ([124]). This structural primary balance (SPB) level is plausible compared with past fiscal performance ([125]). The debt decline also benefits a still favourable (although declining) snowball effect up to 2034. Government gross financing needs are expected to decline until 2027, before increasing to around 14% of GDP in 2035.

The deterministic stress tests do identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. Three out of four scenarios lead to higher debt levels than the baseline. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1 pp. compared with the baseline), the debt ratio would exceed the baseline level by around 9 pps. by 2035. Under *the financial stress scenario* (in which interest rates temporarily increase by 4.8 pps. compared with the baseline) and under the *lower SPB scenario* (in which the SPB in 2025 deteriorates by 50% more than in the forecast), the debt ratio would also be higher than in the baseline by 2035, by around 2.5 pps. by 2035. Under the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of 4.1% of GDP), the debt ratio would be lower than under the baseline by around 20 pps. in 2035.

The stochastic projections run around the baseline indicate medium risk due to high level of debt ([126])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 18%, pointing to medium risk given the high initial debt ratio. High uncertainty surrounds the baseline debt projection, as measured by the difference of around 53 pps. between the 10th and 90th debt distribution percentiles in five years' time.

([122]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([123]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary surplus, before changes in ageing costs, of 1.7% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 0.8%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([124]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that Greece commits to in its medium-term plan beyond 2025 is not taken into account in the projection.

([125]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([126]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

3 – Long-term fiscal sustainability risks are low. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([127]).

The S2 indicator points to low risk. It signals that Greece would not need to improve its structural primary balance relative to the baseline to ensure that debt stabilises over the long term. This result is mainly driven by the favourable initial budgetary position (contribution of -0.5 pps.) and the projected decline in ageing costs (-0.4 pps.) Ageing costs' developments are primarily driven by a projected decrease in public pension expenditure (-0.8 pps.), which is to a large extent offset by a projected increase in health-care spending (0.7 pps).

The S1 indicator also points to low risk. This indicator shows that Greece would need to further improve its fiscal position only by 0.9% of GDP to reduce its debt to 60% of GDP by 2070. This result is mainly driven by the current distance of the Greek government debt ratio from the 60% reference value (contributing 1.8 pps.) and the projected increase in ageing costs (contributing 0.4 pps.). This effect is partially offset by the favourable initial budgetary position (contribution of -1.3 pps.).

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors relate to (i) the state guarantees (Section 4.2.2), and (ii) the non-performing loans in the banking sector (although the share of non-performing loans witnessed a sharp reduction in the previous years, it remains at the highest level in the EU), and pending legal cases against the state with potential budgetary implications also pose fiscal risks (Section 4.2.3). On the other hand, risk-mitigating factors are related to the structure of the debt. In particular, (i) the major share of debt is still held by official lenders at low interest rates, (ii) the particularly long maturity debt structure (compared with peer Member States), and (iv) the fact that public debt is completely denominated in euro, excludes currency risks (Section 4.1).

([127]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
Overall (S0)	Overall		Deterministic scenarios					Stochastic projections	S2	S1	Overall (S1 + S2)
			Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress				
LOW	HIGH	Overall	HIGH	HIGH	HIGH	HIGH	HIGH	MEDIUM	LOW	LOW	LOW
		Debt level (2035), % of GDP	119.1	99.5	121.6	128.4	121.6				
		Debt peak year	2025	2025	2025	2025	2025				
		Fiscal consolidation space	45%	29%	46%	45%	45%				
		Probability of debt ratio exceeding in 2029 its 2024 level						18%			
		Difference between 90th and 10th percentiles (% of GDP)						53.1			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

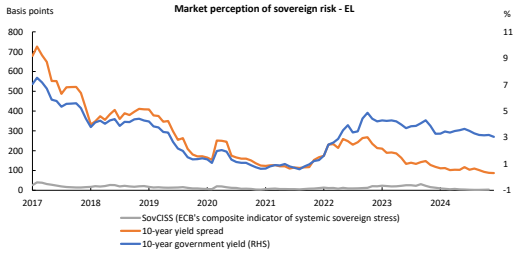
2. Short-term fiscal sustainability risks

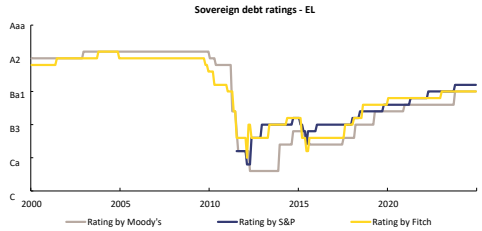
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.39**
Fiscal sub-component	0.36	0.08
Financial competitiveness sub-component	0.49	0.53

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	87.0

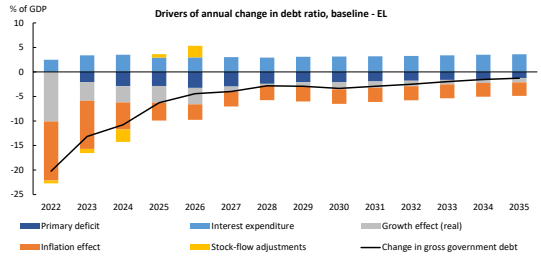
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

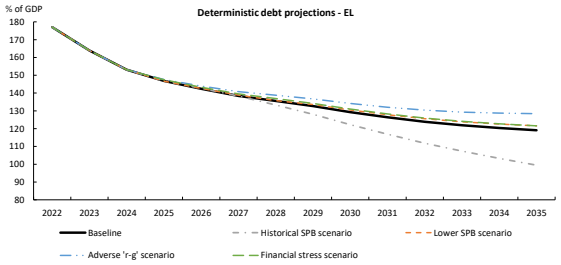


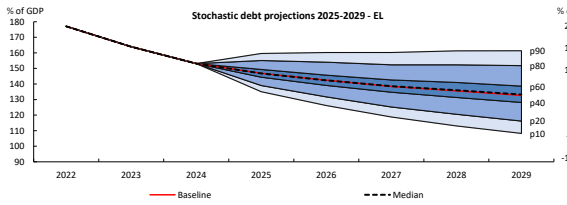


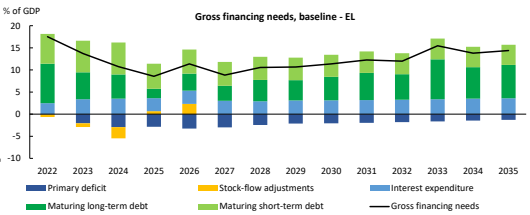
3. Medium-term fiscal sustainability risks

Greece - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**177.0**	**163.9**	**153.1**	**146.8**	**142.4**	**138.4**	**135.6**	**132.7**	**129.3**	**126.4**	**123.9**	**121.9**	**120.3**	**119.1**
Change in the ratio (-1+2+3)	*-20.2*	*-13.1*	*-10.8*	*-6.3*	*-4.4*	*-4.0*	*-2.8*	*-2.9*	*-3.4*	*-2.9*	*-2.5*	*-2.0*	*-1.5*	*-1.3*
of which														
(1) Primary balance (1.1+1.2+1.3)	**0.0**	**2.1**	**2.9**	**2.9**	**3.2**	**3.0**	**2.4**	**2.1**	**2.1**	**1.9**	**1.8**	**1.6**	**1.5**	**1.3**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***0.0***	***1.8***	***2.2***	***1.7***	***1.8***	***2.0***	***2.1***	***2.1***	***2.1***	***1.9***	***1.8***	***1.6***	***1.5***	***1.3***
(1.1.1) Structural primary balance (before CoA)	*0.0*	*1.8*	*2.2*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*	*1.7*
(1.1.2) Cost of ageing (CoA)					*-0.2*	*-0.4*	*-0.5*	*-0.5*	*-0.5*	*-0.4*	*-0.2*	*0.0*	*0.1*	*0.3*
(1.1.3) Others (taxes and property income)					*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*
(1.2) Cyclical component	***-0.5***	***0.4***	***0.9***	***1.2***	***1.4***	***0.9***	***0.3***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.5***	***-0.1***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-19.6**	**-10.3**	**-5.3**	**-4.1**	**-3.5**	**-1.0**	**-0.4**	**-0.8**	**-1.3**	**-1.0**	**-0.7**	**-0.4**	**-0.1**	**0.0**
(2.1) Interest expenditure	*2.5*	*3.4*	*3.5*	*2.9*	*3.0*	*3.0*	*2.9*	*3.1*	*3.1*	*3.2*	*3.3*	*3.4*	*3.5*	*3.6*
(2.2) Growth effect (real)	*-10.1*	*-3.8*	*-3.3*	*-3.4*	*-3.4*	*-1.0*	*-0.3*	*-0.9*	*-1.5*	*-1.3*	*-1.1*	*-0.9*	*-0.8*	*-0.9*
(2.3) Inflation effect	*-12.0*	*-9.8*	*-5.5*	*-3.6*	*-3.1*	*-3.1*	*-3.0*	*-3.0*	*-2.9*	*-2.9*	*-2.9*	*-2.8*	*-2.8*	*-2.7*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**-0.6**	**-0.8**	**-2.5**	**0.7**	**2.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.6*	*-0.8*	*-2.5*	*0.7*	*2.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-2.5	-1.6	-1.3	-1.2	-1.1	-1.0	-0.8	-1.0	-1.1	-1.3	-1.5	-1.8	-2.1	-2.3
Gross financing needs	17.5	13.7	10.7	8.6	11.4	8.8	10.5	10.7	11.4	12.3	12.0	15.5	13.8	14.4









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**-1.7**	**-0.8**	**0.0**	**2.4**
of which					
Initial budgetary position		-1.1	-0.5	-0.2	-0.5
Ageing costs		-0.6	-0.4	0.2	2.9
of which	*Pensions*	-1.0	-0.8	-0.2	-0.8
	Health care	0.7	0.7	0.7	1.5
	Long-term care	0.0	0.0	0.0	2.5
	Education	-0.3	-0.3	-0.2	-0.3
Required structural primary balance related to S2		**0.3**	**0.8**	**1.7**	**4.1**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**0.3**	**0.9**	**1.4**	**2.2**
of which					
Initial budgetary position		-1.7	-1.3	-1.0	-1.3
Debt requirement		1.8	1.8	1.7	1.8
Ageing costs		0.2	0.4	0.7	1.7
of which	*Pensions*	-0.2	0.0	0.3	0.0
	Health care	0.7	0.6	0.6	1.2
	Long-term care	0.0	0.0	0.0	0.7
	Education	-0.2	-0.2	-0.2	-0.2
Required structural primary balance related to S1		**2.3**	**2.6**	**3.1**	**3.8**

9. SPAIN

This annex assesses fiscal sustainability risks for Spain over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low overall. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([128]). Government gross financing needs are expected to remain large, at around 16% of GDP over 2025-2026. Financial markets' perceptions of sovereign risk are investment grade, as confirmed by the main rating agencies.

2 – Medium-term fiscal sustainability risks are high.

Under the DSA baseline, debt is projected to decline slightly until 2027 before increasing again over the medium term, reaching around 112% of GDP in 2035 ([129]). The increase in the government debt ratio is partially driven by the assumed structural primary deficit of 0.6% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing ([130]). This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([131]). Moreover, ageing-related expenditure is projected to increase, weighing on public finances. At the same time, the baseline projection benefits from a still favourable (although declining) snowball effect up to 2032. Government gross financing needs are expected to remain large and to increase over the projection period, reaching around 20% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. All four scenarios lead to higher debt levels than the baseline. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the debt ratio would exceed the baseline level by around 9 pps. by 2035. Under the other scenarios – namely the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of -1.3% of GDP), the *lower SPB scenario* (in which the improvement in the SPB forecast for 2025 is halved) and *the financial stress scenario* (in which interest rates temporarily increase by 1.7 pps. compared with the baseline) – the debt ratio would also be higher than in the baseline by 2035, by around 4 pps., 2 pps. and 1 pp., respectively.

The stochastic projections run around the baseline indicate high risk due to the high probability of debt increasing over the next five years ([132])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 48%, pointing to

([128]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([129]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 0.6% of GDP from 2025 onwards; (ii) inflation converging linearly towards inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 1.2%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([130]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that Spain commits to in its medium-term plan beyond 2025 is not taken into account in the projection.

([131]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([132]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

high risk given the high initial debt level. Some uncertainty surrounds the baseline debt projection, as measured by the difference of around 29 pps. between the 10th and 90th debt distribution percentiles in five years' time.

3 – Long-term fiscal sustainability risks are medium. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([133]). The medium risk stems from the projected increase in ageing-related costs and the unfavourable initial deficit and debt levels.

The S2 indicator points to medium risk. It signals that Spain would need to improve its structural primary balance by 5.7% of GDP to ensure that debt stabilises over the long term. This result is mainly driven by the projected increase in ageing costs, which contributes 3.9 pps., of which 2.6 pps. stem from pension expenditure and 1.8 pps. jointly from health care and long-term care expenditure, partially offset by a negative contribution from education ([134]). The remaining 1.7 pps. is due to the unfavourable initial budgetary position.

The S1 indicator also points to medium risk. This indicator shows that a significant fiscal effort of 5.1% of GDP would be needed for Spain to reduce its debt to 60% of GDP by 2070. This result is driven by the projected increase in ageing costs, contributing 3.2 pps., and the initial high levels of deficit and debt, with the current unfavourable budgetary position contributing 1.1 pps. and the excess of debt over 60% of GDP contributing an additional 0.8 pps.

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors relate to the context of higher interest rates given the elevated level of public debt (Section 1.3). On the other hand, risk-mitigating factors include (i) the lengthening of debt maturity in recent years, (ii) relatively stable financing sources featuring a well-diversified and large investor base, and (iii) the very large share of debt denominated in euro (Section 4.1). In addition, the 'closure clause' introduced by the 2023 pension reform, if fully implemented, would contribute to addressing the emerging fiscal sustainability gaps related to public pension expenditure.

([133]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

([134]) The pension reform includes measures aiming to preserve adequacy and intergenerational equity, including by increasing the effective retirement age and contributions to the pension system, while minimising the impact on the tax wedge on labour. The impact of the legislated revenue measures of the 2023 pension reform, such as the intergenerational equity mechanism, are not included in this projection.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)							Long term		
Overall (S0)	Overall		Deterministic scenarios: Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
LOW	HIGH	Overall	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	MEDIUM	MEDIUM	MEDIUM
		Debt level (2035), % of GDP	112.1	116.6	114.3	121.0	113.4				
		Debt peak year	2035	2035	2035	2035	2035				
		Fiscal consolidation space	68%	72%	71%	68%	68%				
		Probability of debt ratio exceeding in 2029 its 2024 level						48%			
		Difference between 90th and 10th percentiles (% of GDP)						29.2			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

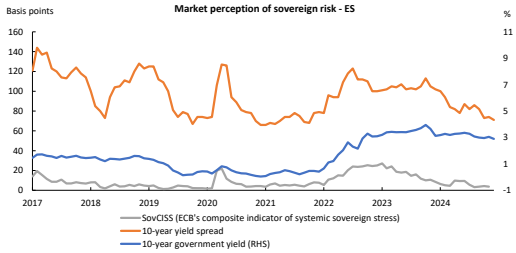
2. Short-term fiscal sustainability risks

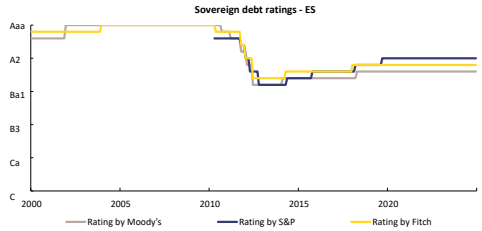
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.37**
Fiscal sub-component	0.36	0.41
Financial competitiveness sub-component	0.49	0.34

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	71.0

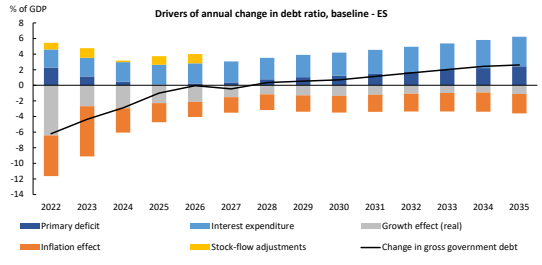
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

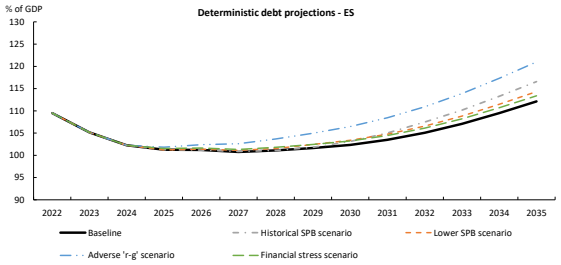


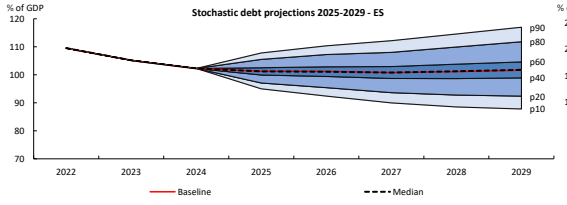


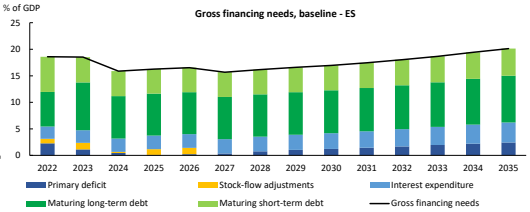
3. Medium-term fiscal sustainability risks

Spain - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**109.5**	**105.1**	**102.3**	**101.3**	**101.2**	**100.8**	**101.1**	**101.6**	**102.3**	**103.5**	**105.1**	**107.1**	**109.5**	**112.1**
Change in the ratio (-1+2+3)	*-6.2*	*-4.4*	*-2.9*	*-1.0*	*0.0*	*-0.5*	*0.4*	*0.5*	*0.7*	*1.1*	*1.6*	*2.0*	*2.4*	*2.6*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-2.3**	**-1.1**	**-0.5**	**-0.1**	**-0.2**	**-0.4**	**-0.8**	**-1.1**	**-1.2**	**-1.5**	**-1.7**	**-2.0**	**-2.2**	**-2.4**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-2.5***	***-1.5***	***-1.1***	***-0.6***	***-0.7***	***-0.8***	***-0.9***	***-1.1***	***-1.2***	***-1.5***	***-1.7***	***-2.0***	***-2.2***	***-2.4***
(1.1.1) Structural primary balance (before CoA)	*-2.5*	*-1.5*	*-1.1*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
(1.1.2) Cost of ageing (CoA)					*0.1*	*0.2*	*0.3*	*0.4*	*0.6*	*0.8*	*1.1*	*1.4*	*1.6*	*1.9*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(1.2) Cyclical component	***0.2***	***0.4***	***0.8***	***0.7***	***0.7***	***0.4***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***-0.1***	***-0.2***	***-0.2***	***-0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-9.3**	**-6.7**	**-3.5**	**-2.2**	**-1.5**	**-0.8**	**-0.4**	**-0.5**	**-0.5**	**-0.3**	**-0.1**	**0.1**	**0.2**	**0.2**
(2.1) Interest expenditure	*2.3*	*2.4*	*2.5*	*2.5*	*2.6*	*2.7*	*2.8*	*2.9*	*3.0*	*3.1*	*3.2*	*3.4*	*3.6*	*3.8*
(2.2) Growth effect (real)	*-6.4*	*-2.7*	*-2.9*	*-2.3*	*-2.1*	*-1.5*	*-1.1*	*-1.3*	*-1.4*	*-1.2*	*-1.1*	*-1.0*	*-0.9*	*-1.1*
(2.3) Inflation effect	*-5.2*	*-6.4*	*-3.1*	*-2.4*	*-1.9*	*-2.0*	*-2.0*	*-2.1*	*-2.1*	*-2.2*	*-2.3*	*-2.4*	*-2.5*	*-2.5*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**0.8**	**1.2**	**0.2**	**1.1**	**1.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*0.8*	*1.2*	*0.2*	*1.1*	*1.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-4.8	-3.9	-3.6	-3.2	-3.3	-3.5	-3.7	-3.9	-4.2	-4.5	-4.9	-5.4	-5.8	-6.2
Gross financing needs	18.6	18.5	15.9	16.3	16.5	15.7	16.2	16.6	17.0	17.4	18.0	18.7	19.4	20.1









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**5.9**	**5.7**	**6.4**	**8.4**
of which					
Initial budgetary position		1.8	1.7	1.9	1.7
Ageing costs		4.0	3.9	4.5	6.6
of which	*Pensions*	2.7	2.6	3.3	2.6
	Health care	1.1	1.1	1.0	1.7
	Long-term care	0.7	0.7	0.7	2.8
	Education	-0.5	-0.5	-0.5	-0.5
Required structural primary balance related to S2		**4.9**	**5.1**	**5.8**	**7.8**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**5.4**	**5.1**	**5.6**	**6.5**
of which					
Initial budgetary position		1.3	1.1	1.3	1.0
Debt requirement		0.9	0.8	0.8	0.8
Ageing costs		3.2	3.2	3.6	4.7
of which	*Pensions*	2.3	2.3	2.7	2.4
	Health care	0.9	0.9	0.9	1.3
	Long-term care	0.4	0.5	0.4	1.5
	Education	-0.5	-0.5	-0.5	-0.5
Required structural primary balance related to S1		**4.4**	**4.5**	**5.0**	**5.9**

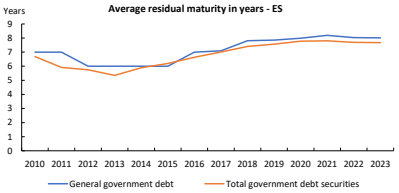
5. Additional aggravating and mitigating risk factors for fiscal sustainability

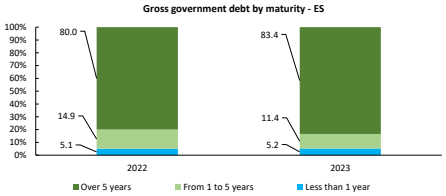
Public debt structure (2023) (% of total debt)		ES	EU
Share of short-term government debt		5.2	9.2
Share of gov't debt held by non-residents		42.6	n.a.
of which	*Non-EA residents*	16.3	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	ES	EU
Net external debt	52.4	n.a.
Net international investment position (NIIP)	-51.7	0.9
Non-financial corporations debt	65.9	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	ES 2020	2021	2022	2023	EU 2023
State guarantees		**6.5**	**2.5**	**2.1**	**10.6**	**9.8**	**8.8**	**5.5**	**7.4**
of which	*One-off guarantees*	*6.5*	*2.5*	*2.1*	*10.6*	*2.9*	*2.0*	*1.9*	*6.1*
	Standardised guarantees	*0.0*	*0.0*	*0.0*	*0.0*	*6.9*	*6.8*	*3.7*	*1.3*
Contingent liabilities related to support to financial institutions		**3.4**	**3.0**	**2.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	3.4	3.0	2.8	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.3***	***0.3***	***0.3***	***0.3***	***0.3***	***0.2***	***0.2***	***0.2***

Government contingent liability risks from banking sector (2023)	ES %	ES annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	88.1	1.1	n.a.	n.a.
Share of non-performing loans	2.8	0.0	1.9	0.1

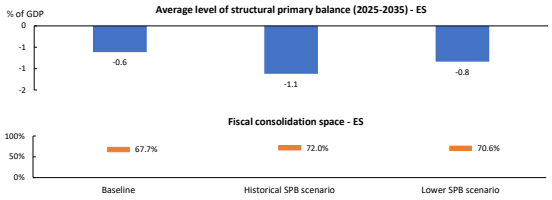
"n.a." means not available

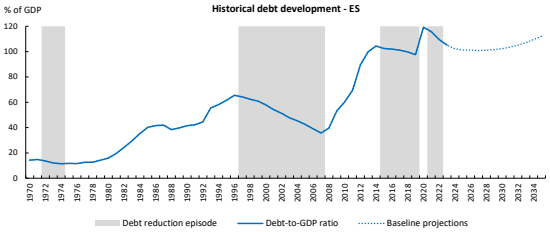
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)

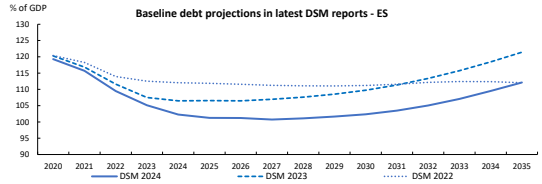
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.02%	0.25%	0.09%	0.59%	0.15%	1.00%

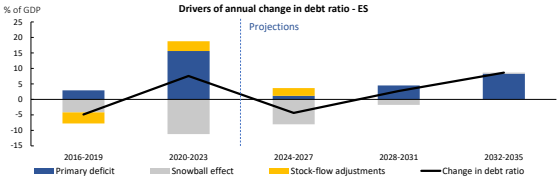
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	102.3	101.3	101.2	100.8	101.1	101.6	102.3	103.5	105.1	107.1	109.5	112.1
Primary balance	-0.5	-0.1	-0.2	-0.4	-0.8	-1.1	-1.2	-1.5	-1.7	-2.0	-2.2	-2.4
Structural primary balance (before CoA)	-1.1	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
Real GDP growth	3.0	2.3	2.2	1.6	1.2	1.3	1.4	1.2	1.1	1.0	0.9	1.0
Potential GDP growth	2.4	2.4	2.3	1.9	1.7	1.6	1.4	1.2	1.1	1.0	0.9	1.0
Inflation rate	3.1	2.4	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.3	2.4	2.3
Implicit interest rate (nominal)	2.5	2.6	2.7	2.7	2.8	2.9	3.0	3.1	3.2	3.4	3.5	3.6
Gross financing needs	15.9	16.3	16.5	15.7	16.2	16.6	17.0	17.4	18.0	18.7	19.4	20.1
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	102.3	101.3	101.2	100.9	101.1	101.8	103.1	105.0	107.5	110.2	113.3	116.6
Primary balance	-0.5	-0.1	-0.3	-0.6	-1.0	-1.3	-1.6	-2.0	-2.4	-2.6	-2.9	-3.1
Structural primary balance (before CoA)	-1.1	-0.6	-0.8	-0.9	-1.1	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3
Real GDP growth	3.0	2.3	2.3	1.6	1.5	1.4	1.2	1.0	0.9	1.0	0.9	1.0
Gross financing needs	15.9	16.3	16.6	15.9	16.3	16.9	17.4	18.1	19.0	19.7	20.6	21.4
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	102.3	101.5	101.6	101.3	101.8	102.4	103.2	104.5	106.1	108.2	110.7	113.4
Implicit interest rate (nominal)	2.5	2.9	2.8	2.9	3.0	3.0	3.1	3.2	3.3	3.4	3.5	3.6
Gross financing needs	15.9	16.5	16.7	15.9	16.4	16.8	17.2	17.7	18.3	18.9	19.7	20.4
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	102.3	101.2	101.4	101.1	101.5	102.5	103.4	104.8	106.6	108.8	111.5	114.3
Primary balance	-0.5	-0.2	-0.4	-0.6	-0.9	-1.3	-1.5	-1.7	-1.9	-2.2	-2.4	-2.7
Structural primary balance (before CoA)	-1.1	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
Real GDP growth	3.0	2.5	2.1	1.5	1.3	1.2	1.4	1.2	1.1	1.0	0.9	1.0
Gross financing needs	15.9	16.4	16.7	15.9	16.3	16.9	17.3	17.8	18.5	19.1	19.9	20.7
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	102.3	101.8	102.4	102.6	103.7	105.0	106.5	108.4	110.9	113.9	117.3	121.0
Implicit interest rate (nominal)	2.5	2.7	2.8	2.9	3.0	3.2	3.3	3.4	3.6	3.7	3.9	4.0
Real GDP growth	3.0	1.8	1.7	1.1	0.7	0.8	0.9	0.7	0.6	0.5	0.4	0.5
Gross financing needs	15.9	16.4	16.8	16.1	16.7	17.3	17.8	18.5	19.3	20.1	21.0	21.9

10. FRANCE

The annex assesses fiscal sustainability risks for France over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low overall. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([135]). Government gross financing needs are expected to remain large, at around 21% of GDP over 2025-2026. Financial markets' perceptions of sovereign risk remain investment grade, although the three main credit rating agencies revised downwards their grading or outlook for France in the course of 2024. Early 2025, the 10-year sovereign spread with respect to the German Bund narrowed to around 70 bps from its December 2024 peak of around 90 bps.

2 – Medium-term fiscal sustainability risks are high.

Under the DSA baseline, debt is projected to increase steadily over the medium term, reaching around 142% of GDP in 2035 ([136]). The increase in the government debt ratio is mainly driven by the assumed structural primary deficit of 2.5% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing ([137]). This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([138]). Moreover, the snowball effect is expected to become slightly positive, i.e. unfavourable, as from 2027, weighing on the debt dynamics. At the same time, ageing-related expenditure is projected to remain broadly stable. Government gross financing needs are expected to remain large and to increase over the projection period, reaching around 27% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. Three of these scenarios lead to higher debt levels than the baseline. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the *lower SPB scenario* (in which the improvement in the SPB forecast for 2025 is halved) and *the financial stress scenario* (in which interest rates temporarily increase by 2.4 pps. compared with the baseline), the debt ratio would exceed the baseline level by 2035 by around 11 pps., 8 pps. and 2 pps., respectively. By contrast, under the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of -2.2% of GDP), the debt ratio would be around 2 pps. lower than in the baseline by 2035.

The stochastic projections run around the baseline indicate high risk due to the high probability of debt increasing over the next five years ([139])**.** These stochastic simulations

([135]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([136]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 2.5% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (0.7% on average); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([137]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that France commits to in its medium-term plan beyond 2025 is not taken into account in the projection.

([138]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([139]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 94%, pointing to high risk given the high initial debt level. At the same time, the uncertainty surrounding the baseline debt projection is low, as measured by the difference of around 21 pps. between the 10th and 90th debt distribution percentiles in five years' time.

3 – Long-term fiscal sustainability risks are medium. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([140]). The medium risk stems from the high initial levels of deficit and debt.

The S2 indicator points to medium risk. It signals that France would need to improve its structural primary balance by 3.4 pps. to ensure that debt stabilises over the long term. This result is nearly entirely driven by the unfavourable budgetary position (contributing 3.3 pps.). Ageing-related expenditure adds another 0.1 pp., as upward pressure from health care and long-term care expenditure are almost entirely offset by negative contributions from education expenditure and pensions.

The S1 indicator also points to medium risk. This indicator shows that a significant fiscal effort of 4.0 pps. would be needed for France to reduce its debt to 60% of GDP by 2070. This result is driven by the initial high levels of deficit and debt, with the current unfavourable budgetary position contributing 2.8 pps. and the excess of debt over 60% of GDP contributing an additional 1.1 pps.

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors relate to the expected increase in gross financing needs over the medium term (Section 1.2) and the contingent liability risks stemming from the private sector (with an ongoing sharp increase in corporate bankruptcies), including via the possible materialisation of state guarantees granted to firms and self-employed during the COVID-19 crisis (Sections 4.2.2 and 4.2.3). On the other hand, risk-mitigating factors include the lengthening of debt maturity in recent years and relatively stable financing sources, with a diversified and large investor base (Section 4.1).

([140]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
			Deterministic scenarios								
Overall (S0)	Overall		Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
LOW	HIGH	Overall	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	MEDIUM	MEDIUM	MEDIUM
		Debt level (2035), % of GDP	142.5	140.3	150.0	153.8	144.9				
		Debt peak year	2035	2035	2035	2035	2035				
		Fiscal consolidation space	100%	97%	100%	100%	100%				
		Probability of debt ratio exceeding in 2029 its 2024 level						94%			
		Difference between 90th and 10th percentiles (% of GDP)						21.3			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

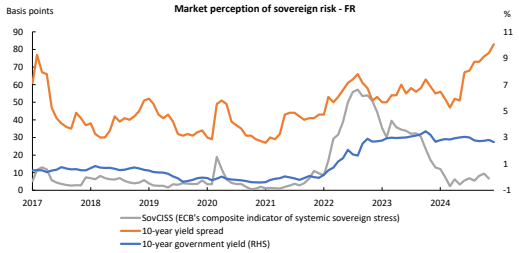
2. Short-term fiscal sustainability risks

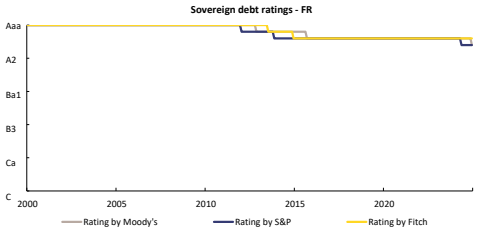
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.41**
Fiscal sub-component	0.36	0.57
Financial competitiveness sub-component	0.49	0.33

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	83.0

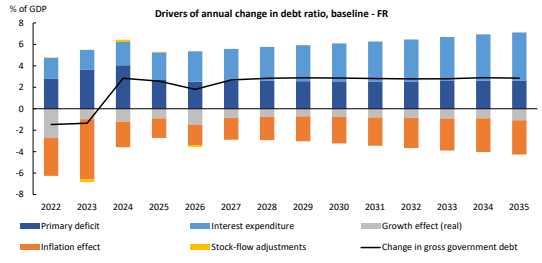
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

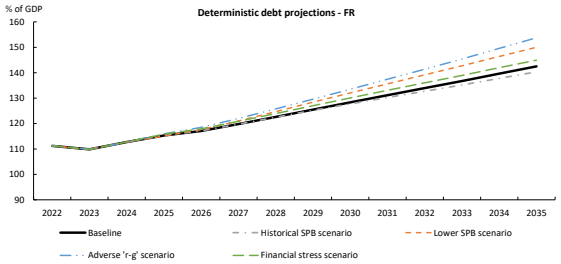


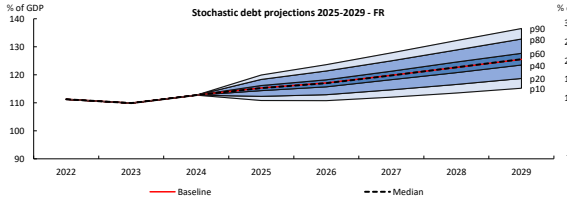


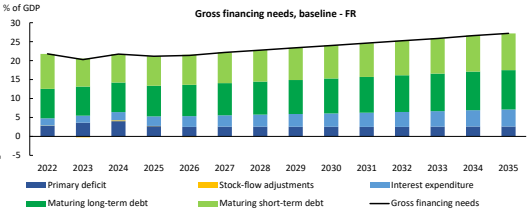
3. Medium-term fiscal sustainability risks

France - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**111.2**	**109.9**	**112.7**	**115.3**	**117.1**	**119.8**	**122.6**	**125.5**	**128.4**	**131.2**	**133.9**	**136.7**	**139.6**	**142.5**
Change in the ratio (-1+2+3)	*-1.5*	*-1.3*	*2.8*	*2.6*	*1.8*	*2.7*	*2.8*	*2.9*	*2.9*	*2.8*	*2.8*	*2.8*	*2.9*	*2.8*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-2.8**	**-3.6**	**-4.1**	**-2.7**	**-2.5**	**-2.6**	**-2.6**	**-2.6**	**-2.6**	**-2.5**	**-2.5**	**-2.6**	**-2.6**	**-2.6**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-2.9***	***-3.5***	***-4.0***	***-2.5***	***-2.5***	***-2.6***	***-2.6***	***-2.6***	***-2.6***	***-2.5***	***-2.5***	***-2.6***	***-2.6***	***-2.6***
(1.1.1) Structural primary balance (before CoA)	*-2.9*	*-3.5*	*-4.0*	*-2.5*	*-2.5*	*-2.5*	*-2.5*	*-2.5*	*-2.5*	*-2.5*	*-2.5*	*-2.5*	*-2.5*	*-2.5*
(1.1.2) Cost of ageing (CoA)					*0.0*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(1.2) Cyclical component	***0.1***	***0.0***	***-0.1***	***-0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***-0.1***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-4.3**	**-4.7**	**-1.4**	**-0.2**	**-0.5**	**0.1**	**0.2**	**0.3**	**0.3**	**0.3**	**0.2**	**0.2**	**0.3**	**0.2**
(2.1) Interest expenditure	*1.9*	*1.9*	*2.2*	*2.5*	*2.8*	*3.0*	*3.2*	*3.3*	*3.5*	*3.7*	*3.9*	*4.1*	*4.3*	*4.5*
(2.2) Growth effect (real)	*-2.7*	*-1.0*	*-1.2*	*-0.9*	*-1.5*	*-0.9*	*-0.8*	*-0.7*	*-0.8*	*-0.8*	*-0.9*	*-0.9*	*-0.9*	*-1.1*
(2.3) Inflation effect	*-3.5*	*-5.6*	*-2.4*	*-1.8*	*-1.9*	*-2.0*	*-2.2*	*-2.3*	*-2.5*	*-2.6*	*-2.8*	*-3.0*	*-3.1*	*-3.2*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**0.0**	**-0.3**	**0.2**	**0.0**	**-0.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*0.0*	*-0.3*	*0.2*	*0.0*	*-0.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-4.8	-5.4	-6.1	-5.0	-5.4	-5.6	-5.8	-5.9	-6.1	-6.3	-6.5	-6.7	-6.9	-7.1
Gross financing needs	21.8	20.3	21.7	21.2	21.4	22.2	22.8	23.4	24.0	24.6	25.2	25.9	26.6	27.2









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**3.1**	**3.4**	**4.1**	**5.8**
of which					
Initial budgetary position		3.1	3.3	3.6	3.3
Ageing costs		0.0	0.1	0.5	2.4
of which	*Pensions*	-0.6	-0.5	0.0	-0.5
	Health care	0.6	0.6	0.5	1.2
	Long-term care	0.6	0.6	0.6	2.4
	Education	-0.7	-0.6	-0.6	-0.6
Required structural primary balance related to S2		**0.7**	**0.9**	**1.6**	**3.3**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**3.5**	**4.0**	**4.4**	**5.2**
of which					
Initial budgetary position		2.5	2.8	3.0	2.8
Debt requirement		1.0	1.1	1.1	1.1
Ageing costs		0.0	0.0	0.3	1.3
of which	*Pensions*	-0.4	-0.3	-0.1	-0.3
	Health care	0.5	0.4	0.4	0.9
	Long-term care	0.4	0.4	0.4	1.3
	Education	-0.5	-0.5	-0.5	-0.5
Required structural primary balance related to S1		**1.1**	**1.5**	**1.9**	**2.7**

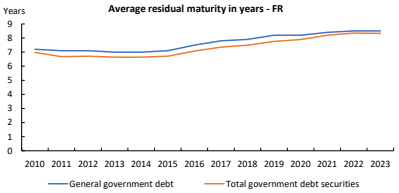
5. Additional aggravating and mitigating risk factors for fiscal sustainability

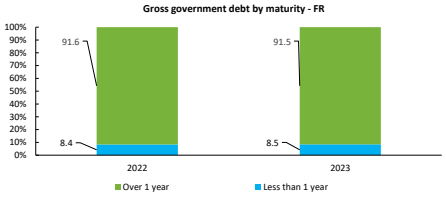
Public debt structure (2023) (% of total debt)		FR	EU
Share of short-term government debt		8.5	9.2
Share of gov't debt held by non-residents		50.5	n.a.
of which	*Non-EA residents*	32.1	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	FR	EU
Net external debt	36.5	n.a.
Net international investment position (NIIP)	-28.1	0.9
Non-financial corporations debt	91.9	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	FR 2020	2021	2022	2023	EU 2023
State guarantees		**11.7**	**11.6**	**11.2**	**18.2**	**16.4**	**14.9**	**13.5**	**7.4**
of which	*One-off guarantees*	*9.4*	*9.2*	*8.9*	*15.7*	*14.0*	*12.6*	*11.4*	*6.1*
	Standardised guarantees	*2.3*	*2.4*	*2.3*	*2.5*	*2.4*	*2.3*	*2.1*	*1.3*
Contingent liabilities related to support to financial institutions		**1.6**	**1.5**	**1.3**	**1.3**	**1.0**	**0.7**	**0.7**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	1.6	1.5	1.3	1.3	1.0	0.7	0.7	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.2***

Government contingent liability risks from banking sector (2023)	FR		EU	
	%	annual change in pps.	%	annual change in pps.
Bank loans-to-deposits ratio	100.9	4.1	n.a.	n.a.
Share of non-performing loans	2.0	0.1	1.9	0.1

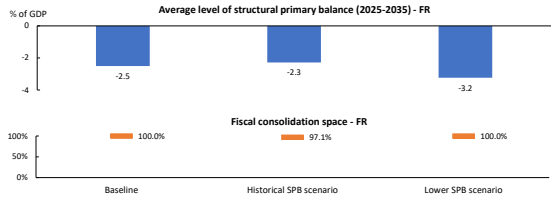
"n.a." means not available

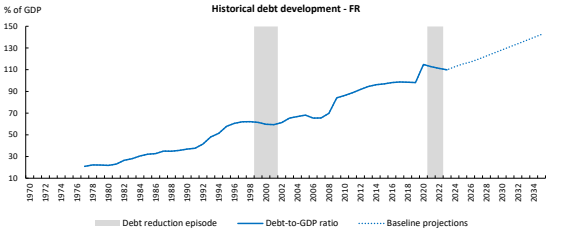
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)

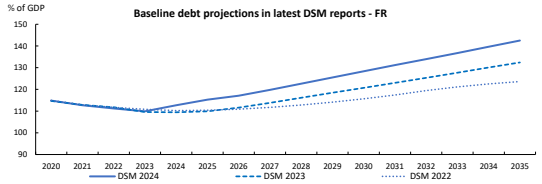
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.00%	0.12%	0.01%	0.21%	0.02%	0.32%

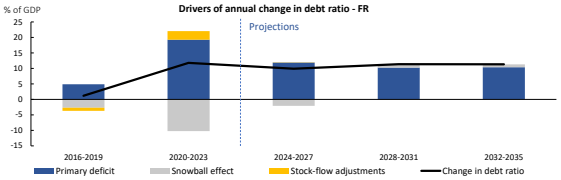
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	112.7	115.3	117.1	119.8	122.6	125.5	128.4	131.2	133.9	136.7	139.6	142.5
Primary balance	-4.1	-2.7	-2.5	-2.6	-2.6	-2.6	-2.6	-2.5	-2.5	-2.6	-2.6	-2.6
Structural primary balance (before CoA)	-4.0	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5
Real GDP growth	1.1	0.8	1.3	0.8	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8
Potential GDP growth	1.2	1.1	1.0	0.8	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8
Inflation rate	2.2	1.6	1.7	1.8	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.3
Implicit interest rate (nominal)	2.0	2.3	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.2	3.3
Gross financing needs	21.7	21.2	21.4	22.2	22.8	23.4	24.0	24.6	25.2	25.9	26.6	27.2
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	112.7	115.3	117.1	119.8	122.5	125.2	127.8	130.2	132.7	135.2	137.8	140.3
Primary balance	-4.1	-2.7	-2.5	-2.5	-2.5	-2.4	-2.3	-2.3	-2.3	-2.3	-2.3	-2.3
Structural primary balance (before CoA)	-4.0	-2.5	-2.4	-2.4	-2.3	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2	-2.2
Real GDP growth	1.1	0.8	1.3	0.7	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.8
Gross financing needs	21.7	21.2	21.3	22.1	22.6	23.2	23.7	24.2	24.8	25.3	26.0	26.6
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	112.7	115.8	117.9	120.9	123.9	127.0	130.1	133.1	136.0	138.9	142.0	144.9
Implicit interest rate (nominal)	2.0	2.8	2.8	2.8	2.9	3.0	3.0	3.1	3.2	3.3	3.3	3.4
Gross financing needs	21.7	21.7	21.8	22.6	23.2	23.8	24.4	25.1	25.7	26.4	27.1	27.7
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	112.7	115.1	117.6	121.0	124.7	128.4	132.1	135.6	139.2	142.7	146.4	150.0
Primary balance	-4.1	-3.1	-3.0	-3.2	-3.2	-3.3	-3.3	-3.3	-3.3	-3.3	-3.4	-3.4
Structural primary balance (before CoA)	-4.0	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2	-3.2
Real GDP growth	1.1	1.4	1.1	0.6	0.5	0.5	0.6	0.6	0.7	0.7	0.7	0.8
Gross financing needs	21.7	21.5	21.9	22.8	23.7	24.5	25.2	26.0	26.8	27.5	28.4	29.1
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	112.7	116.0	118.5	122.0	125.8	129.6	133.5	137.4	141.4	145.4	149.6	153.8
Implicit interest rate (nominal)	2.0	2.4	2.7	2.8	2.9	3.1	3.2	3.3	3.4	3.5	3.6	3.7
Real GDP growth	1.1	0.3	0.8	0.3	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3
Gross financing needs	21.7	21.4	21.8	22.7	23.5	24.3	25.2	26.0	26.9	27.8	28.8	29.7

11. CROATIA

This annex assesses fiscal sustainability risks for Croatia over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([141]). Government gross financing needs are expected to amount to around 10% of GDP over 2025-2026. Financial markets' perceptions of sovereign risk have improved greatly, as main rating agencies upgraded Croatia in the second half of 2024 to investment upper medium grade.

2 – Medium-term fiscal sustainability risks are medium.

Under the DSA baseline, debt is projected to remain broadly stable until end 2020s before increasing again over the medium term, reaching around 63% of GDP in 2035 ([142]). The increase in the government debt ratio is partially driven by the assumed structural primary deficit of 1.3% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing ([143]). This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([144]). Ageing-related expenditure is projected to decrease, alleviating some pressure on public finances. In addition, the baseline projection benefits from a still favourable (although declining) snowball effect over the medium term. Government gross financing needs are expected to remain large and to slightly increase over the projection period, reaching around 12% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. Most scenarios lead to higher debt levels than the baseline. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the debt ratio would exceed the baseline level by around 5 pps. by 2035. Under the *lower SPB scenario* (in which the improvement in the SPB forecast for 2025 is halved) and *the financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline) the debt ratio would also be higher than in the baseline by 2035, by 0.7 pps. and 0.4 pps., respectively. By contrast, under the *historical SPB scenario* (in which the SPB returns to its historical 15-year average of -0.2% of GDP), the debt ratio would be lower than in the baseline by 2035, by around 9 pps.

The stochastic projections run around the baseline indicate low risk ([145])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 52%, pointing to low risk given the low initial debt level. Some uncertainty surrounds the baseline debt

([141]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([142]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 1.3% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 1.4%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([143]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that Croatia commits to in its medium-term plan beyond 2025 is not taken into account in the projection.

([144]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([145]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

projection, as measured by the difference of around 29 pps. between the 10th and 90th debt distribution percentiles in five years' time.

3 – Long-term fiscal sustainability risks are low. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal in 2026 effort to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term (.[146]). The low risk stems from the somewhat unfavourable initial deficit partially offset by the projected decrease in ageing-related costs.

The S2 indicator points to low risk. It signals that Croatia would need to improve its structural primary balance by 1% of GDP to ensure that debt stabilises over the long term. This result is mainly driven by the unfavourable initial budgetary position, contributing 2 pps., partially offset by the projected decrease in ageing costs, contributing -1 pp. Within the ageing costs, the change is determined by the decrease in pension and education expenditure which more than offsets the increase in health care and long-term care expenditure.

The S1 indicator also points to low risk. This indicator shows that a fiscal effort of 0.7% of GDP would be needed for Croatia to limit its debt to 60% of GDP by 2070. This result is also mainly driven by the unfavourable initial budgetary position (contributing 1.5 pps.), the projected decrease in ageing costs (contributing -0.8 pps.) partially offsetting it.

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors are related to (i) relatively high levels of loans at variable interest rate, (ii) Croatia's relatively low pension adequacy, and (iii) the country's negative net international investment position (NIIP). The share of non-performing loans continues to decrease but remains above the EU average. Overall, contingent liability risks linked to the banking sector appear limited in view of the high capitalisation and provisioning (Section 4.2.3). On the other hand, risk-mitigating factors include (i) the continued improvement of the NIIP (Section 4.2.4), including the NIIP adjusted for non-defaultable instruments (reaching +23.8% of GDP in Q3 2024), and (ii) broadly stable financing sources, although further government bond issuances directly to retail investors, including for bonds with longer maturity, would be beneficial (Section 4.1).

([146]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
Overall (S0)	Overall		Deterministic scenarios: Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
LOW	MEDIUM	Overall	MEDIUM	LOW	MEDIUM	MEDIUM	MEDIUM	LOW	LOW	LOW	LOW
		Debt level (2035), % of GDP	63.4	54.5	64.1	68.4	63.7				
		Debt peak year	2035	2025	2035	2035	2035				
		Fiscal consolidation space	74%	57%	75%	74%	74%				
		Probability of debt ratio exceeding in 2029 its 2024 level						52%			
		Difference between 90th and 10th percentiles (% of GDP)						29.4			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

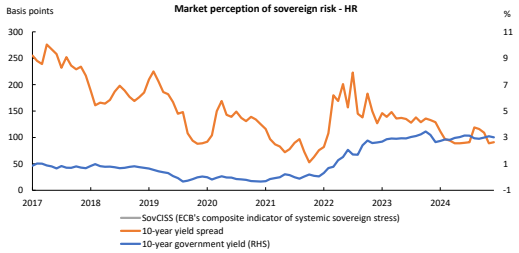
2. Short-term fiscal sustainability risks

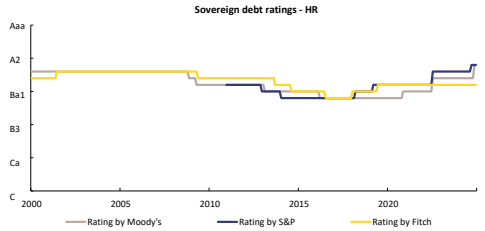
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.38**
Fiscal sub-component	0.36	0.26
Financial competitiveness sub-component	0.49	0.45

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	91.0

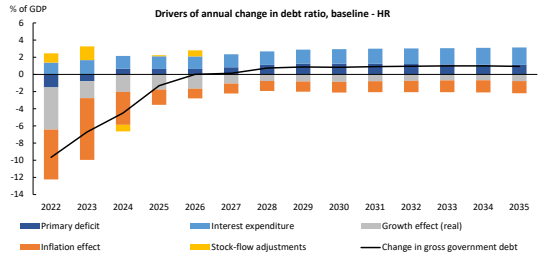
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

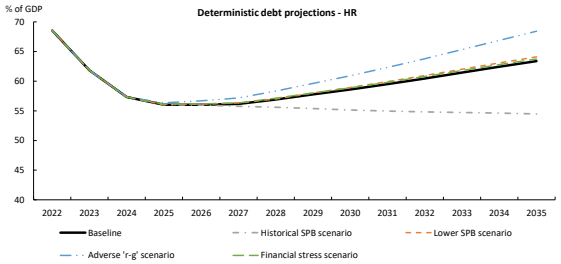


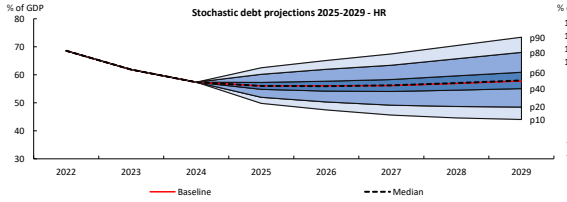


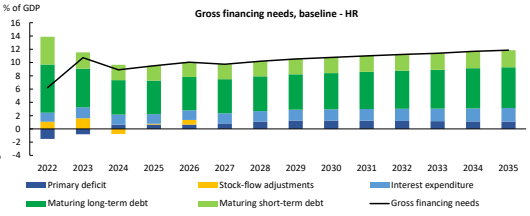
3. Medium-term fiscal sustainability risks

Croatia - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**68.5**	**61.8**	**57.3**	**56.0**	**56.0**	**56.2**	**56.9**	**57.8**	**58.6**	**59.5**	**60.5**	**61.4**	**62.4**	**63.4**
Change in the ratio (-1+2+3)	*-9.7*	*-6.7*	*-4.5*	*-1.3*	*0.0*	*0.1*	*0.7*	*0.9*	*0.8*	*0.9*	*0.9*	*1.0*	*1.0*	*0.9*
of which														
(1) Primary balance (1.1+1.2+1.3)	**1.5**	**0.8**	**-0.6**	**-0.6**	**-0.6**	**-0.8**	**-1.1**	**-1.3**	**-1.2**	**-1.2**	**-1.2**	**-1.2**	**-1.1**	**-1.1**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***0.2***	***-0.3***	***-1.5***	***-1.3***	***-1.3***	***-1.3***	***-1.3***	***-1.3***	***-1.2***	***-1.2***	***-1.2***	***-1.2***	***-1.1***	***-1.1***
(1.1.1) Structural primary balance (before CoA)	*0.2*	*-0.3*	*-1.5*	*-1.3*	*-1.3*	*-1.3*	*-1.3*	*-1.3*	*-1.3*	*-1.3*	*-1.3*	*-1.3*	*-1.3*	*-1.3*
(1.1.2) Cost of ageing (CoA)					*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.2*	*-0.2*	*-0.3*	*-0.3*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*
(1.2) Cyclical component	***1.6***	***1.1***	***0.8***	***0.7***	***0.6***	***0.4***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***-0.3***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-9.2**	**-7.5**	**-4.4**	**-2.1**	**-1.3**	**-0.7**	**-0.4**	**-0.4**	**-0.4**	**-0.3**	**-0.3**	**-0.2**	**-0.1**	**-0.2**
(2.1) Interest expenditure	*1.4*	*1.7*	*1.5*	*1.5*	*1.5*	*1.5*	*1.6*	*1.6*	*1.7*	*1.8*	*1.8*	*1.9*	*2.0*	*2.0*
(2.2) Growth effect (real)	*-4.9*	*-2.0*	*-2.0*	*-1.8*	*-1.7*	*-1.1*	*-0.8*	*-0.8*	*-0.9*	*-0.8*	*-0.8*	*-0.7*	*-0.7*	*-0.8*
(2.3) Inflation effect	*-5.8*	*-7.2*	*-3.8*	*-1.8*	*-1.1*	*-1.1*	*-1.2*	*-1.2*	*-1.2*	*-1.3*	*-1.3*	*-1.4*	*-1.4*	*-1.4*
(2.4) Exchange rate effect linked to the interest rate	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**1.1**	**1.6**	**-0.8**	**0.1**	**0.7**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-5.2*	*1.6*	*-0.8*	*0.1*	*0.7*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*6.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-1.3	-2.0	-3.0	-2.8	-2.7	-2.8	-2.8	-2.9	-2.9	-3.0	-3.0	-3.1	-3.1	-3.1
Gross financing needs	6.2	10.7	8.9	9.5	10.1	9.7	10.2	10.5	10.8	11.0	11.2	11.4	11.7	11.9









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**0.7**	**1.0**	**1.3**	**2.9**
of which					
Initial budgetary position		1.7	2.0	2.1	2.0
Ageing costs		-1.0	-1.0	-0.8	0.9
of which	*Pensions*	-1.3	-1.3	-1.1	-1.3
	Health care	0.6	0.6	0.6	1.7
	Long-term care	0.1	0.1	0.1	1.0
	Education	-0.4	-0.4	-0.4	-0.4
Required structural primary balance related to S2		**-0.4**	**-0.3**	**-0.1**	**1.6**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**0.5**	**0.7**	**0.9**	**1.9**
of which					
Initial budgetary position		1.3	1.5	1.6	1.5
Debt requirement		0.0	-0.1	-0.1	-0.1
Ageing costs		-0.7	-0.8	-0.7	0.4
of which	*Pensions*	-0.9	-1.0	-0.9	-1.0
	Health care	0.5	0.5	0.4	1.3
	Long-term care	0.1	0.1	0.1	0.5
	Education	-0.4	-0.3	-0.3	-0.3
Required structural primary balance related to S1		**-0.7**	**-0.7**	**-0.5**	**0.6**

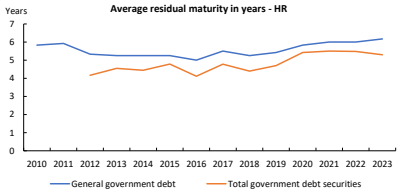
5. Additional aggravating and mitigating risk factors for fiscal sustainability

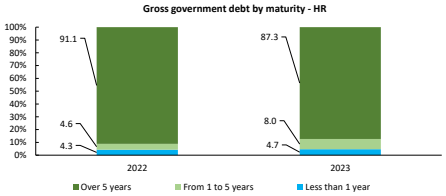
Public debt structure (2023) (% of total debt)		HR	EU
Share of short-term government debt		4.7	9.2
Share of gov't debt held by non-residents		29.5	n.a.
of which	*Non-EA residents*	-0.6	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	HR	EU
Net external debt	-7.2	n.a.
Net international investment position (NIIP)	-26	0.9
Non-financial corporations debt	42.8	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	HR 2020	2021	2022	2023	EU 2023
State guarantees		**2.6**	**1.5**	**1.2**	**1.9**	**1.9**	**2.5**	**2.4**	**7.4**
of which	*One-off guarantees*	*2.5*	*0.9*	*0.8*	*1.2*	*1.2*	*1.5*	*1.2*	*6.1*
	Standardised guarantees	*0.1*	*0.6*	*0.3*	*0.6*	*0.8*	*0.9*	*1.2*	*1.3*
Contingent liabilities related to support to financial institutions		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.1***	***0.1***	***0.1***	***0.1***	***0.1***	***0.1***	***0.0***	***0.2***

Government contingent liability risks from banking sector (2023)	HR %	HR annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	72.4	3.3	n.a.	n.a.
Share of non-performing loans	5.1	-1.8	1.9	0.1

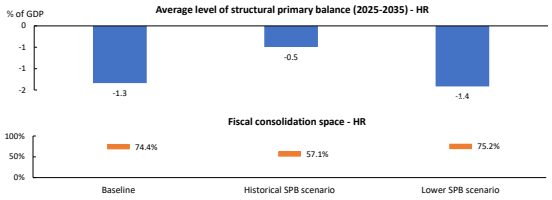
"n.a." means not available

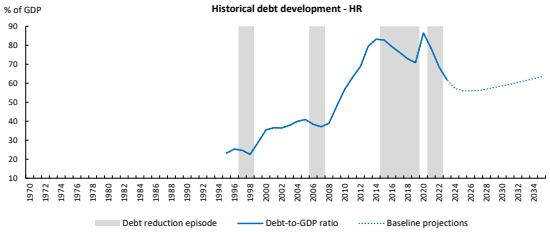
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)

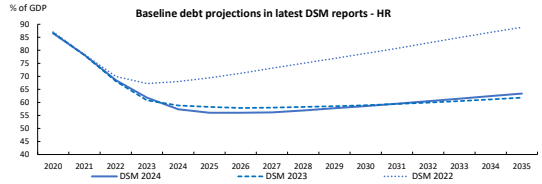
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.00%	0.01%	0.00%	0.01%	0.00%	0.02%

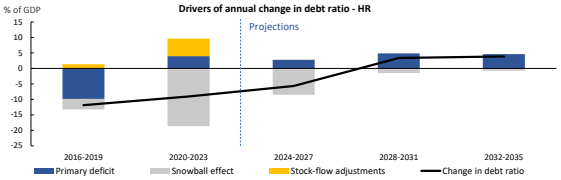
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	57.3	56.0	56.0	56.2	56.9	57.8	58.6	59.5	60.5	61.4	62.4	63.4
Primary balance	-0.6	-0.6	-0.6	-0.8	-1.1	-1.3	-1.2	-1.2	-1.2	-1.2	-1.1	-1.1
Structural primary balance (before CoA)	-1.5	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3
Real GDP growth	3.6	3.3	3.1	2.0	1.4	1.5	1.5	1.4	1.3	1.2	1.2	1.3
Potential GDP growth	4.2	3.6	3.3	2.5	2.1	1.8	1.5	1.4	1.3	1.2	1.2	1.3
Inflation rate	6.6	3.2	2.1	2.1	2.1	2.2	2.2	2.2	2.3	2.3	2.4	2.3
Implicit interest rate (nominal)	2.7	2.7	2.7	2.8	2.9	3.0	3.0	3.1	3.2	3.2	3.3	3.4
Gross financing needs	8.9	9.5	10.1	9.7	10.2	10.5	10.8	11.0	11.2	11.4	11.7	11.9
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	57.3	56.0	56.0	55.8	55.6	55.4	55.1	55.0	54.8	54.7	54.6	54.5
Primary balance	-0.6	-0.6	-0.5	-0.4	-0.3	-0.2	-0.2	-0.2	-0.1	-0.1	0.0	0.0
Structural primary balance (before CoA)	-1.5	-1.3	-1.1	-0.8	-0.5	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Real GDP growth	3.6	3.3	2.9	1.9	1.6	1.5	1.6	1.4	1.3	1.2	1.2	1.3
Gross financing needs	8.9	9.5	9.9	9.3	9.3	9.2	9.3	9.3	9.3	9.3	9.4	9.4
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	57.3	56.1	56.2	56.3	57.1	58.0	58.9	59.8	60.8	61.8	62.8	63.7
Implicit interest rate (nominal)	2.7	2.9	2.8	2.9	3.0	3.0	3.1	3.2	3.2	3.3	3.3	3.4
Gross financing needs	8.9	9.6	10.1	9.8	10.3	10.6	10.8	11.1	11.3	11.5	11.8	11.9
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	57.3	56.1	56.1	56.3	57.0	58.0	58.9	59.9	61.0	62.0	63.1	64.1
Primary balance	-0.6	-0.7	-0.7	-0.9	-1.1	-1.3	-1.3	-1.3	-1.3	-1.2	-1.2	-1.2
Structural primary balance (before CoA)	-1.5	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4
Real GDP growth	3.6	3.3	3.1	2.0	1.6	1.3	1.5	1.4	1.3	1.2	1.2	1.3
Gross financing needs	8.9	9.6	10.1	9.8	10.2	10.6	10.9	11.1	11.4	11.6	11.9	12.1
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	57.3	56.3	56.7	57.2	58.3	59.6	60.9	62.3	63.8	65.3	66.9	68.4
Implicit interest rate (nominal)	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8
Real GDP growth	3.6	2.8	2.6	1.5	0.9	1.0	1.0	0.9	0.8	0.7	0.7	0.8
Gross financing needs	8.9	9.6	10.2	10.0	10.5	11.0	11.3	11.6	12.0	12.3	12.7	13.0

12. ITALY

This annex assesses fiscal sustainability risks for Italy over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low overall. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([147]). Government gross financing needs are expected to remain large, at around 26% of GDP over 2025-2026. Financial markets' perceptions of sovereign risk are investment grade, as confirmed by the main rating agencies.

2 – Medium-term fiscal sustainability risks are high.

Under the DSA baseline, debt is projected to steadily increase over the medium term, reaching around 157% of GDP in 2035 ([148]). The increase in the government debt ratio is mainly driven by an unfavourable snowball effect for most of the period up to 2035. At the same time, the baseline projection assumes a structural primary surplus of 0.1% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing ([149]). This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([150]). Moreover, ageing-related expenditure is projected to increase, weighing on public finances. Government gross financing needs are expected to remain large and to increase over the projection period, reaching around 29% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. Three out of the four scenarios lead to higher debt levels than the baseline. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the debt ratio would exceed the baseline level by around 14 pps. by 2035. Under the other scenarios - namely the *lower SPB scenario* (in which the improvement in the SPB forecast for 2025 is halved) and *the financial stress scenario* (in which interest rates temporarily increase by 3.8 pps. compared with the baseline) – the debt ratio would also be higher than in the baseline by 2035, by around 3 pps. and 5 pps., respectively. In the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of 0.7% of GDP), the debt ratio would be lower than in the baseline by 2035, by around 5 pps.

The stochastic projections run around the baseline indicate high risk due to the high probability of debt increasing over the next five years ([151])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 69%, pointing to high risk given the high initial debt level. Some uncertainty surrounds the baseline debt projection, as

([147]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([148]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary surplus, before changes in ageing costs, of 0.1% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 0.3%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([149]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that Italy commits to in its medium-term plan beyond 2025 is not taken into account in the projection.

([150]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([151]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

measured by the difference of around 32 pps. between the 10th and 90th debt distribution percentiles in five years' time.

3 – Long-term fiscal sustainability risks are medium. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([152]). The medium risk stems from the unfavourable initial deficit and debt levels.

The S2 indicator points to low risk. It signals that Italy would not need to improve its structural primary balance to ensure that debt stabilises over the long term. This result is mainly driven by the projected decrease in ageing costs (contribution of -1.6 pps), which stems particularly from reduced pension expenditure, which and more than offsets the required effort due to the unfavourable initial budgetary position, contributing 0.9 pps.

The S1 indicator points to medium risk. This indicator shows that a required effort of 2.4% of GDP in 2026 would be needed for Italy to reduce its debt to 60% of GDP by 2070. This result is mainly driven by the initial budgetary position and high debt level, contributing 0.9 pps. and 1.5 pps., respectively, which is partly offset by the contribution of ageing costs (-0.4 pps.).

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors are related to the share of short-term government debt (Section 4.1.1). On the other hand, risk-mitigating factors are related to (i) the structure of the debt, i.e. the major share of government debt is still held by domestic lenders (Section 4.1.2), and the fact that public debt is completely denominated in euro excludes currency risks (Section 4.1.3), and (ii) the favourable net international investment position further mitigates fiscal risks (Section 4.2.4).

([152]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
Overall (S0)	Overall		Deterministic scenarios					Stochastic projections	S2	S1	Overall (S1 + S2)
			Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress				
LOW	HIGH	Overall	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	LOW	MEDIUM	MEDIUM
		Debt level (2035), % of GDP	156.9	151.4	159.5	170.9	161.6				
		Debt peak year	2035	2035	2035	2035	2035				
		Fiscal consolidation space	66%	60%	67%	66%	66%				
		Probability of debt ratio exceeding in 2029 its 2024 level						69%			
		Difference between 90th and 10th percentiles (% of GDP)						31.7			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

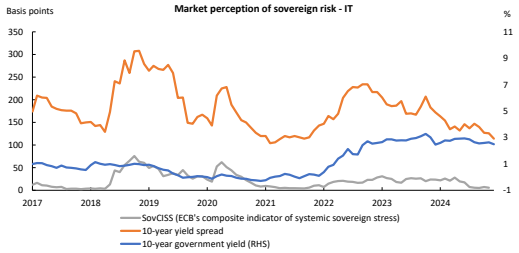
2. Short-term fiscal sustainability risks

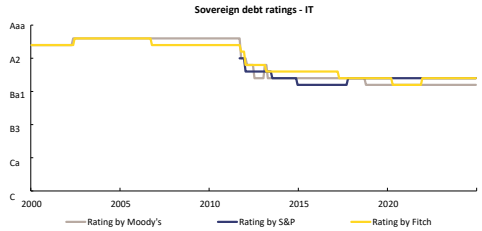
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.43**
Fiscal sub-component	0.36	0.69
Financial competitiveness sub-component	0.49	0.30

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	114.0

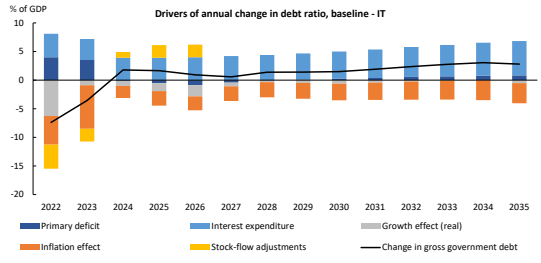
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

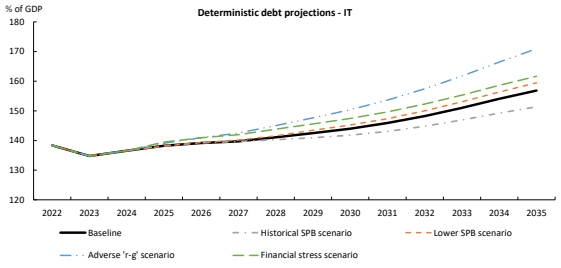


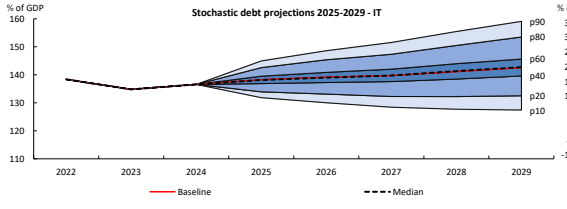


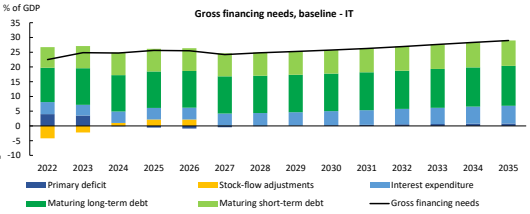
3. Medium-term fiscal sustainability risks

Italy - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**138.3**	**134.8**	**136.6**	**138.2**	**139.1**	**139.7**	**141.1**	**142.5**	**144.0**	**145.9**	**148.3**	**151.0**	**154.1**	**156.9**
Change in the ratio (-1+2+3)	*-7.4*	*-3.6*	*1.8*	*1.7*	*0.9*	*0.6*	*1.4*	*1.4*	*1.5*	*1.9*	*2.4*	*2.8*	*3.0*	*2.8*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-4.0**	**-3.5**	**0.1**	**0.5**	**0.9**	**0.4**	**0.1**	**-0.1**	**-0.2**	**-0.4**	**-0.6**	**-0.7**	**-0.8**	**-0.8**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-5.2***	***-4.5***	***-0.4***	***0.1***	***0.1***	***0.0***	***-0.1***	***-0.1***	***-0.2***	***-0.4***	***-0.6***	***-0.7***	***-0.8***	***-0.8***
(1.1.1) Structural primary balance (before CoA)	*-5.2*	*-4.5*	*-0.4*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*
(1.1.2) Cost of ageing (CoA)					*0.0*	*0.2*	*0.2*	*0.3*	*0.4*	*0.6*	*0.8*	*0.9*	*1.1*	*1.1*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.2*
(1.2) Cyclical component	***0.9***	***0.7***	***0.4***	***0.4***	***0.7***	***0.4***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.3***	***0.3***	***0.1***	***0.1***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-7.2**	**-4.8**	**0.9**	**0.0**	**-0.4**	**1.0**	**1.5**	**1.3**	**1.3**	**1.5**	**1.8**	**2.1**	**2.3**	**2.0**
(2.1) Interest expenditure	*4.1*	*3.7*	*3.9*	*3.9*	*4.0*	*4.2*	*4.4*	*4.6*	*4.8*	*5.0*	*5.2*	*5.5*	*5.8*	*6.0*
(2.2) Growth effect (real)	*-6.3*	*-0.9*	*-0.9*	*-1.4*	*-1.9*	*-0.6*	*-0.3*	*-0.5*	*-0.6*	*-0.4*	*-0.3*	*-0.1*	*0.0*	*-0.5*
(2.3) Inflation effect	*-5.0*	*-7.6*	*-2.1*	*-2.5*	*-2.4*	*-2.6*	*-2.7*	*-2.8*	*-2.9*	*-3.0*	*-3.2*	*-3.3*	*-3.5*	*-3.5*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**-4.2**	**-2.2**	**1.0**	**2.2**	**2.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-4.2*	*-2.2*	*1.0*	*2.2*	*2.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-9.3	-8.2	-4.3	-3.8	-3.9	-4.2	-4.4	-4.7	-5.0	-5.4	-5.8	-6.2	-6.5	-6.8
Gross financing needs	22.5	24.9	24.7	25.6	25.5	24.2	24.8	25.3	25.7	26.3	26.9	27.6	28.3	29.0









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**0.9**	**-0.1**	**0.8**	**1.3**
of which					
Initial budgetary position		1.9	0.9	1.3	0.9
Ageing costs		-1.1	-1.1	-0.5	0.4
of which	*Pensions*	-1.5	-1.6	-1.0	-1.6
	Health care	0.6	0.6	0.6	1.2
	Long-term care	0.5	0.6	0.5	1.4
	Education	-0.7	-0.6	-0.6	-0.6
Required structural primary balance related to S2		**0.0**	**0.0**	**0.9**	**1.4**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**3.4**	**2.4**	**2.9**	**3.2**
of which					
Initial budgetary position		2.0	0.9	1.2	0.9
Debt requirement		1.5	1.5	1.4	1.5
Ageing costs		0.0	0.0	0.3	0.8
of which	*Pensions*	-0.4	-0.4	-0.1	-0.4
	Health care	0.5	0.5	0.5	0.8
	Long-term care	0.4	0.4	0.4	0.8
	Education	-0.5	-0.5	-0.5	-0.5
Required structural primary balance related to S1		**2.5**	**2.6**	**3.0**	**3.3**

5. Additional aggravating and mitigating risk factors for fiscal sustainability

Public debt structure (2023)

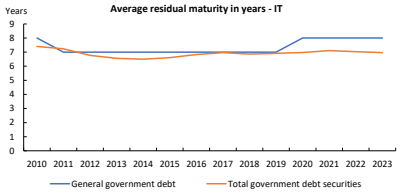
(% of total debt)	IT	EU
Share of short-term government debt	12.5	9.2
Share of gov't debt held by non-residents	27.6	n.a.
of which Non-EA residents	15.0	n.a.

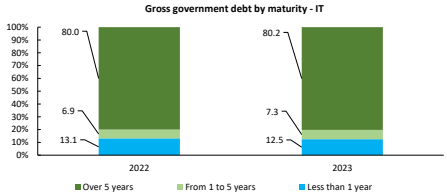
"n.a." means not available

Additional liabilities or mitigating factors from other sectors

(% of GDP)	IT	EU
Net external debt	46.5	n.a.
Net international investment position (NIIP)	7.4	0.9
Non-financial corporations debt	58.1	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		IT 2017	2018	2019	2020	2021	2022	2023	EU 2023
State guarantees		**3.9**	**4.2**	**4.7**	**13.0**	**16.5**	**16.0**	**15.3**	**7.4**
of which	*One-off guarantees*	*2.5*	*2.6*	*2.9*	*5.4*	*6.7*	*6.6*	*7.1*	*6.1*
	Standardised guarantees	*1.4*	*1.6*	*1.7*	*7.6*	*9.8*	*9.4*	*8.3*	*1.3*
Contingent liabilities related to support to financial institutions		**1.3**	**0.9**	**1.2**	**0.6**	**0.6**	**0.6**	**0.5**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	1.3	0.9	1.2	0.6	0.6	0.6	0.5	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.2***

Government contingent liability risks from banking sector (2023)

	IT %	IT annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	80.1	4.3	n.a.	n.a.
Share of non-performing loans	2.6	-0.2	1.9	0.1

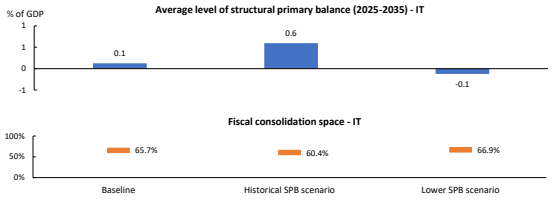
"n.a." means not available

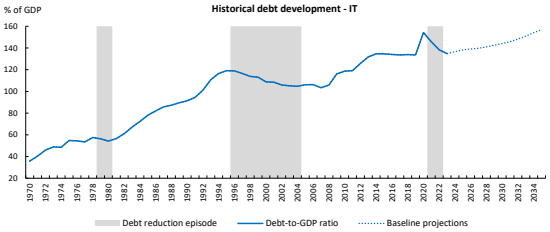
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)

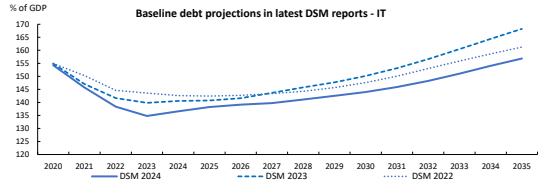
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.00%	0.12%	0.02%	0.22%	0.04%	0.36%

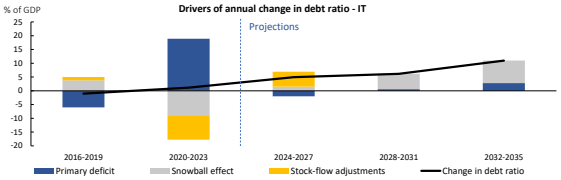
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	136.6	138.2	139.1	139.7	141.1	142.5	144.0	145.9	148.3	151.0	154.1	156.9
Primary balance	0.1	0.5	0.9	0.4	0.1	-0.1	-0.2	-0.4	-0.6	-0.7	-0.8	-0.8
Structural primary balance (before CoA)	-0.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Real GDP growth	0.7	1.0	1.5	0.5	0.2	0.3	0.4	0.3	0.2	0.1	0.0	0.4
Potential GDP growth	1.3	1.1	0.9	0.9	0.7	0.6	0.4	0.3	0.2	0.1	0.0	0.4
Inflation rate	1.6	1.9	1.8	1.9	1.9	2.0	2.1	2.1	2.2	2.3	2.4	2.3
Implicit interest rate (nominal)	3.0	3.0	3.0	3.1	3.2	3.3	3.4	3.6	3.7	3.8	3.9	4.0
Gross financing needs	24.7	25.6	25.5	24.2	24.8	25.3	25.7	26.3	26.9	27.6	28.3	29.0
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	136.6	138.2	139.2	139.7	140.3	140.9	141.8	143.1	144.8	146.9	149.3	151.4
Primary balance	0.1	0.5	1.0	0.6	0.6	0.6	0.4	0.3	0.1	0.0	-0.2	-0.2
Structural primary balance (before CoA)	-0.4	0.1	0.3	0.4	0.6	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Real GDP growth	0.7	1.0	1.3	0.4	0.4	0.4	0.4	0.3	0.2	0.1	0.0	0.4
Gross financing needs	24.7	25.6	25.4	24.0	24.3	24.4	24.8	25.2	25.8	26.4	26.9	27.5
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	136.6	139.5	140.9	142.0	143.8	145.6	147.4	149.6	152.3	155.3	158.6	161.6
Implicit interest rate (nominal)	3.0	3.9	3.4	3.4	3.5	3.6	3.7	3.7	3.8	3.9	4.0	4.1
Gross financing needs	24.7	26.9	26.2	25.0	25.6	26.1	26.6	27.2	27.8	28.6	29.3	30.0
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	136.6	138.1	139.3	140.1	141.5	143.5	145.2	147.4	150.0	153.0	156.4	159.5
Primary balance	0.1	0.4	0.7	0.2	-0.1	-0.3	-0.5	-0.6	-0.8	-0.9	-1.0	-1.1
Structural primary balance (before CoA)	-0.4	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Real GDP growth	0.7	1.2	1.4	0.4	0.3	0.2	0.4	0.3	0.2	0.1	0.0	0.4
Gross financing needs	24.7	25.7	25.7	24.4	25.0	25.6	26.2	26.7	27.4	28.2	28.9	29.7
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	136.6	139.1	140.9	142.5	145.0	147.6	150.4	153.6	157.5	161.8	166.4	170.9
Implicit interest rate (nominal)	3.0	3.1	3.2	3.3	3.5	3.6	3.8	3.9	4.0	4.2	4.3	4.4
Real GDP growth	0.7	0.5	1.0	0.0	-0.3	-0.2	-0.1	-0.2	-0.3	-0.4	-0.5	-0.1
Gross financing needs	24.7	25.9	26.0	25.0	25.8	26.5	27.3	28.1	29.0	30.1	31.1	32.1

13. CYPRUS

This annex assesses fiscal sustainability risks for Cyprus over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([153]). Government gross financing needs are expected to increase but remain small, at around 6% of GDP over 2025-2026. Financial markets' perceptions of Cyprus are favourable as its debt rating continued to be upgraded in 2024. The main four credit-rating agencies now rate Cyprus' sovereign debt at investment grade (three to four notches within the investment-grade area with a positive or stable outlook).

2 – Medium-term fiscal sustainability risks are medium.

Under the DSA baseline, debt is projected to decline steadily over the medium term, reaching around 34% of GDP in 2035 ([154]). The decline in the government debt ratio is partially driven by the assumed structural primary surplus of 2.8% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing. This structural primary balance (SPB) level is rather ambitious compared with past fiscal performance. At the same time, ageing-related expenditure is projected to increase significantly, weighing on public finances. At the same time, the baseline projection benefits from a still favourable (although declining) snowball effect. Government gross financing needs are expected to decline over the projection period, reaching around 2% of GDP in 2035.

The deterministic stress tests do identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. All four scenarios lead to higher debt levels than the baseline. Under the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of 1.0% of GDP), the debt ratio would exceed the baseline level by around 13 pps. by 2035. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the debt ratio would exceed the baseline level by around 4 pps. by 2035. Under the *lower SPB scenario* (in which the SPB in 2025 deteriorates by 50% more than in the forecast), the debt ratio would be around 2 pps. higher than in the baseline by 2035. Finally, under the *financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline), the debt ratio would be broadly unchanged compared to the baseline by 2035.

The stochastic projections run around the baseline indicate medium risk ([155])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 14%, pointing to low risk given the low initial debt level. At the same time, high uncertainty surrounds the baseline debt projection, as measured by the difference of around 47 pps. between the 10th and 90th debt distribution percentiles in five years' time.

([153]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([154]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary surplus, before changes in ageing costs, of 2.8% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (on average 1.7%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([155]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

3 – Long-term fiscal sustainability risks are low. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([156]). The low risk stems from the favourable initial budgetary position which compensate for the projected increase in ageing-related costs.

The S2 indicator points to low risk. It signals that Cyprus would need to improve its structural primary balance by 1.0 pps. to ensure that debt stabilises over the long term. This result is mainly driven by the projected increase in ageing costs, which contributes 3.4 pps., of which 2.9 pps. stems from pension expenditure and 0.8 pps. jointly from health care and long-term care expenditure, partially offset by a negative contribution from education. The remaining required fiscal effort is due to the favourable budgetary position, contributing -2.4 pps.

The S1 indicator also points to low risk. This indicator shows that no fiscal effort is required to reach a debt of 60% of GDP by 2070. This result is also mainly driven by the favourable initial budgetary position, which more than offsets the projected increase in ageing costs.

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors are related to pressures for higher public wage and social spending, and some government-sponsored housing schemes, including the mortgage-to-rent scheme offered through KEDIPES. On the other hand, risk-mitigating factors include (i) the stability of debt maturities in recent years, (ii) substantial cash reserves, (ii) credit rating upgrades (Section 1.3), (iii) relatively stable financing sources with a diversified investor base (Section 4.1.2), (iv) the currency denomination of debt (Section 4.1.3), the low share of short-term public debt (Section 4.1.1), and (v) the overall good track-record of prudent fiscal policies (Section 1.1).

([156]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
Overall (S0)	Overall		Deterministic scenarios					Stochastic projections	S2	S1	Overall (S1 + S2)
			Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress				
		Overall	LOW	LOW	LOW	LOW	LOW	MEDIUM			
		Debt level (2035), % of GDP	33.6	46.6	36.1	37.2	33.9				
LOW	MEDIUM	Debt peak year	2025	2025	2025	2025	2025		LOW	LOW	LOW
		Fiscal consolidation space	29%	42%	33%	29%	29%				
		Probability of debt ratio exceeding in 2029 its 2024 level						14%			
		Difference between 90th and 10th percentiles (% of GDP)						46.5			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

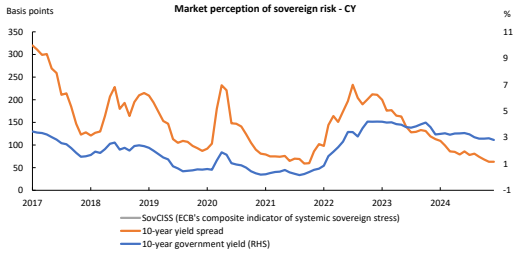
2. Short-term fiscal sustainability risks

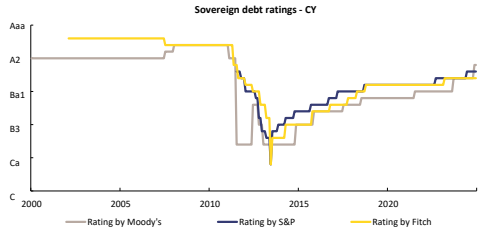
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.25**
Fiscal sub-component	0.36	0.00
Financial competitiveness sub-component	0.49	0.38

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	63.0

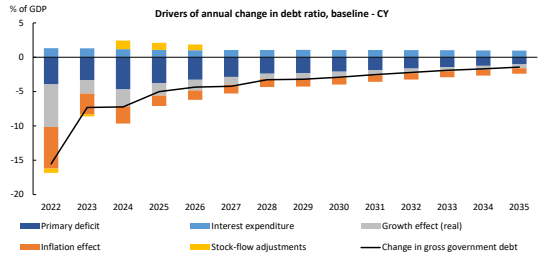
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

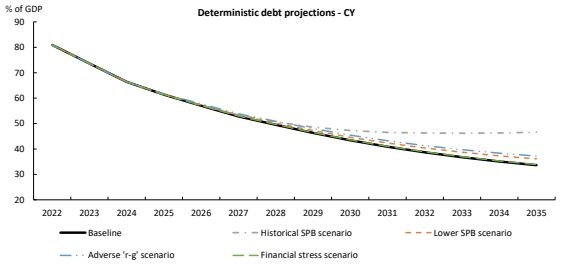


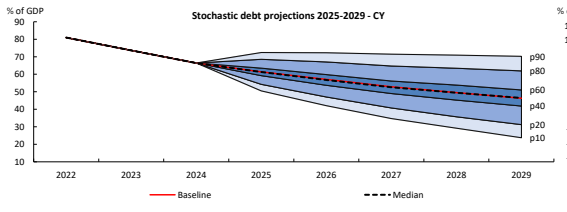


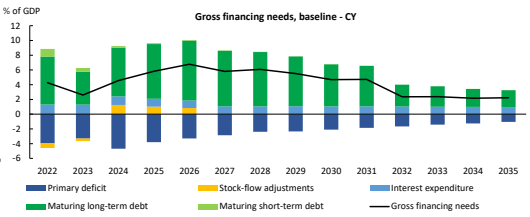
3. Medium-term fiscal sustainability risks

Cyprus - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**81.0**	**73.6**	**66.4**	**61.4**	**57.0**	**52.8**	**49.5**	**46.3**	**43.4**	**40.9**	**38.7**	**36.8**	**35.1**	**33.6**
Change in the ratio (-1+2+3)	*-15.5*	*-7.3*	*-7.2*	*-5.0*	*-4.3*	*-4.2*	*-3.3*	*-3.2*	*-2.9*	*-2.5*	*-2.2*	*-1.9*	*-1.7*	*-1.4*
of which														
(1) Primary balance (1.1+1.2+1.3)	**4.0**	**3.3**	**4.7**	**3.8**	**3.3**	**2.9**	**2.4**	**2.3**	**2.1**	**1.9**	**1.7**	**1.4**	**1.3**	**1.0**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***1.5***	***1.7***	***3.4***	***2.8***	***2.6***	***2.4***	***2.2***	***2.3***	***2.1***	***1.9***	***1.7***	***1.4***	***1.3***	***1.0***
(1.1.1) Structural primary balance (before CoA)	*1.5*	*1.7*	*3.4*	*2.8*	*2.8*	*2.8*	*2.8*	*2.8*	*2.8*	*2.8*	*2.8*	*2.8*	*2.8*	*2.8*
(1.1.2) Cost of ageing (CoA)					*0.3*	*0.4*	*0.6*	*0.5*	*0.7*	*0.9*	*1.1*	*1.4*	*1.5*	*1.7*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*
(1.2) Cyclical component	***2.5***	***1.6***	***1.3***	***1.0***	***0.7***	***0.5***	***0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-10.9**	**-3.7**	**-3.8**	**-2.2**	**-1.9**	**-1.4**	**-0.9**	**-0.9**	**-0.8**	**-0.7**	**-0.6**	**-0.5**	**-0.4**	**-0.4**
(2.1) Interest expenditure	*1.3*	*1.3*	*1.2*	*1.1*	*1.0*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.0*	*1.0*	*1.0*	*1.0*
(2.2) Growth effect (real)	*-6.2*	*-2.0*	*-2.4*	*-1.8*	*-1.6*	*-1.2*	*-0.8*	*-0.8*	*-0.8*	*-0.7*	*-0.7*	*-0.6*	*-0.6*	*-0.6*
(2.3) Inflation effect	*-6.0*	*-3.0*	*-2.5*	*-1.5*	*-1.3*	*-1.3*	*-1.2*	*-1.1*	*-1.0*	*-1.0*	*-0.9*	*-0.9*	*-0.8*	*-0.8*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**-0.6**	**-0.3**	**1.2**	**1.0**	**0.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.6*	*-0.3*	*1.2*	*1.0*	*0.8*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	0.2	0.4	2.2	1.8	1.5	1.3	1.2	1.3	1.0	0.8	0.6	0.4	0.3	0.1
Gross financing needs	4.3	2.6	4.6	5.8	6.8	5.8	6.1	5.5	4.7	4.7	2.4	2.4	2.2	2.2









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**0.7**	**1.0**	**1.3**	**4.7**
of which					
Initial budgetary position		-3.0	-2.4	-2.3	-2.3
Ageing costs		3.7	3.4	3.6	7.1
of which	*Pensions*	3.3	2.9	3.2	2.9
	Health care	0.7	0.7	0.6	1.6
	Long-term care	0.1	0.1	0.1	2.9
	Education	-0.4	-0.4	-0.4	-0.4
Required structural primary balance related to S2		**4.2**	**3.9**	**4.2**	**7.6**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**-0.4**	**-0.3**	**0.0**	**1.2**
of which					
Initial budgetary position		-3.4	-2.8	-2.7	-3.0
Debt requirement		0.2	0.0	0.0	0.0
Ageing costs		2.8	2.5	2.7	4.1
of which	*Pensions*	2.6	2.3	2.5	2.3
	Health care	0.5	0.4	0.4	1.2
	Long-term care	0.1	0.1	0.1	0.9
	Education	-0.3	-0.3	-0.3	-0.3
Required structural primary balance related to S1		**3.0**	**2.5**	**2.8**	**4.0**

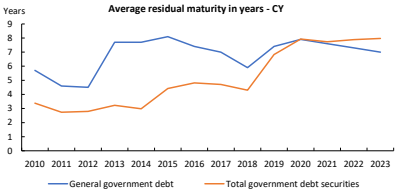
5. Additional aggravating and mitigating risk factors for fiscal sustainability

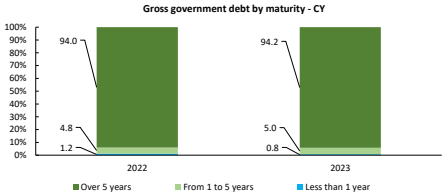
Public debt structure (2023) (% of total debt)		CY	EU
Share of short-term government debt		0.8	9.2
Share of gov't debt held by non-residents		95.7	n.a.
of which	*Non-EA residents*	11.4	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	CY	EU
Net external debt	51.3	n.a.
Net international investment position (NIIP)	-92.7	0.9
Non-financial corporations debt	130.2	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	CY 2020	2021	2022	2023	EU 2023
State guarantees		**8.3**	**7.1**	**4.3**	**4.4**	**3.7**	**3.2**	**2.9**	**7.4**
of which	*One-off guarantees*	*8.1*	*7.1*	*4.3*	*4.4*	*3.7*	*3.1*	*2.8*	*6.1*
	Standardised guarantees	*0.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.3*
Contingent liabilities related to support to financial institutions		**0.0**	**10.2**	**8.8**	**7.6**	**6.2**	**4.8**	**3.9**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	0.0	10.2	8.8	7.6	6.2	4.8	3.9	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.1***	***0.1***	***0.1***	***0.1***	***0.1***	***0.1***	***0.1***	***0.2***

Government contingent liability risks from banking sector (2023)	CY		EU	
	%	annual change in pps.	%	annual change in pps.
Bank loans-to-deposits ratio	44.4	0.3	n.a.	n.a.
Share of non-performing loans	3.3	-0.8	1.9	0.1

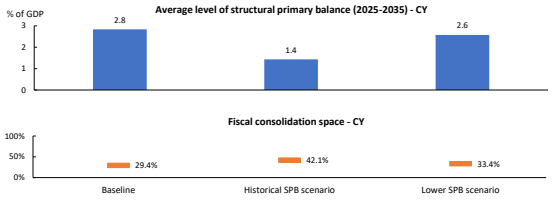
"n.a." means not available

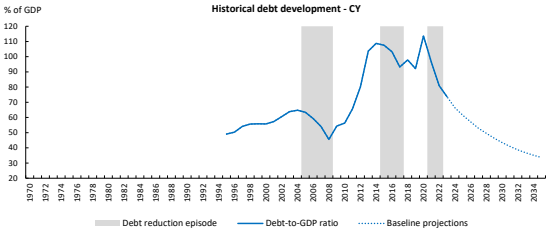
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)

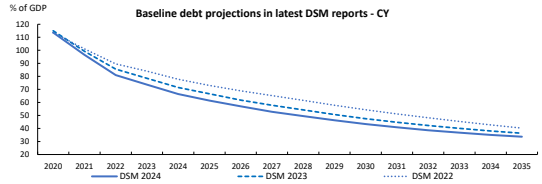
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.03%	0.15%	0.03%	0.26%	0.04%	0.31%

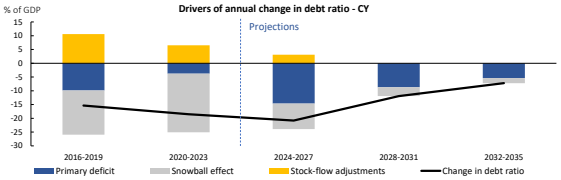
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	66.4	61.4	57.0	52.8	49.5	46.3	43.4	40.9	38.7	36.8	35.1	33.6
Primary balance	4.7	3.8	3.3	2.9	2.4	2.3	2.1	1.9	1.7	1.4	1.3	1.0
Structural primary balance (before CoA)	3.4	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Real GDP growth	3.6	2.8	2.7	2.1	1.5	1.7	1.9	1.8	1.7	1.7	1.6	1.7
Potential GDP growth	4.0	3.6	3.2	2.6	2.2	2.1	1.9	1.8	1.7	1.7	1.6	1.7
Inflation rate	3.5	2.3	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.3
Implicit interest rate (nominal)	1.7	1.7	1.8	1.9	2.1	2.2	2.4	2.5	2.7	2.7	2.8	2.9
Gross financing needs	4.6	5.8	6.8	5.8	6.1	5.5	4.7	4.7	2.4	2.4	2.2	2.2
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	66.4	61.4	57.1	53.4	50.7	48.6	47.3	46.5	46.3	46.2	46.3	46.6
Primary balance	4.7	3.8	3.0	2.2	1.5	1.2	0.7	0.2	-0.2	-0.4	-0.6	-0.8
Structural primary balance (before CoA)	3.4	2.8	2.4	1.9	1.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Real GDP growth	3.6	2.8	3.0	2.4	2.0	1.9	1.5	1.4	1.3	1.7	1.6	1.7
Gross financing needs	4.6	5.8	7.0	6.4	7.0	6.9	6.5	7.0	4.8	5.0	4.9	5.2
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	66.4	61.4	57.1	52.9	49.7	46.5	43.6	41.1	38.9	37.0	35.3	33.9
Implicit interest rate (nominal)	1.7	1.8	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.8	2.8	2.9
Gross financing needs	4.6	5.9	6.8	5.8	6.1	5.6	4.7	4.8	2.4	2.4	2.2	2.3
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	66.4	61.4	57.3	53.3	50.1	47.3	44.6	42.3	40.4	38.7	37.3	36.1
Primary balance	4.7	3.6	3.1	2.6	2.2	2.1	1.8	1.6	1.4	1.2	1.0	0.8
Structural primary balance (before CoA)	3.4	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Real GDP growth	3.6	3.0	2.6	2.1	1.6	1.5	1.9	1.8	1.7	1.7	1.6	1.7
Gross financing needs	4.6	6.0	7.0	6.1	6.3	5.9	5.1	5.2	2.8	2.8	2.6	2.7
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	66.4	61.7	57.7	53.8	50.9	48.0	45.4	43.2	41.3	39.7	38.4	37.2
Implicit interest rate (nominal)	1.7	1.7	1.8	2.1	2.3	2.5	2.7	2.8	3.0	3.1	3.2	3.2
Real GDP growth	3.6	2.3	2.2	1.6	1.0	1.2	1.4	1.3	1.2	1.2	1.1	1.2
Gross financing needs	4.6	5.9	6.9	6.0	6.4	5.9	5.1	5.2	2.7	2.8	2.6	2.7

14. LATVIA

This annex assesses fiscal sustainability risks for Latvia over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Latvia is a borderline case for short-term risks to fiscal sustainability. The Commission's early-detection indicator (S0) signals short-term risks, with the overall index exceeding the risk threshold ([157]). The short-term risk is primarily driven by financial vulnerabilities, in particular relatively tight financing conditions in 2024 and high current account deficits and low household saving rates in 2023. However, Latvia is a borderline case, as its cyclically-adjusted balance exceeded the critical threshold only by a very narrow margin. Without this trigger, Latvia would be considered at low risk. Government gross financing needs are expected to remain at around 8% of GDP in 2025-2026. Financial markets' perceptions of sovereign risk are investment grade, as confirmed by the main rating agencies.

2 – Medium-term fiscal sustainability risks are medium.

Under the DSA baseline, debt is projected to rise continuously over the medium term, reaching 65% of GDP in 2035 ([158]). The increase in the government debt ratio is mainly driven by the assumed structural primary deficit of 1.6% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in the cost of ageing ([159]). This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([160]). The projected increase in ageing-related expenditure over the projection period is small. The baseline projection benefits from a still favourable (although declining) snowball effect. Government gross financing needs are expected to rise steadily over the projection period, reaching around 9% of GDP in 2035.

The deterministic stress tests do not identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. Under the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of -1.4% of GDP), the debt ratio would be about 1 pp. lower in 2035. The other three scenarios lead to higher debt levels than the baseline. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the debt ratio would exceed the baseline level by around 5 pps. by 2035. Finally, the *lower SPB scenario* (in which the SPB in 2025 deteriorates by 50% more than in the forecast) and the *financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline) result in a debt ratio in 2035 similar to the baseline projection.

([157]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([158]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 1.6% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2030 (average of 1.4%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([159]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that Latvia commits to in its medium-term plan beyond 2025 is not taken into account in the projection.

([160]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

The stochastic projections run around the baseline indicate medium risk due to the medium uncertainty of the baseline projection ([161])**.** The stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 69%. However, high uncertainty surrounds the baseline debt projection, as measured by the difference of around 45 pps. between the 10th and 90th debt distribution percentiles in five years' time.

3 – Long-term fiscal sustainability risks are low. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([162]). The low-risk classification reflects a projected decrease in age-related spending and a debt level currently still below the 60% reference value, which partially compensate for the debt-increasing impact of the expected deficit.

The S2 indicator points to low risk. It signals that Latvia would need to improve its structural primary balance by 1.5% of GDP to ensure that debt stabilises over the long term. The projected decrease in ageing costs - in particular declining pension spending - lowers the required adjustment by 0.7 pps., partly compensating for the 2.2 pps. adjustment that would be needed to stabilise the debt ratio given the initial budgetary position.

The S1 indicator also points to low risk. This indicator shows that a fiscal effort of 1.6% of GDP would be needed for Latvia to prevent the debt ratio from exceeding 60% of GDP by 2070. The key drivers are similar as for the S2 indicator.

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors include (i) the relatively large share of public debt held by non-residents (Section 4.1.2), (ii) the share of non-performing loans in the Latvian banking sector (Section 4.2.4) and (iii) the negative net international investment position (Section 4.2.4). On the other hand, risk-mitigating factors include the fact that debt is fully denominated in euro (Section 4.1.3) and the low share of short-term debt in total debt (Section 4.1.1).

([161]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

([162]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% of GDP by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
Overall (S0)	Overall		Deterministic scenarios: Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
BORDER-LINE	MEDIUM	Overall	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM			
		Debt level (2035), % of GDP	65.0	63.6	65.4	69.9	65.5				
		Debt peak year	2035	2035	2035	2035	2035		LOW	LOW	LOW
		Fiscal consolidation space	81%	79%	81%	81%	81%				
		Probability of debt ratio exceeding in 2029 its 2024 level						69%			
		Difference between 90th and 10th percentiles (% of GDP)						44.6			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

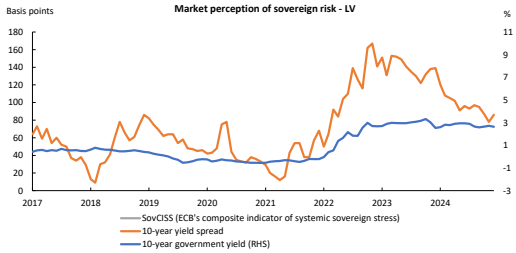
2. Short-term fiscal sustainability risks

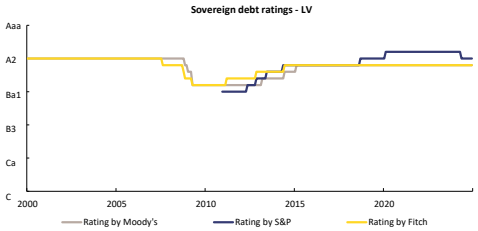
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.48**
Fiscal sub-component	0.36	0.32
Financial competitiveness sub-component	0.49	0.56

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	86.0

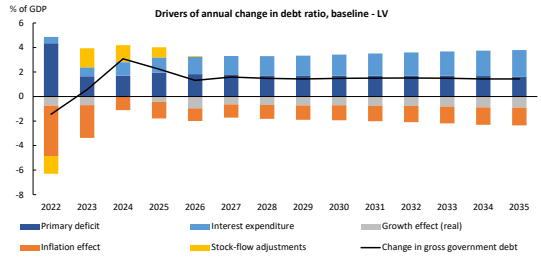
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

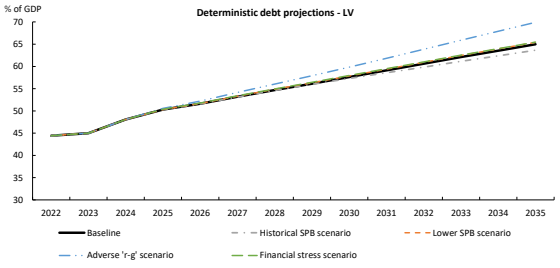


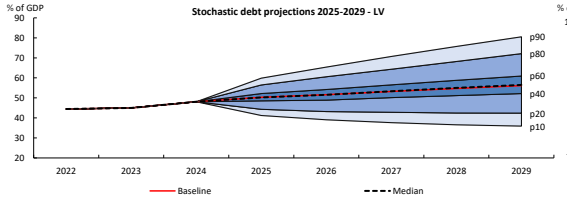


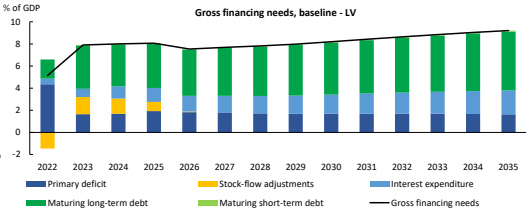
3. Medium-term fiscal sustainability risks

Latvia - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**44.4**	**45.0**	**48.1**	**50.3**	**51.6**	**53.2**	**54.7**	**56.1**	**57.6**	**59.1**	**60.6**	**62.1**	**63.5**	**65.0**
Change in the ratio (-1+2+3)	*-1.4*	*0.6*	*3.1*	*2.2*	*1.3*	*1.6*	*1.5*	*1.4*	*1.5*	*1.5*	*1.5*	*1.5*	*1.4*	*1.4*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-4.3**	**-1.7**	**-1.7**	**-1.9**	**-1.8**	**-1.8**	**-1.7**	**-1.7**	**-1.7**	**-1.7**	**-1.7**	**-1.7**	**-1.7**	**-1.6**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-4.5***	***-1.8***	***-1.5***	***-1.6***	***-1.6***	***-1.7***	***-1.7***	***-1.7***	***-1.7***	***-1.7***	***-1.7***	***-1.7***	***-1.7***	***-1.6***
(1.1.1) Structural primary balance (before CoA)	*-4.5*	*-1.8*	*-1.5*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*
(1.1.2) Cost of ageing (CoA)					*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*
(1.2) Cyclical component	***0.1***	***0.2***	***-0.2***	***-0.4***	***-0.2***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-4.3**	**-2.6**	**0.0**	**-0.5**	**-0.6**	**-0.2**	**-0.2**	**-0.2**	**-0.2**	**-0.2**	**-0.2**	**-0.2**	**-0.2**	**-0.2**
(2.1) Interest expenditure	*0.5*	*0.7*	*1.1*	*1.3*	*1.4*	*1.5*	*1.6*	*1.7*	*1.7*	*1.8*	*1.9*	*2.0*	*2.1*	*2.2*
(2.2) Growth effect (real)	*-0.7*	*-0.7*	*0.0*	*-0.4*	*-1.0*	*-0.6*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.8*	*-0.8*	*-0.9*	*-0.9*
(2.3) Inflation effect	*-4.1*	*-2.7*	*-1.1*	*-1.3*	*-1.0*	*-1.1*	*-1.1*	*-1.2*	*-1.2*	*-1.3*	*-1.3*	*-1.4*	*-1.4*	*-1.4*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**-1.5**	**1.6**	**1.4**	**0.8**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-1.5*	*1.6*	*1.4*	*0.8*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-5.0	-2.6	-2.6	-2.8	-3.0	-3.2	-3.3	-3.3	-3.4	-3.5	-3.6	-3.7	-3.7	-3.8
Gross financing needs	5.1	7.9	8.0	8.1	7.5	7.7	7.8	8.0	8.2	8.4	8.6	8.8	9.0	9.2









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**1.3**	**1.5**	**1.8**	**4.2**
of which					
Initial budgetary position		2.1	2.2	2.3	2.2
Ageing costs		-0.8	-0.7	-0.5	2.0
of which	*Pensions*	-1.3	-1.2	-1.0	-1.2
	Health care	0.5	0.5	0.4	1.5
	Long-term care	0.3	0.3	0.2	2.0
	Education	-0.2	-0.2	-0.2	-0.2
Required structural primary balance related to S2		**-0.4**	**0.0**	**0.2**	**2.6**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**1.3**	**1.6**	**1.8**	**3.1**
of which					
Initial budgetary position		1.9	2.0	2.0	1.9
Debt requirement		-0.3	-0.2	-0.2	-0.2
Ageing costs		-0.3	-0.2	-0.1	1.3
of which	*Pensions*	-0.7	-0.6	-0.4	-0.6
	Health care	0.4	0.4	0.4	1.2
	Long-term care	0.2	0.2	0.2	0.9
	Education	-0.2	-0.2	-0.2	-0.2
Required structural primary balance related to S1		**-0.4**	**0.0**	**0.3**	**1.5**

15. LITHUANIA

This annex assesses fiscal sustainability risks for Lithuania over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([163]). Government gross financing needs are expected to remain low, at around 9% of GDP over 2025-2026. Financial markets' perceptions of sovereign risk are positive, as confirmed by the main rating agencies.

2 – Medium-term fiscal sustainability risks are medium.

Under the DSA baseline, debt is projected to increase over the medium term, reaching around 58% of GDP in 2035 ([164]). The increase in the government debt ratio is partially driven by the assumed structural primary deficit of 0.7% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing. This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([165]). Moreover, ageing-related expenditure is projected to increase, weighing on public finances. At the same time, the baseline projection benefits from a still favourable (although declining) snowball effect. Government gross financing needs are expected to remain low over the projection period, reaching around 9% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. Three out of four scenarios lead to higher debt levels than the baseline. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the debt ratio would exceed the baseline level by around 4 pps. by 2035. Under the *lower SPB scenario* (in which the SPB in 2025 deteriorates by 50% more than in the forecast), and under *the financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline), the debt ratio would also be higher than in the baseline by 2035, by around 2 pps. and 0.5 pps. respectively. Under the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of -0.6% of GDP), the debt ratio would be slightly lower than under the baseline by around 1 pp. in 2035.

The stochastic projections run around the baseline indicate medium risk due to the medium probability of debt increasing over the next five years ([166])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 79%, pointing to medium risk. Some uncertainty surrounds the baseline debt projection, as measured by the difference of around 29 pps. between the 10th and 90th debt distribution percentiles in five years' time.

([163]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([164]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 0.7% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 1.8%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([165]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([166]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

3 – Long-term fiscal sustainability risks are medium. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([167]). The medium risk stems from the projected increase in ageing-related costs and by the unfavourable initial deficit level.

The S2 indicator points to medium risk. It signals that Lithuania would need to improve its structural primary balance by 4.6% of GDP to ensure that debt stabilises over the long term. This result is mainly driven by the projected increase in ageing costs, which contributes 3.3 pps., of which 2.2 pps. stem from pension expenditure and 1.3 pps. jointly from health care and long-term care expenditure, partially offset by a negative contribution from education. The remaining required effort is due to the unfavourable initial budgetary position, contributing 1.3 pps.

The S1 indicator also points to medium risk. This indicator shows that a fiscal effort of 3.5% of GDP would be needed for Lithuania to reduce its debt to 60% of GDP by 2070. This result is also mainly driven by the projected increase in ageing costs (contributing 2.7 pps.). The initial deficit contributes an additional 1.1 pps.

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors relate to the relatively large share of public debt held by non-residents (Section 4.1.2). On the other hand, risk-mitigating factors include the fact that debt is fully denominated in euro (Section 4.1.3), and the low share of short-term debt in total debt (Section 4.1.1).

([167]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
			Deterministic scenarios								
Overall (S0)	Overall		Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
		Overall	LOW	LOW	LOW	MEDIUM	LOW	MEDIUM			
		Debt level (2035), % of GDP	58.0	57.4	59.9	62.2	58.4				
LOW	MEDIUM	Debt peak year	2035	2035	2035	2035	2035		MEDIUM	MEDIUM	MEDIUM
		Fiscal consolidation space	69%	68%	72%	69%	69%				
		Probability of debt ratio exceeding in 2029 its 2024 level						79%			
		Difference between 90th and 10th percentiles (% of GDP)						29.4			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

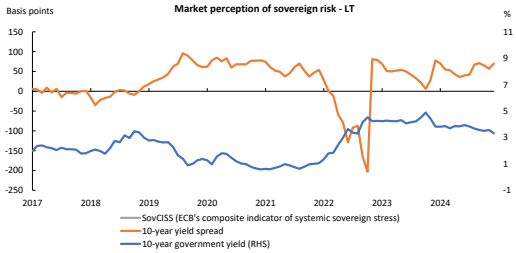
2. Short-term fiscal sustainability risks

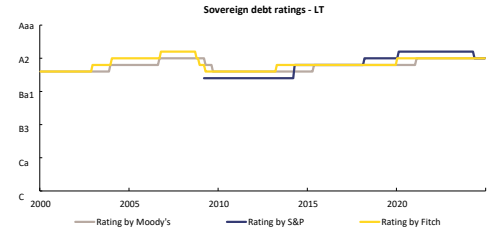
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.29**
Fiscal sub-component	0.36	0.18
Financial competitiveness sub-component	0.49	0.35

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	70.0

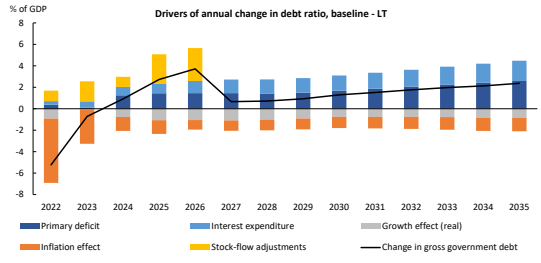
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

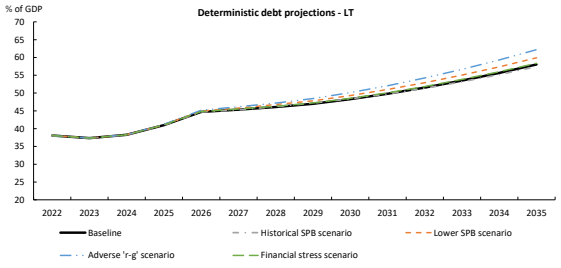


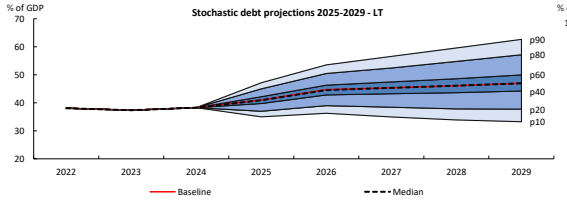


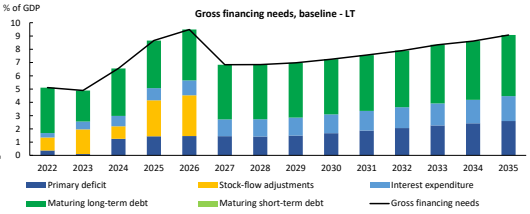
3. Medium-term fiscal sustainability risks

Lithuania - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**38.1**	**37.3**	**38.3**	**41.0**	**44.7**	**45.4**	**46.1**	**47.0**	**48.3**	**49.8**	**51.6**	**53.5**	**55.7**	**58.0**
Change in the ratio (-1+2+3)	*-5.2*	*-0.7*	*0.9*	*2.7*	*3.7*	*0.7*	*0.7*	*0.9*	*1.3*	*1.5*	*1.8*	*2.0*	*2.1*	*2.4*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-0.4**	**-0.1**	**-1.3**	**-1.4**	**-1.5**	**-1.5**	**-1.4**	**-1.5**	**-1.7**	**-1.9**	**-2.1**	**-2.3**	**-2.4**	**-2.6**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-0.9***	***0.7***	***-0.4***	***-0.7***	***-1.0***	***-1.1***	***-1.3***	***-1.5***	***-1.7***	***-1.9***	***-2.1***	***-2.3***	***-2.4***	***-2.6***
(1.1.1) Structural primary balance (before CoA)	*-0.9*	*0.7*	*-0.4*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*
(1.1.2) Cost of ageing (CoA)					*0.3*	*0.4*	*0.6*	*0.7*	*0.9*	*1.1*	*1.3*	*1.5*	*1.6*	*1.8*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*
(1.2) Cyclical component	***0.4***	***-0.8***	***-0.9***	***-0.7***	***-0.5***	***-0.3***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-6.6**	**-2.7**	**-1.3**	**-1.4**	**-0.8**	**-0.8**	**-0.7**	**-0.6**	**-0.4**	**-0.4**	**-0.3**	**-0.3**	**-0.3**	**-0.2**
(2.1) Interest expenditure	*0.3*	*0.6*	*0.8*	*0.9*	*1.1*	*1.3*	*1.3*	*1.4*	*1.4*	*1.5*	*1.6*	*1.7*	*1.8*	*1.9*
(2.2) Growth effect (real)	*-0.9*	*-0.1*	*-0.8*	*-1.1*	*-1.1*	*-1.1*	*-1.0*	*-0.9*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*
(2.3) Inflation effect	*-6.0*	*-3.1*	*-1.3*	*-1.3*	*-0.9*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.1*	*-1.1*	*-1.2*	*-1.2*	*-1.3*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**1.0**	**1.9**	**0.9**	**2.7**	**3.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*1.0*	*1.9*	*0.9*	*2.7*	*3.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-1.2	0.1	-1.2	-1.7	-2.1	-2.4	-2.6	-2.8	-3.1	-3.4	-3.6	-3.9	-4.2	-4.5
Gross financing needs	5.1	4.9	6.6	8.7	9.5	6.8	6.8	7.0	7.3	7.6	7.9	8.3	8.6	9.1









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**4.4**	**4.6**	**4.8**	**10.6**
of which					
Initial budgetary position		0.8	1.3	1.4	1.3
Ageing costs		3.6	3.3	3.4	9.2
of which	*Pensions*	2.5	2.2	2.4	2.2
	Health care	0.7	0.6	0.6	1.5
	Long-term care	0.7	0.7	0.7	5.8
	Education	-0.3	-0.3	-0.3	-0.3
Required structural primary balance related to S2		**3.9**	**3.9**	**4.1**	**9.9**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**3.3**	**3.5**	**3.6**	**6.4**
of which					
Initial budgetary position		0.6	1.1	1.2	1.1
Debt requirement		-0.4	-0.3	-0.3	-0.3
Ageing costs		3.0	2.7	2.7	5.6
of which	*Pensions*	2.3	2.0	2.1	2.0
	Health care	0.5	0.5	0.5	1.2
	Long-term care	0.5	0.5	0.5	2.7
	Education	-0.3	-0.3	-0.3	-0.3
Required structural primary balance related to S1		**2.7**	**2.8**	**2.9**	**5.7**

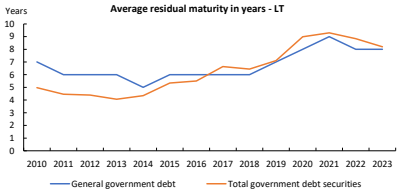
5. Additional aggravating and mitigating risk factors for fiscal sustainability

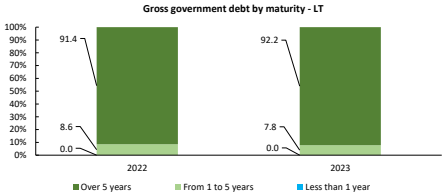
Public debt structure (2023) (% of total debt)	LT	EU
Share of short-term government debt	0.0	9.2
Share of gov't debt held by non-residents	63.2	n.a.
of which Non-EA residents	10.4	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	LT	EU
Net external debt	-10.3	n.a.
Net international investment position (NIIP)	-4.6	0.9
Non-financial corporations debt	29.9	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	LT 2020	2021	2022	2023	EU 2023
State guarantees		**1.0**	**0.9**	**0.8**	**1.2**	**1.3**	**1.2**	**1.1**	**7.4**
of which	*One-off guarantees*	*0.3*	*0.2*	*0.3*	*0.6*	*0.6*	*0.5*	*0.5*	*6.1*
	Standardised guarantees	*0.8*	*0.7*	*0.5*	*0.7*	*0.7*	*0.7*	*0.6*	*1.3*
Contingent liabilities related to support to financial institutions		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.0***	***0.0***	***0.0***	***0.1***	***0.1***	***0.1***	***0.2***	***0.2***

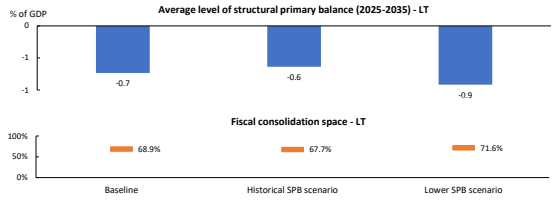
Government contingent liability risks from banking sector (2023)	LT %	LT annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	63.1	3.9	n.a.	n.a.
Share of non-performing loans	1.2	-1.6	1.9	0.1

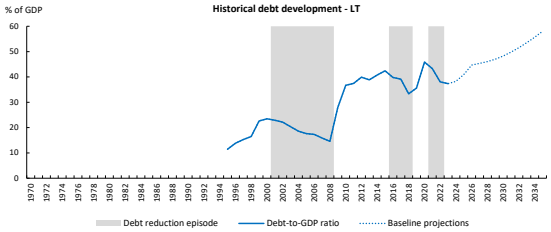
"n.a." means not available

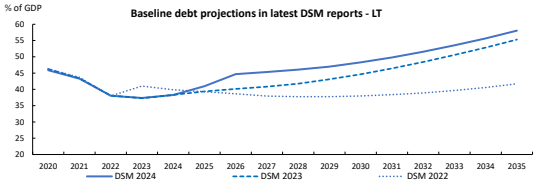
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)					
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.00%	0.02%	0.01%	0.12%	0.02%	0.13%

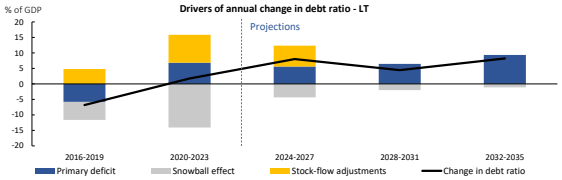
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	38.3	41.0	44.7	45.4	46.1	47.0	48.3	49.8	51.6	53.5	55.7	58.0
Primary balance	-1.3	-1.4	-1.5	-1.5	-1.4	-1.5	-1.7	-1.9	-2.1	-2.3	-2.4	-2.6
Structural primary balance (before CoA)	-0.4	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
Real GDP growth	2.2	3.0	2.7	2.5	2.3	2.1	1.7	1.6	1.6	1.6	1.6	1.6
Potential GDP growth	2.4	2.5	2.1	2.1	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.6
Inflation rate	3.6	3.5	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.4	2.3
Implicit interest rate (nominal)	2.2	2.6	2.9	3.0	3.0	3.1	3.1	3.2	3.3	3.4	3.4	3.5
Gross financing needs	6.6	8.7	9.5	6.8	6.8	7.0	7.3	7.6	7.9	8.3	8.6	9.1
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	38.3	41.0	44.7	45.3	46.2	47.2	48.4	49.8	51.3	53.2	55.2	57.4
Primary balance	-1.3	-1.4	-1.4	-1.4	-1.5	-1.5	-1.7	-1.8	-1.9	-2.1	-2.3	-2.5
Structural primary balance (before CoA)	-0.4	-0.7	-0.7	-0.7	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
Real GDP growth	2.2	3.0	2.7	2.5	2.1	2.0	1.8	1.8	1.7	1.6	1.6	1.6
Gross financing needs	6.6	8.7	9.5	6.8	6.9	7.0	7.3	7.5	7.8	8.2	8.5	8.9
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	38.3	41.0	44.8	45.5	46.3	47.2	48.5	50.1	51.9	53.8	56.0	58.4
Implicit interest rate (nominal)	2.2	2.7	3.0	3.1	3.1	3.1	3.2	3.3	3.3	3.4	3.5	3.5
Gross financing needs	6.6	8.7	9.5	6.9	6.9	7.0	7.3	7.6	8.0	8.4	8.7	9.1
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	38.3	41.1	44.9	45.8	46.8	47.8	49.3	51.0	52.9	55.1	57.4	59.9
Primary balance	-1.3	-1.6	-1.6	-1.6	-1.6	-1.7	-1.9	-2.1	-2.2	-2.4	-2.6	-2.8
Structural primary balance (before CoA)	-0.4	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9	-0.9
Real GDP growth	2.2	3.1	2.7	2.5	2.2	2.2	1.7	1.6	1.6	1.6	1.6	1.6
Gross financing needs	6.6	8.8	9.6	7.0	7.1	7.2	7.5	7.9	8.2	8.7	9.0	9.5
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	38.3	41.2	45.2	46.1	47.2	48.5	50.1	52.1	54.2	56.7	59.3	62.2
Implicit interest rate (nominal)	2.2	2.6	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.9
Real GDP growth	2.2	2.5	2.2	2.0	1.8	1.6	1.2	1.1	1.1	1.1	1.1	1.1
Gross financing needs	6.6	8.7	9.6	7.0	7.1	7.3	7.6	8.0	8.4	8.9	9.2	9.8

16. LUXEMBOURG

This annex assesses fiscal sustainability risks for Luxembourg over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([168]). Government gross financing needs are expected to decrease around 2.0% of GDP on average over 2025-2026. Financial markets' perceptions of sovereign risk remain positive, as confirmed by the CDS spread and the 'AAA' rating that the three major rating agencies assigned to Luxembourgish government debt.

2 – Medium-term fiscal sustainability risks are low.

Under the DSA baseline, debt is projected to gradually decrease and remain well below 60% of GDP in the medium term, reaching around 20% of GDP in 2035 ([169]). The debt reduction is supported by the assumed structural primary surplus of 1.1% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing ([170]). This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([171]). Moreover, ageing-related expenditure is projected to increase, weighing on public finances. At the same time, the baseline projection benefits from a still favourable (although declining) snowball effect. Government gross financing needs are expected to remain at low levels over the projection period, reaching around 2.0% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. Only under the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of 1.7% of GDP) the debt ratio would be lower than under the baseline by about 3 pps. of GDP in 2035. The three other scenarios lead to higher debt levels than the baseline in 2035. Under the *lower structural primary balance (SPB) scenario* (in which the SPB in 2025 deteriorates by 50% more than in the forecast), the *adverse interest-growth rate differential scenario* (in which the *interest-growth rate* deteriorates by 1 pp. compared with the baseline), the debt ratio would be higher than under the baseline by about 2 pps. of GDP in 2035. The smallest adverse impact on the debt ratio is projected for 2035 under the *financial stress scenario* (i.e. interest rates temporarily increase by 1 pp. compared with the baseline) where the debt ratio would be only marginally higher than under the baseline.

The stochastic projections run around the baseline indicate low risk, due to a low probability of debt increasing over the next five years ([172])**.** These stochastic simulations indicate that the

([168]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([169]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary surplus, before changes in ageing costs, of 1.1 % of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 2.2%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([170]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that Luxembourg commits to in its medium-term plan beyond 2025 is not taken into account in the projection.

([171]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([172]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

debt ratio will be higher in 2029 than in 2024 with a probability of 38%, pointing to low risk given the low debt level. The uncertainty surrounding the baseline debt projection, as measured by the difference between the 10th and 90th debt distribution percentiles in five years' time is low (around 21 pps. of GDP) given the initial low level of debt.

3 – Long-term fiscal sustainability risks are overall high. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([173]). The high risk stems from the projected increase in ageing costs.

The S2 indicator points to high risk. It signals that relative to the baseline, Luxembourg would need to improve its structural primary balance by 7.3 pps. of GDP to ensure that debt stabilises over the long term. This result is mainly driven by the projected increase in ageing-related costs (contributing of 7.8 pps. of GDP), which is only partly offset by the initial favourable fiscal position (0.9 pps.). Ageing cost developments are primarily driven by the projected increase in pensions (5.8 pps.) as well as long-term care and health-care spending (2.3 pps.).

The S1 indicator points to medium risk. This indicator shows that Luxembourg would need to improve its fiscal position by 2.2 pps. of GDP in 2026 to bring its debt to 60% of GDP by 2070. This result is also mainly driven by the increase of the ageing-related public expenditure (contributing of 4.0 pps. of GDP), which is only partly offset by the unfavourable initial budgetary position (1.1 pps.), and the debt requirement, contributing -0.7 pps.

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors are related to contingent liability risks stemming from the private sector and changes in the international corporate tax regulations (Sections 4.2.3 and 4.2.4). Moreover, the debt reduction may be more limited if pension fund surpluses continue to regularly feed stock flow adjustments. On the other hand, risk-mitigating factors include the lengthening of debt maturity, the relatively stable financing sources (with a diversified and large investor base), the government debt fully denominated in euro, and historically low borrowing costs (Section 4.1).

([173]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)							Long term		
Overall (S0)	Overall		Deterministic scenarios: Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
		Overall	LOW	LOW	LOW	LOW	LOW	LOW			
		Debt level (2035), % of GDP	21.3	17.8	23.3	22.8	21.5				
LOW	LOW	Debt peak year	2025	2025	2025	2025	2025		HIGH	MEDIUM	HIGH
		Fiscal consolidation space	73%	68%	76%	73%	73%				
		Probability of debt ratio exceeding in 2029 its 2024 level						38%			
		Difference between 90th and 10th percentiles (% of GDP)						21.4			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

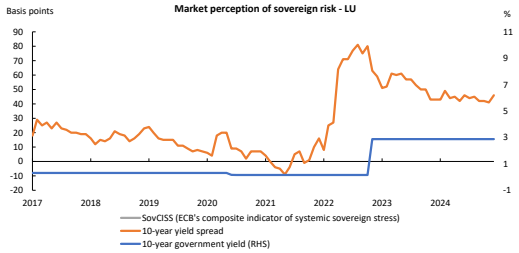
2. Short-term fiscal sustainability risks

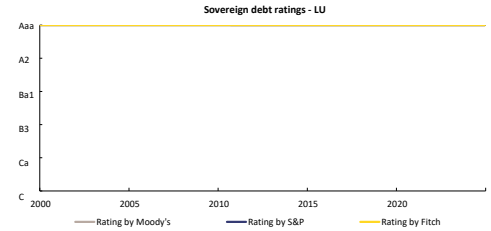
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.22**
Fiscal sub-component	0.36	0.08
Financial competitiveness sub-component	0.49	0.30

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	46.0

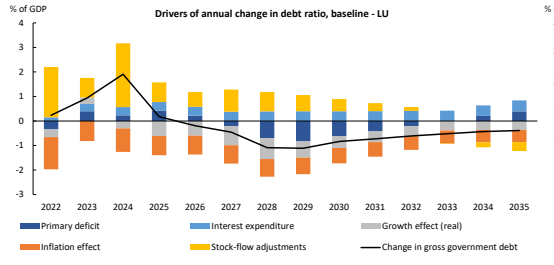
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

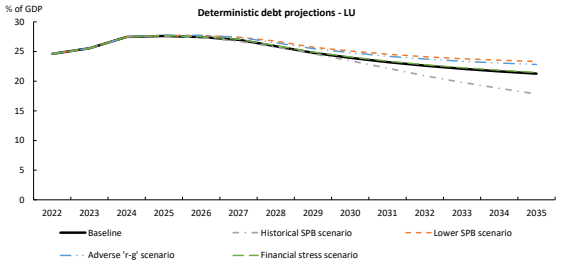


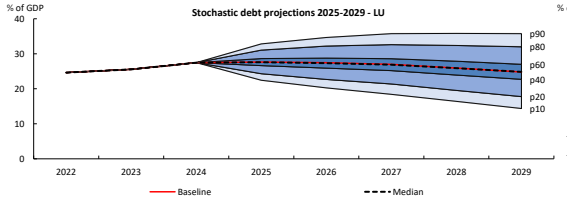


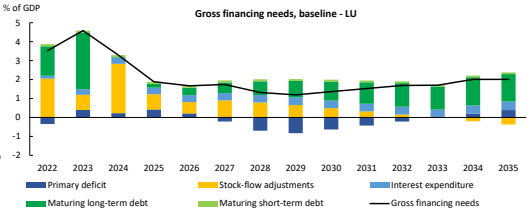
3. Medium-term fiscal sustainability risks

Luxembourg - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**24.6**	**25.5**	**27.5**	**27.6**	**27.4**	**27.0**	**25.9**	**24.8**	**24.0**	**23.2**	**22.6**	**22.1**	**21.7**	**21.3**
Change in the ratio (-1+2+3)	*0.2*	*0.9*	*1.9*	*0.2*	*-0.2*	*-0.5*	*-1.1*	*-1.1*	*-0.8*	*-0.7*	*-0.6*	*-0.5*	*-0.4*	*-0.4*
of which														
(1) Primary balance (1.1+1.2+1.3)	**0.3**	**-0.4**	**-0.2**	**-0.4**	**-0.2**	**0.2**	**0.7**	**0.8**	**0.6**	**0.4**	**0.2**	**0.0**	**-0.2**	**-0.4**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***0.3***	***1.0***	***1.5***	***1.1***	***1.1***	***1.1***	***1.0***	***0.8***	***0.6***	***0.4***	***0.2***	***0.0***	***-0.2***	***-0.4***
(1.1.1) Structural primary balance (before CoA)	*0.3*	*1.0*	*1.5*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*	*1.1*
(1.1.2) Cost of ageing (CoA)					*-0.1*	*-0.1*	*0.0*	*0.2*	*0.4*	*0.6*	*0.9*	*1.1*	*1.3*	*1.5*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*
(1.2) Cyclical component	***0.0***	***-1.4***	***-1.7***	***-1.5***	***-1.3***	***-0.9***	***-0.3***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-1.5**	**-0.3**	**-0.9**	**-1.0**	**-1.0**	**-1.1**	**-1.2**	**-0.9**	**-0.7**	**-0.6**	**-0.6**	**-0.5**	**-0.4**	**-0.4**
(2.1) Interest expenditure	*0.2*	*0.3*	*0.3*	*0.3*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*
(2.2) Growth effect (real)	*-0.3*	*0.3*	*-0.3*	*-0.6*	*-0.6*	*-0.8*	*-0.9*	*-0.7*	*-0.5*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.4*
(2.3) Inflation effect	*-1.3*	*-0.8*	*-1.0*	*-0.8*	*-0.8*	*-0.7*	*-0.7*	*-0.7*	*-0.6*	*-0.6*	*-0.6*	*-0.5*	*-0.5*	*-0.5*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**2.1**	**0.8**	**2.6**	**0.8**	**0.6**	**0.9**	**0.8**	**0.7**	**0.5**	**0.3**	**0.2**	**0.0**	**-0.2**	**-0.4**
(3.1) Base	*2.1*	*0.8*	*2.6*	*0.8*	*0.6*	*0.9*	*0.8*	*0.7*	*0.5*	*0.3*	*0.2*	*0.0*	*-0.2*	*-0.4*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	0.1	0.7	1.1	0.7	0.8	0.7	0.6	0.4	0.2	0.0	-0.2	-0.4	-0.6	-0.8
Gross financing needs	3.5	4.6	3.3	1.9	1.7	1.7	1.3	1.2	1.4	1.5	1.7	1.7	2.0	2.0









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**8.6**	**7.3**	**7.3**	**8.9**
of which					
Initial budgetary position		0.9	-0.4	-0.4	-0.4
Ageing costs		7.7	7.8	7.8	9.3
of which	*Pensions*	5.7	5.8	5.9	5.7
	Health care	0.9	0.9	0.8	1.2
	Long-term care	1.3	1.4	1.3	2.6
	Education	-0.2	-0.2	-0.2	-0.2
Required structural primary balance related to S2		**8.0**	**8.4**	**8.4**	**9.9**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**3.5**	**2.2**	**2.4**	**3.0**
of which					
Initial budgetary position		0.3	-1.1	-1.1	-1.1
Debt requirement		-0.7	-0.7	-0.7	-0.7
Ageing costs		3.9	4.0	4.2	4.8
of which	*Pensions*	2.9	3.0	3.2	2.9
	Health care	0.5	0.5	0.5	0.8
	Long-term care	0.7	0.7	0.7	1.2
	Education	-0.2	-0.2	-0.2	-0.2
Required structural primary balance related to S1		**2.9**	**3.2**	**3.5**	**4.0**

17. HUNGARY

This annex assesses fiscal sustainability risks for Hungary over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low overall. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([174]). Government gross financing needs are expected to remain relatively large, at around 14% of GDP over 2025-2026. Financial markets' perceptions of sovereign risk are investment grade, as confirmed by the main rating agencies.

2 – Medium-term fiscal sustainability risks are high.

Under the DSA baseline, debt is projected to remain broadly stable until 2027 before increasing again over the medium term, reaching around 85% of GDP in 2035 ([175]). The increase in the government debt ratio is mainly driven by the unfavourable snowball effect as of 2027. It is also due to the assumed structural primary deficit of 0.1% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing. This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([176]). Moreover, ageing-related expenditure is projected to increase, weighing on public finances. Government gross financing needs are expected to increase over the projection period, reaching high levels of around 18% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against alternative deterministic scenarios. Every scenario leads to higher debt levels than the baseline. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the debt ratio would exceed the baseline level by around 7 pps. by 2035. Under the other scenarios – namely the *lower SPB scenario* (in which the SPB in 2025 deteriorates by 50% more than in the forecast]), the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of -0.2% of GDP), and *the financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline) – the debt ratio would also be around 1 pp. higher than in the baseline by 2035.

The stochastic projections run around the baseline indicate medium risk due to the medium probability of debt increasing over the next five years ([177])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 54%, pointing to medium risk given the initial debt level. High uncertainty surrounds the baseline debt projection, as measured by the difference of around 43 pps. between the 10th and 90th debt distribution percentiles in five years' time.

([174]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([175]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 0.1% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 1.8%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([176]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([177]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

3 – Long-term fiscal sustainability risks are medium. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([178]). The medium risk stems from the projected increase in ageing-related costs and the unfavourable initial deficit and debt levels.

The S2 indicator points to medium risk. It signals that Hungary would need to improve its structural primary balance by 6% of GDP to ensure that debt stabilises over the long term. This result is mainly driven by the projected increase in ageing costs, which contributes 4.5 pps., of which 3.6 pps. stem from pension expenditure and 0.9 pps. jointly from health care, long-term care and education expenditure. The remaining required effort is due to the unfavourable budgetary position, contributing 1.5 pps.

The S1 indicator also points to medium risk. This indicator shows that a significant fiscal effort of 4.2% of GDP would be needed for Hungary to reduce its debt to 60% of GDP by 2070. This result is also mainly driven by the projected increase in ageing costs (contributing 2.6 pps.). The initial deficit and high debt level contribute an additional 1.4 pps. and 0.3 pps., respectively.

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors relate to (i) the significant proportion of foreign currency debt exposes the government to exchange rate risk (Section 4.1.3), (ii) the high exposure of domestic banks to government debt, which poses a threat to both the financial sector and the government (Section 4.1.2), (iii) the sizable amount of redeemable retail government bonds, which accounted for approximately 20% of central government debt at the end of 2024, poses a refinancing risk, and (iv) the high level of contingent liabilities arising from state guarantees poses additional fiscal risks, potentially straining public finances (Section 4.2.3). On the other hand, Hungary's government financing benefits from a diversified debt portfolio, which relies on multiple sources including bond issuances on international capital markets, a sizable retail bond programme, and the domestic financial sector (Section 4.1).

([178]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
Overall (S0)	Overall		Deterministic scenarios					Stochastic projections	S2	S1	Overall (S1 + S2)
			Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress				
LOW	HIGH	Overall	MEDIUM	MEDIUM	MEDIUM	HIGH	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM
		Debt level (2035), % of GDP	85.4	86.1	86.9	92.6	86.1				
		Debt peak year	2035	2035	2035	2035	2035				
		Fiscal consolidation space	70%	72%	73%	70%	70%				
		Probability of debt ratio exceeding in 2029 its 2024 level						54%			
		Difference between 90th and 10th percentiles (% of GDP)						42.6			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

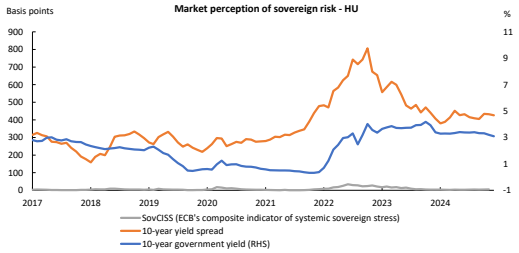
2. Short-term fiscal sustainability risks

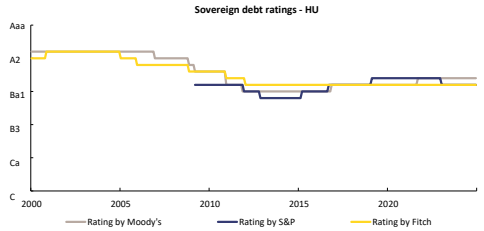
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.44**
Fiscal sub-component	0.36	0.41
Financial competitiveness sub-component	0.49	0.45

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	426.0

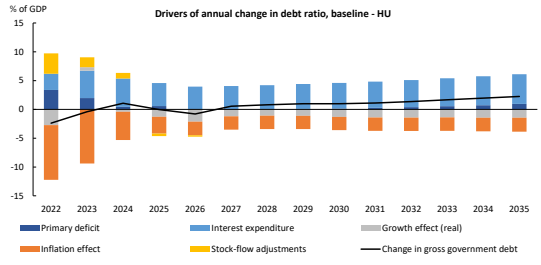
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

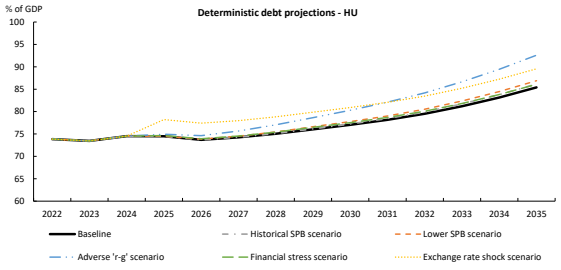


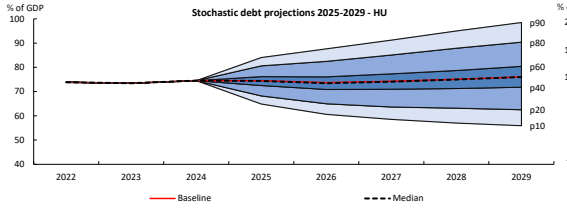


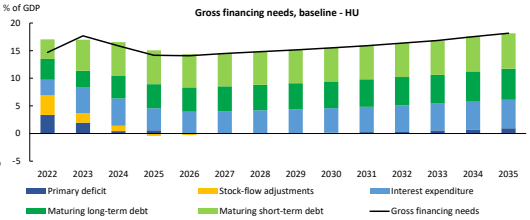
3. Medium-term fiscal sustainability risks

Hungary - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**73.8**	**73.4**	**74.5**	**74.5**	**73.7**	**74.2**	**75.0**	**76.0**	**77.0**	**78.2**	**79.5**	**81.2**	**83.1**	**85.4**
Change in the ratio (-1+2+3)	*-2.4*	*-0.4*	*1.1*	*0.0*	*-0.8*	*0.5*	*0.8*	*1.0*	*1.0*	*1.1*	*1.4*	*1.7*	*2.0*	*2.3*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-3.4**	**-2.0**	**-0.4**	**-0.6**	**0.0**	**0.0**	**0.0**	**-0.1**	**-0.2**	**-0.3**	**-0.4**	**-0.6**	**-0.7**	**-1.0**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-4.4***	***-1.7***	***0.2***	***-0.1***	***0.0***	***0.0***	***0.0***	***-0.1***	***-0.2***	***-0.3***	***-0.4***	***-0.6***	***-0.7***	***-1.0***
(1.1.1) Structural primary balance (before CoA)	*-4.4*	*-1.7*	*0.2*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*
(1.1.2) Cost of ageing (CoA)					*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*0.0*	*0.1*	*0.2*	*0.4*	*0.6*
(1.1.3) Others (taxes and property income)					*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.2*	*-0.2*	*-0.2*	*-0.3*	*-0.3*
(1.2) Cyclical component	***1.0***	***-0.3***	***-0.6***	***-0.5***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-9.3**	**-4.1**	**-0.3**	**-0.2**	**-0.5**	**0.6**	**0.8**	**0.9**	**0.8**	**0.9**	**1.0**	**1.1**	**1.2**	**1.3**
(2.1) Interest expenditure	*2.8*	*4.7*	*4.9*	*4.0*	*4.0*	*4.1*	*4.2*	*4.3*	*4.4*	*4.6*	*4.7*	*4.9*	*5.0*	*5.2*
(2.2) Growth effect (real)	*-2.7*	*0.6*	*-0.4*	*-1.3*	*-2.1*	*-1.2*	*-1.1*	*-1.1*	*-1.3*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*
(2.3) Inflation effect	*-9.5*	*-9.4*	*-4.9*	*-2.9*	*-2.4*	*-2.3*	*-2.3*	*-2.3*	*-2.3*	*-2.3*	*-2.3*	*-2.3*	*-2.4*	*-2.4*
(2.4) Exchange rate effect linked to the interest rate	*0.1*	*-0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**3.5**	**1.7**	**1.0**	**-0.4**	**-0.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*1.1*	*2.5*	*0.2*	*-0.9*	*-0.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*2.5*	*-0.8*	*0.7*	*0.5*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-7.3	-6.4	-4.8	-4.1	-4.0	-4.1	-4.2	-4.4	-4.6	-4.8	-5.1	-5.4	-5.8	-6.1
Gross financing needs	14.7	17.7	15.9	14.2	14.1	14.5	14.8	15.1	15.5	15.9	16.4	16.8	17.5	18.1









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**4.3**	**6.0**	**6.3**	**9.1**
of which					
Initial budgetary position		-0.1	1.5	1.7	1.5
Ageing costs		4.4	4.5	4.6	7.6
of which	*Pensions*	3.5	3.6	3.8	3.6
	Health care	0.4	0.4	0.4	1.2
	Long-term care	0.3	0.3	0.3	2.7
	Education	0.1	0.2	0.2	0.2
Required structural primary balance related to S2		**5.3**	**5.9**	**6.2**	**9.0**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**2.5**	**4.2**	**4.5**	**5.7**
of which					
Initial budgetary position		-0.3	1.4	1.5	1.3
Debt requirement		0.2	0.3	0.2	0.3
Ageing costs		2.5	2.6	2.8	4.1
of which	*Pensions*	1.9	2.0	2.2	2.0
	Health care	0.3	0.3	0.3	0.9
	Long-term care	0.2	0.2	0.2	1.1
	Education	0.1	0.1	0.1	0.1
Required structural primary balance related to S1		**3.4**	**4.1**	**4.4**	**5.6**

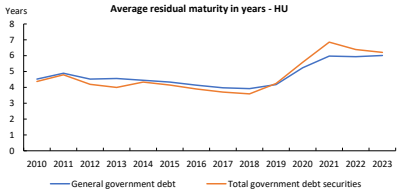
5. Additional aggravating and mitigating risk factors for fiscal sustainability

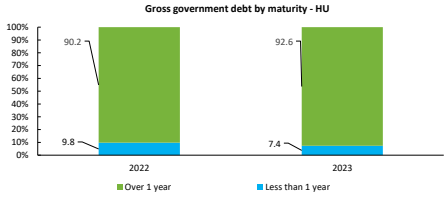
Public debt structure (2023) (% of total debt)		HU	EU
Share of short-term government debt		7.4	9.2
Share of gov't debt held by non-residents		36.3	n.a.
of which	*Non-EA residents*	18.3	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	HU	EU
Net external debt	9	n.a.
Net international investment position (NIIP)	-36.8	0.9
Non-financial corporations debt	55.5	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	HU 2020	2021	2022	2023	EU 2023
State guarantees		**5.0**	**5.0**	**6.3**	**9.1**	**11.3**	**12.5**	**13.0**	**7.4**
of which	*One-off guarantees*	*4.8*	*4.9*	*5.3*	*6.9*	*8.5*	*9.5*	*10.2*	*6.1*
	Standardised guarantees	*0.1*	*0.1*	*1.0*	*2.2*	*2.9*	*2.9*	*2.8*	*1.3*
Contingent liabilities related to support to financial institutions		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***1.5***	***1.3***	***1.1***	***1.1***	***0.9***	***0.7***	***0.6***	***0.2***

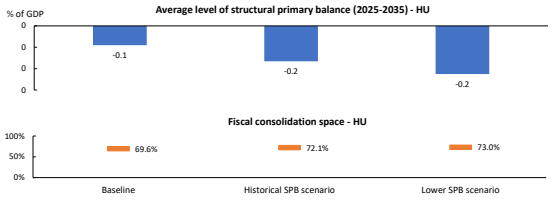
Government contingent liability risks from banking sector (2023)	HU %	HU annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	68.5	-1.9	n.a.	n.a.
Share of non-performing loans	3.0	-0.9	1.9	0.1

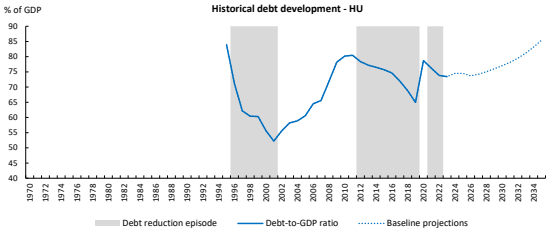
"n.a." means not available

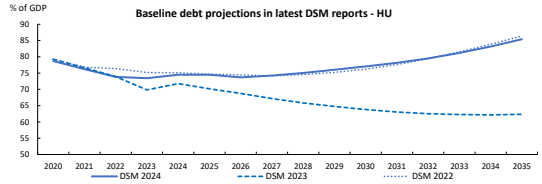
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)					
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.00%	0.02%	0.01%	0.09%	0.01%	0.10%

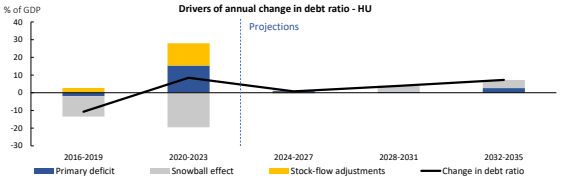
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	74.5	74.5	73.7	74.2	75.0	76.0	77.0	78.2	79.5	81.2	83.1	85.4
Primary balance	-0.4	-0.6	0.0	0.0	0.0	-0.1	-0.2	-0.3	-0.4	-0.6	-0.7	-1.0
Structural primary balance (before CoA)	0.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Real GDP growth	0.6	1.8	3.0	1.7	1.5	1.5	1.8	1.9	1.9	1.8	1.9	1.8
Potential GDP growth	1.4	1.5	1.7	1.7	1.6	1.6	1.8	1.9	1.9	1.8	1.9	1.8
Inflation rate	7.2	4.1	3.3	3.2	3.2	3.2	3.1	3.1	3.1	3.0	3.0	3.0
Implicit interest rate (nominal)	7.2	5.7	5.6	5.8	5.9	6.0	6.1	6.2	6.3	6.4	6.5	6.5
Gross financing needs	15.9	14.2	14.1	14.5	14.8	15.1	15.5	15.9	16.4	16.8	17.5	18.1
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	74.5	74.5	73.7	74.3	75.1	76.1	77.2	78.4	79.9	81.7	83.8	86.1
Primary balance	-0.4	-0.6	0.0	0.0	-0.1	-0.1	-0.2	-0.4	-0.5	-0.7	-0.8	-1.1
Structural primary balance (before CoA)	0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Real GDP growth	0.6	1.8	3.0	1.7	1.6	1.6	1.8	1.9	1.9	1.8	1.9	1.8
Gross financing needs	15.9	14.2	14.1	14.5	14.8	15.2	15.6	16.0	16.5	17.0	17.7	18.4
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	74.5	74.6	73.9	74.5	75.4	76.5	77.5	78.7	80.1	81.8	83.8	86.1
Implicit interest rate (nominal)	7.2	5.9	5.8	5.9	6.0	6.1	6.2	6.3	6.4	6.4	6.5	6.5
Gross financing needs	15.9	14.3	14.2	14.6	14.9	15.3	15.6	16.0	16.5	17.0	17.7	18.3
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	74.5	74.5	73.8	74.5	75.5	76.6	77.8	79.0	80.5	82.4	84.5	86.9
Primary balance	-0.4	-0.7	-0.1	-0.1	-0.1	-0.2	-0.3	-0.4	-0.5	-0.7	-0.9	-1.1
Structural primary balance (before CoA)	0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Real GDP growth	0.6	1.9	3.0	1.6	1.5	1.5	1.8	1.9	1.9	1.8	1.9	1.8
Gross financing needs	15.9	14.2	14.2	14.6	15.0	15.4	15.7	16.2	16.7	17.2	17.9	18.5
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	74.5	74.9	74.6	75.7	77.0	78.6	80.3	82.1	84.2	86.6	89.4	92.6
Implicit interest rate (nominal)	7.2	5.8	5.8	6.0	6.1	6.3	6.4	6.6	6.7	6.8	6.9	6.9
Real GDP growth	0.6	1.3	2.5	1.2	1.0	1.0	1.3	1.4	1.4	1.3	1.4	1.3
Gross financing needs	15.9	14.3	14.3	14.9	15.3	15.8	16.3	16.9	17.5	18.2	19.1	19.9
6. Exchange rate depreciation scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	74.5	78.2	77.4	78.0	78.8	79.9	80.9	82.1	83.5	85.2	87.2	89.5
Exchange rate depreciation	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

18. MALTA

This annex assesses fiscal sustainability risks for Malta over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([179]). Government gross financing needs are expected to amount to around 9% of GDP over 2025-2026. Financial markets' perceptions of sovereign risk are investment grade, as confirmed by the main rating agencies.

2 – Medium-term fiscal sustainability risks are low.

Under the DSA baseline, debt is projected to slowly decline over the medium term, reaching around 47% of GDP in 2035 ([180]). The decrease in the government debt ratio is projected despite an assumed structural primary deficit of 1.8% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing ([181]). This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([182]). At the same time, ageing-related expenditure is projected to decrease over the medium term supporting the debt reduction. Furthermore, the baseline projection benefits from a significant favourable snowball effect. Government gross financing needs are expected to decrease over the projection period, reaching around 8% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. Three scenarios lead to higher debt levels than the baseline. Under the *lower SPB scenario* (in which the improvement in the SPB forecast for 2025 is halved) and the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the debt ratio would exceed the baseline level by around 3.5 pps. by 2035. Under the *financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline) the debt ratio would be marginally higher than in the baseline by 2035, by 0.4 pps. By contrast, under the *historical SPB scenario* (in which the SPB returns to its historical 15-year average of -0.3% of GDP), the debt ratio would be lower than in the baseline by 2035, by around 10 pps.

The stochastic projections run around the baseline indicate low risk due to the low probability of debt increasing over the next five years ([183])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 47%, pointing to low risk given the low initial debt level. Some uncertainty surrounds the baseline debt projection, as

([179]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([180]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 1.8% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 4.7%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([181]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that Malta commits to in its medium-term plan beyond 2025 is not taken into account in the projection.

([182]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([183]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

measured by the difference of around 36 pps. between the 10th and 90th debt distribution percentiles in five years' time.

3 – Long-term fiscal sustainability risks are high. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([184]). The high risk stems from the projected increase in ageing-related costs over the long term and the unfavourable initial deficit level.

The S2 indicator points to high risk. It signals that Malta would need to improve its structural primary balance by 8.7% of GDP to ensure that debt stabilises over the long term. This result is mainly driven by the projected increase in ageing costs, which contributes 6.4 pps., of which 3.2 pps. stems from pension expenditure and 3.3 pps. jointly from health care and long-term care expenditure. The remaining required effort is due to the unfavourable budgetary position, contributing 2.3 pps.

The S1 indicator points to medium risk. This indicator shows that a significant fiscal effort of 3.7% of GDP would be needed for Malta to reduce its debt to 60% of GDP by 2070. This result is also driven by the projected increase in ageing costs (contributing 2.1 pps.) as well as the unfavourable initial budgetary deficit that contributes an additional 1.7 pps.

4 – Finally, several additional risk factors need to be considered in the assessment. Risk-mitigating factors include (i) Malta's positive international investment position (Section 4.2.4), (ii) a high share of domestically-held debt (Section 4.1.2), and (iii) a sharp decrease in both gross and net debt ratios between 2011 and 2023 (Section 4.3). In addition, the structural reforms under the NextGenerationEU (NGEU)/Recovery and Resilience Facility (RRF), if fully implemented, could have a further positive impact on GDP growth in the coming years, and therefore help to mitigate debt sustainability challenges.

([184]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
Overall (S0)	Overall		Deterministic scenarios: Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
		Overall	LOW	LOW	LOW	LOW	LOW	LOW			
		Debt level (2035), % of GDP	46.4	36.0	50.1	49.9	46.8				
LOW	LOW	Debt peak year	2025	2025	2026	2026	2025		HIGH	MEDIUM	HIGH
		Fiscal consolidation space	90%	76%	100%	90%	90%				
		Probability of debt ratio exceeding in 2029 its 2024 level						47%			
		Difference between 90th and 10th percentiles (% of GDP)						35.5			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

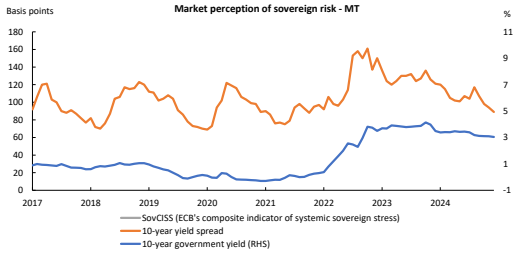
2. Short-term fiscal sustainability risks

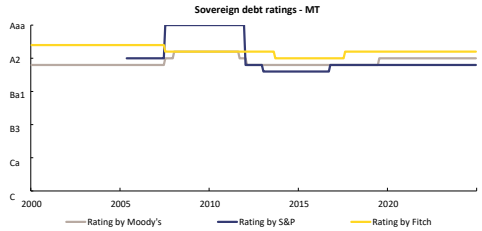
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.21**
Fiscal sub-component	0.36	0.26
Financial competitiveness sub-component	0.49	0.18

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	89.0

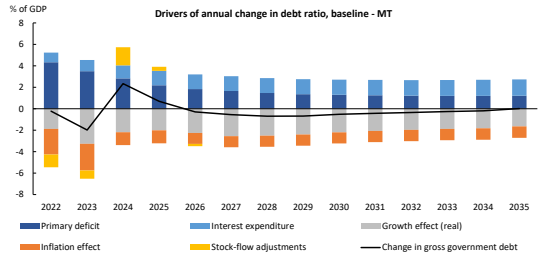
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

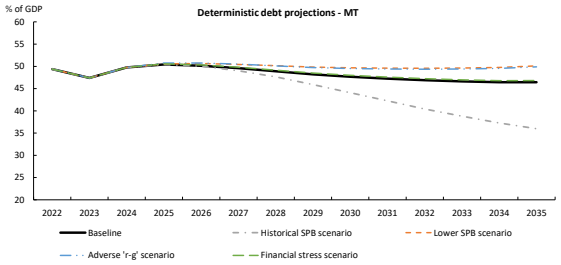


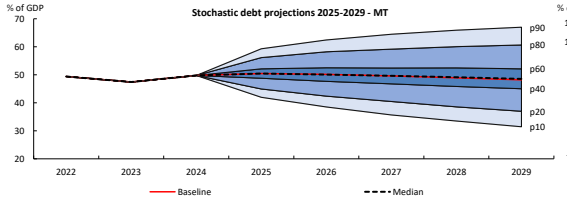


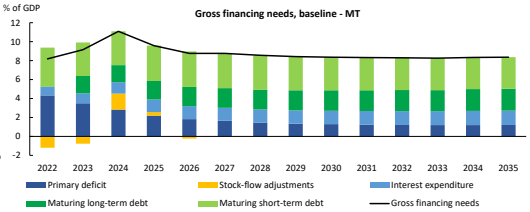
3. Medium-term fiscal sustainability risks

Malta - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**49.4**	**47.4**	**49.8**	**50.4**	**50.1**	**49.6**	**48.9**	**48.2**	**47.7**	**47.2**	**46.9**	**46.6**	**46.4**	**46.4**
Change in the ratio (-1+2+3)	*-0.2*	*-2.0*	*2.3*	*0.7*	*-0.3*	*-0.6*	*-0.7*	*-0.7*	*-0.5*	*-0.4*	*-0.4*	*-0.3*	*-0.2*	*0.0*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-4.3**	**-3.5**	**-2.8**	**-2.2**	**-1.8**	**-1.7**	**-1.5**	**-1.4**	**-1.3**	**-1.3**	**-1.2**	**-1.2**	**-1.2**	**-1.2**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-3.5***	***-3.5***	***-2.7***	***-1.8***	***-1.6***	***-1.5***	***-1.4***	***-1.4***	***-1.3***	***-1.3***	***-1.2***	***-1.2***	***-1.2***	***-1.2***
(1.1.1) Structural primary balance (before CoA)	*-3.5*	*-3.5*	*-2.7*	*-1.8*	*-1.8*	*-1.8*	*-1.8*	*-1.8*	*-1.8*	*-1.8*	*-1.8*	*-1.8*	*-1.8*	*-1.8*
(1.1.2) Cost of ageing (CoA)					*-0.3*	*-0.4*	*-0.4*	*-0.5*	*-0.6*	*-0.6*	*-0.7*	*-0.7*	*-0.7*	*-0.7*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*
(1.2) Cyclical component	***-0.8***	***0.0***	***-0.2***	***-0.4***	***-0.3***	***-0.2***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-3.4**	**-4.7**	**-2.2**	**-1.9**	**-1.9**	**-2.2**	**-2.2**	**-2.0**	**-1.8**	**-1.7**	**-1.6**	**-1.5**	**-1.4**	**-1.2**
(2.1) Interest expenditure	*0.9*	*1.0*	*1.2*	*1.3*	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	*1.4*	*1.5*	*1.5*	*1.5*
(2.2) Growth effect (real)	*-1.9*	*-3.3*	*-2.2*	*-2.0*	*-2.3*	*-2.6*	*-2.5*	*-2.4*	*-2.2*	*-2.1*	*-2.0*	*-1.9*	*-1.8*	*-1.7*
(2.3) Inflation effect	*-2.4*	*-2.5*	*-1.2*	*-1.2*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.1*	*-1.1*	*-1.1*	*-1.1*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**-1.2**	**-0.8**	**1.7**	**0.4**	**-0.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-1.2*	*-0.8*	*1.7*	*0.4*	*-0.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-4.4	-4.6	-3.9	-3.2	-2.9	-2.9	-2.8	-2.8	-2.7	-2.7	-2.7	-2.7	-2.7	-2.7
Gross financing needs	8.2	9.2	11.1	9.6	8.8	8.8	8.6	8.4	8.4	8.3	8.3	8.3	8.3	8.4









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**9.4**	**8.7**	**8.6**	**11.8**
of which					
Initial budgetary position		3.0	2.3	2.4	2.3
Ageing costs		6.3	6.4	6.2	9.5
of which	*Pensions*	3.1	3.2	3.2	3.2
	Health care	1.6	1.6	1.5	2.4
	Long-term care	1.7	1.7	1.5	3.9
	Education	-0.1	0.0	0.0	0.0
Required structural primary balance related to S2		**6.7**	**6.9**	**6.7**	**10.0**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**4.4**	**3.7**	**3.8**	**5.0**
of which					
Initial budgetary position		2.4	1.7	1.8	1.7
Debt requirement		-0.1	-0.2	-0.2	-0.2
Ageing costs		2.1	2.1	2.2	3.5
of which	*Pensions*	0.8	0.9	1.0	0.9
	Health care	0.8	0.7	0.7	1.4
	Long-term care	0.8	0.8	0.7	1.5
	Education	-0.3	-0.3	-0.3	-0.3
Required structural primary balance related to S1		**1.7**	**1.8**	**2.0**	**3.2**

19. NETHERLANDS

This annex assesses fiscal sustainability risks for the Netherlands over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([185]). Government gross financing needs are expected to remain moderate, at around 11% of GDP over 2025-2026. Financial markets' perceptions of sovereign risk are investment grade, as confirmed by the main rating agencies.

2 – Medium-term fiscal sustainability risks are low.

Under the DSA baseline, debt is projected to increase over the medium term, reaching around 50% of GDP in 2035 ([186]). The increase in the government debt ratio is partially driven by the assumed structural primary deficit of 0.1% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing. This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([187]). Moreover, ageing-related expenditure is projected to increase, weighing on public finances. At the same time, the baseline projection benefits from a still favourable (although declining) snowball effect. Government gross financing needs are expected to remain moderate over the projection period, reaching around 12% of GDP in 2035.

The deterministic stress tests do not identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. All scenarios lead to higher debt levels than the baseline. Under the *lower SPB scenario* (in which the SPB in 2025 deteriorates by 50% more than in the forecast), and under *the adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), by 2035 the debt ratio would exceed the baseline level by around 5 pps. and 4 pps. respectively. Under the other scenarios – namely, *the financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline), and *the historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of 0% of GDP – the debt ratio would be broadly the same as in the baseline scenario.

The stochastic projections run around the baseline indicate low risk due to low probability of debt increasing over the next five years ([188])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 66%, which entails low risk given the low initial debt level. Low uncertainty surrounds the baseline debt projection, as measured by the difference of around 16 pps. between the 10th and 90th debt distribution percentiles in five years' time.

([185]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([186]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 0.1% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 1.4%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([187]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([188]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

3 – Long-term fiscal sustainability risks are medium. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([189]). The medium risk stems from the projected increase in ageing-related costs and the unfavourable initial deficit level.

The S2 indicator points to medium risk. It signals that the Netherlands would need to improve its structural primary balance by 3.4% of GDP to ensure that debt stabilises over the long term. This result is mainly driven by the projected increase in ageing costs, which contributes 2.8 pps., of which 1.2 pps. stem from pension expenditure and 2.2 pps. jointly from health care and long-term care expenditure, partially offset by a negative contribution from education. The remaining required effort is due to the unfavourable budgetary position, contributing 0.6 pps.

The S1 indicator points to low risk. This indicator shows that fiscal effort of 1.9% of GDP would be needed for the Netherlands to keep its debt to 60% of GDP by 2070. This result is also mainly driven by the projected increase in ageing costs (contributing 2.1 pps.) and, to a lesser extent, the initial deficit (0.2 pps.).

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors relate to the relatively large share of short-term government debt (Section 4.1.1). On the other hand, risk-mitigating factors include (i) the lengthening of debt maturity in recent years (Section 4.1.1), (ii) relatively stable financing sources featuring a well-diversified and large investor base (Section 4.1.2), and (iii) the very large share of debt denominated in euro (Section 4.1.3).

([189]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
Overall (S0)	Overall		Deterministic scenarios: Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
LOW	LOW	Overall	LOW	LOW	LOW	LOW	LOW	LOW	MEDIUM	LOW	MEDIUM
		Debt level (2035), % of GDP	50.1	50.2	55.4	53.9	50.3				
		Debt peak year	2035	2035	2035	2035	2035				
		Fiscal consolidation space	75%	73%	82%	75%	75%				
		Probability of debt ratio exceeding in 2029 its 2024 level						66%			
		Difference between 90th and 10th percentiles (% of GDP)						15.7			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

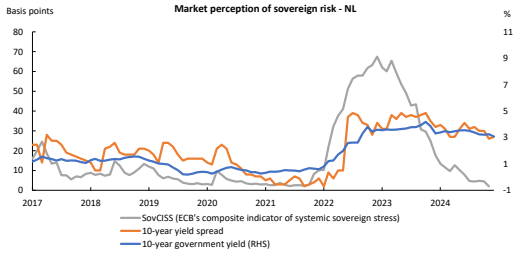
2. Short-term fiscal sustainability risks

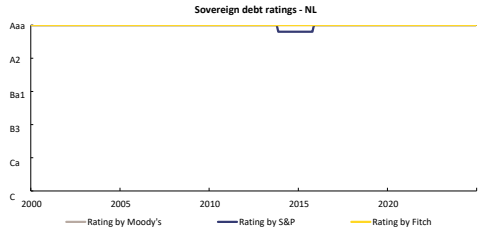
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.24**
Fiscal sub-component	0.36	0.00
Financial competitiveness sub-component	0.49	0.37

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	27.0

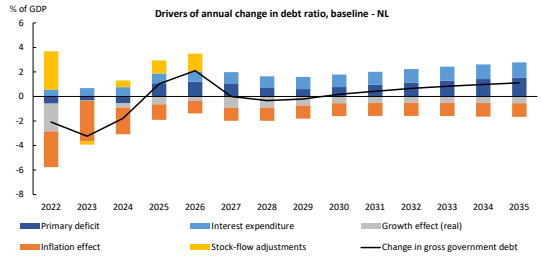
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

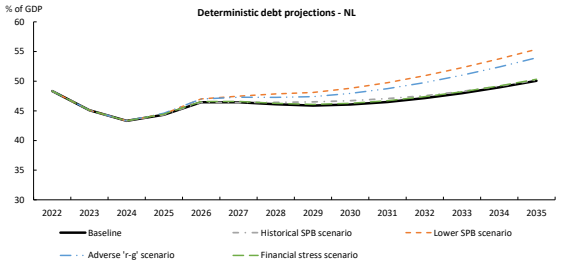


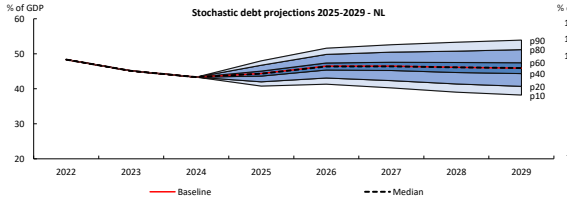


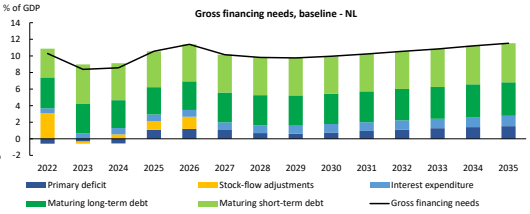
3. Medium-term fiscal sustainability risks

Netherlands - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**48.3**	**45.1**	**43.3**	**44.3**	**46.5**	**46.4**	**46.1**	**45.9**	**46.1**	**46.5**	**47.2**	**48.0**	**49.0**	**50.1**
Change in the ratio (-1+2+3)	*-2.1*	*-3.2*	*-1.8*	*1.0*	*2.1*	*0.0*	*-0.3*	*-0.2*	*0.2*	*0.4*	*0.7*	*0.8*	*1.0*	*1.1*
of which														
(1) Primary balance (1.1+1.2+1.3)	**0.6**	**0.3**	**0.6**	**-1.1**	**-1.2**	**-1.1**	**-0.7**	**-0.6**	**-0.8**	**-0.9**	**-1.1**	**-1.3**	**-1.4**	**-1.5**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-0.6***	***-0.3***	***1.0***	***-0.1***	***-0.2***	***-0.4***	***-0.5***	***-0.6***	***-0.8***	***-0.9***	***-1.1***	***-1.3***	***-1.4***	***-1.5***
(1.1.1) Structural primary balance (before CoA)	*-0.6*	*-0.3*	*1.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*
(1.1.2) Cost of ageing (CoA)					*0.1*	*0.3*	*0.4*	*0.5*	*0.7*	*0.9*	*1.0*	*1.2*	*1.4*	*1.5*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*
(1.2) Cyclical component	***1.4***	***0.1***	***-0.5***	***-0.6***	***-1.0***	***-0.7***	***-0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***-0.2***	***0.5***	***0.2***	***-0.3***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-4.6**	**-2.7**	**-1.8**	**-1.1**	**-0.6**	**-1.1**	**-1.0**	**-0.8**	**-0.6**	**-0.5**	**-0.5**	**-0.4**	**-0.4**	**-0.4**
(2.1) Interest expenditure	*0.6*	*0.7*	*0.8*	*0.8*	*0.8*	*0.9*	*1.0*	*1.0*	*1.0*	*1.1*	*1.1*	*1.1*	*1.2*	*1.2*
(2.2) Growth effect (real)	*-2.3*	*0.0*	*-0.4*	*-0.6*	*-0.4*	*-0.9*	*-0.9*	*-0.8*	*-0.6*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.6*
(2.3) Inflation effect	*-2.9*	*-3.3*	*-2.2*	*-1.3*	*-1.0*	*-1.1*	*-1.1*	*-1.1*	*-1.0*	*-1.1*	*-1.1*	*-1.1*	*-1.1*	*-1.1*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**3.1**	**-0.3**	**0.5**	**1.1**	**1.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*3.1*	*-0.3*	*0.5*	*1.1*	*1.5*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-1.2	-1.0	0.2	-0.9	-1.0	-1.3	-1.4	-1.6	-1.8	-2.0	-2.2	-2.4	-2.6	-2.8
Gross financing needs	10.3	8.4	8.6	10.6	11.4	10.2	9.8	9.8	10.0	10.2	10.5	10.8	11.2	11.5









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**4.5**	**3.4**	**3.3**	**5.5**
of which					
Initial budgetary position		1.7	0.6	0.6	0.6
Ageing costs		2.8	2.8	2.6	4.8
of which	*Pensions*	1.2	1.2	1.1	1.1
	Health care	0.6	0.6	0.5	1.1
	Long-term care	1.6	1.6	1.6	3.1
	Education	-0.7	-0.5	-0.5	-0.5
Required structural primary balance related to S2		**4.0**	**3.2**	**3.1**	**5.3**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**2.8**	**1.9**	**1.9**	**3.1**
of which					
Initial budgetary position		1.1	0.2	0.2	0.2
Debt requirement		-0.3	-0.3	-0.3	-0.3
Ageing costs		2.0	2.1	2.0	3.3
of which	*Pensions*	0.9	0.9	0.9	0.9
	Health care	0.4	0.4	0.4	0.8
	Long-term care	1.2	1.2	1.2	2.0
	Education	-0.5	-0.4	-0.4	-0.4
Required structural primary balance related to S1		**2.3**	**1.8**	**1.8**	**2.9**

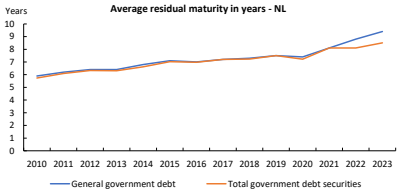
5. Additional aggravating and mitigating risk factors for fiscal sustainability

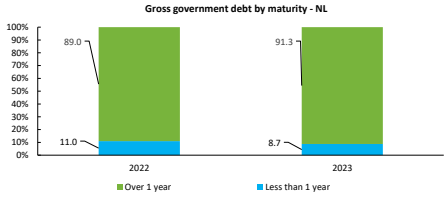
Public debt structure (2023) (% of total debt)	NL	EU
Share of short-term government debt	8.7	9.2
Share of gov't debt held by non-residents	40.4	n.a.
of which Non-EA residents	7.2	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	NL	EU
Net external debt	-33.1	n.a.
Net international investment position (NIIP)	52.9	0.9
Non-financial corporations debt	114.3	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	NL 2020	2021	2022	2023	EU 2023
State guarantees		**41.6**	**40.3**	**37.1**	**40.7**	**36.3**	**31.9**	**30.4**	**7.4**
of which	*One-off guarantees*	*41.6*	*40.3*	*37.1*	*40.7*	*36.3*	*31.9*	*30.4*	*6.1*
	Standardised guarantees	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.3*
Contingent liabilities related to support to financial institutions		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.2***

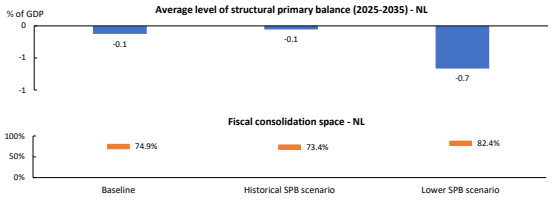
Government contingent liability risks from banking sector (2023)	NL %	NL annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	108.8	4.5	n.a.	n.a.
Share of non-performing loans	1.4	0.0	1.9	0.1

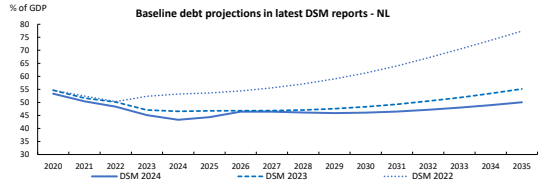
"n.a." means not available

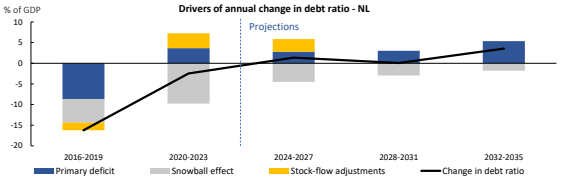
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)					
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.09%	0.24%	0.10%	0.36%	0.11%	0.37%

Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background







7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	43.3	44.3	46.5	46.4	46.1	45.9	46.1	46.5	47.2	48.0	49.0	50.1
Primary balance	0.6	-1.1	-1.2	-1.1	-0.7	-0.6	-0.8	-0.9	-1.1	-1.3	-1.4	-1.5
Structural primary balance (before CoA)	1.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Real GDP growth	0.8	1.6	0.9	2.1	2.1	1.7	1.3	1.2	1.1	1.1	1.2	1.2
Potential GDP growth	1.9	1.7	1.5	1.5	1.3	1.3	1.3	1.2	1.1	1.1	1.2	1.2
Inflation rate	5.0	3.0	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.4	2.3
Implicit interest rate (nominal)	1.8	1.9	1.9	2.1	2.1	2.2	2.3	2.4	2.5	2.5	2.6	2.6
Gross financing needs	8.6	10.6	11.4	10.2	9.8	9.8	10.0	10.2	10.5	10.8	11.2	11.5
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	43.3	44.3	46.4	46.4	46.4	46.5	46.7	47.1	47.6	48.3	49.2	50.2
Primary balance	0.6	-1.1	-1.2	-1.0	-0.9	-0.8	-0.9	-1.0	-1.0	-1.2	-1.3	-1.4
Structural primary balance (before CoA)	1.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Real GDP growth	0.8	1.6	0.9	2.1	1.7	1.6	1.4	1.4	1.3	1.1	1.2	1.2
Gross financing needs	8.6	10.6	11.4	10.1	10.0	10.1	10.2	10.4	10.6	10.8	11.2	11.5
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	43.3	44.4	46.6	46.6	46.3	46.1	46.3	46.7	47.4	48.2	49.2	50.3
Implicit interest rate (nominal)	1.8	2.1	2.0	2.1	2.2	2.3	2.3	2.4	2.5	2.6	2.6	2.7
Gross financing needs	8.6	10.6	11.4	10.2	9.9	9.8	10.0	10.3	10.6	10.9	11.3	11.6
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	43.3	44.5	47.0	47.5	47.9	48.1	48.8	49.8	50.9	52.3	53.8	55.4
Primary balance	0.6	-1.4	-1.6	-1.5	-1.3	-1.1	-1.3	-1.5	-1.7	-1.8	-2.0	-2.1
Structural primary balance (before CoA)	1.0	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
Real GDP growth	0.8	2.0	0.7	2.0	1.8	1.8	1.3	1.2	1.1	1.1	1.2	1.2
Gross financing needs	8.6	10.8	11.8	10.7	10.6	10.6	10.9	11.3	11.7	12.1	12.6	13.0
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	43.3	44.6	47.0	47.3	47.3	47.4	47.9	48.7	49.8	51.0	52.4	53.9
Implicit interest rate (nominal)	1.8	2.0	2.1	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1
Real GDP growth	0.8	1.1	0.4	1.6	1.6	1.2	0.8	0.7	0.6	0.6	0.7	0.7
Gross financing needs	8.6	10.6	11.6	10.4	10.1	10.2	10.4	10.8	11.2	11.6	12.1	12.5

20. AUSTRIA

This annex assesses fiscal sustainability risks for Austria over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are overall low. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([190]). Government gross financing needs are expected to remain large, at around 17% of GDP over 2025-2026. Financial markets' perceptions of sovereign risk are positive, as confirmed by the ratings of the main agencies.

2 – Medium-term fiscal sustainability risks are high.

Under the DSA baseline, debt is projected to increase steadily over the medium term, reaching around 98% of GDP in 2035 ([191]). The increase in the government debt ratio is partially driven by the assumed structural primary deficit of 1.6% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing. This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([192]). Moreover, ageing-related expenditure is projected to increase, weighing on public finances. At the same time, the baseline projection benefits from a still favourable (although declining) snowball effect up to 2032. Government gross financing needs are expected to remain large and to increase over the projection period, reaching around 20% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. Three scenarios lead to higher debt levels than the baseline. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the debt ratio would exceed the baseline level by around 8 pps. by 2035. Under the *lower SPB scenario* the SPB in 2025 deteriorates by 50% more than in the forecast) and *the financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline) the debt ratio would also be around 1 pp. higher than in the baseline by 2035. Finally, under the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of -0.1% of GDP), the debt ratio would be around 11 pps. lower than the baseline by 2035.

The stochastic projections run around the baseline indicate high risk due to the high probability of debt increasing over the next five years ([193])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 72%, pointing to high risk given the initial debt level. Some uncertainty surrounds the baseline debt projection, as measured by the difference of around 29 pps. between the 10th and 90th debt distribution percentiles in five years' time.

([190]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([191]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 1.6% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 1.2%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([192]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([193]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

3 – Long-term fiscal sustainability risks are medium. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([194]). The medium risk stems from the projected increase in ageing-related costs and by the unfavourable initial deficit and debt levels.

The S2 indicator points to medium risk. It signals that Austria would need to improve its structural primary balance by 4.2% of GDP to ensure that debt stabilises over the long term. This result is mainly driven by the projected increase in ageing costs, which contributes 2 pps., of which 2.3 pps. stem jointly from health care and long-term care expenditure, partially offset by a negative contribution from education. The remaining required effort is due to the unfavourable budgetary position, contributing -2.2 pps.

The S1 indicator also points to medium risk. This indicator shows that a required fiscal effort of 3.5% of GDP would be needed for Austria to reduce its debt to 60% of GDP by 2070. This result is also mainly driven by the projected increase in ageing costs (contributing 1.7 pps.) and the initial deficit and high debt level contributing an additional 1.7 pps. and 0.4 pps., respectively.

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors relate to the recent increase in interest rates and the fact that around 60% of the debt is held by non-residents. In addition, some contingent liability risks stem from the private sector, including via the possible materialisation of state guarantees. On the other hand, risk-mitigating factors include the lengthening of debt maturity in recent years and the large share of debt denominated in euro.

([194]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)							Long term		
		Deterministic scenarios								
Overall (S0)	Overall		Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
LOW	HIGH	Overall	HIGH	MEDIUM	HIGH	HIGH	HIGH	HIGH	MEDIUM	MEDIUM	MEDIUM
		Debt level (2035), % of GDP	97.7	86.6	99.0	105.2	98.3				
		Debt peak year	2035	2035	2035	2035	2035				
		Fiscal consolidation space	96%	86%	97%	96%	96%				
		Probability of debt ratio exceeding in 2029 its 2024 level						72%			
		Difference between 90th and 10th percentiles (% of GDP)						29.0			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

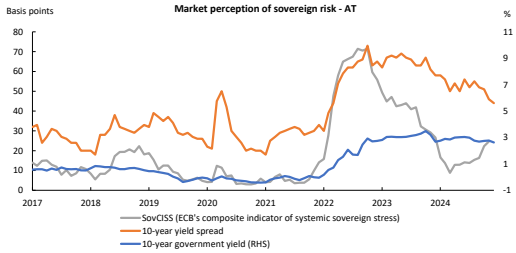
2. Short-term fiscal sustainability risks

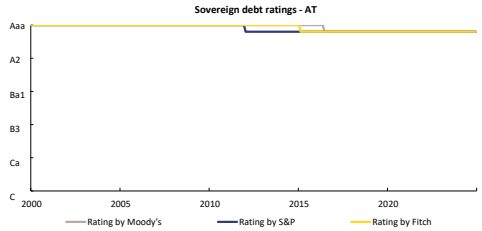
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.31**
Fiscal sub-component	0.36	0.57
Financial competitiveness sub-component	0.49	0.18

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	44.0

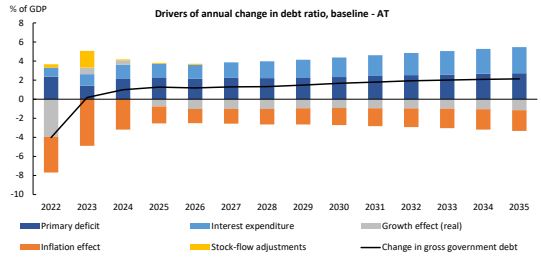
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

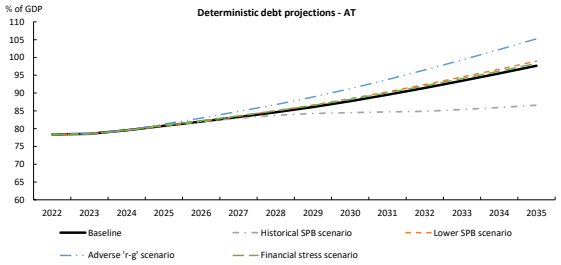


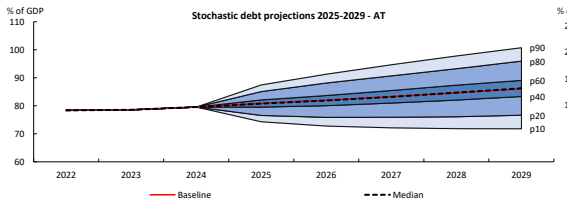


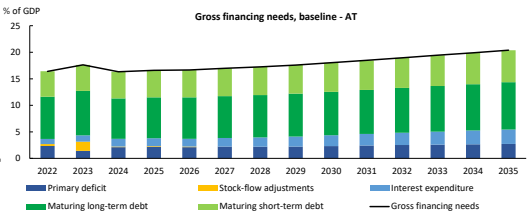
3. Medium-term fiscal sustainability risks

Austria - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**78.4**	**78.6**	**79.5**	**80.8**	**82.0**	**83.3**	**84.6**	**86.1**	**87.7**	**89.5**	**91.4**	**93.5**	**95.5**	**97.7**
Change in the ratio (-1+2+3)	*-4.0*	*0.2*	*1.0*	*1.3*	*1.2*	*1.3*	*1.3*	*1.5*	*1.7*	*1.8*	*1.9*	*2.0*	*2.1*	*2.1*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-2.4**	**-1.4**	**-2.1**	**-2.2**	**-2.1**	**-2.2**	**-2.2**	**-2.2**	**-2.3**	**-2.4**	**-2.5**	**-2.6**	**-2.7**	**-2.7**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-3.5***	***-1.4***	***-1.3***	***-1.6***	***-1.8***	***-2.0***	***-2.1***	***-2.2***	***-2.3***	***-2.4***	***-2.5***	***-2.6***	***-2.7***	***-2.7***
(1.1.1) Structural primary balance (before CoA)	*-3.5*	*-1.4*	*-1.3*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*	*-1.6*
(1.1.2) Cost of ageing (CoA)					*0.2*	*0.4*	*0.6*	*0.6*	*0.7*	*0.8*	*0.9*	*1.0*	*1.0*	*1.1*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*
(1.2) Cyclical component	***1.1***	***0.0***	***-0.8***	***-0.6***	***-0.3***	***-0.2***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-6.7**	**-3.0**	**-1.2**	**-1.1**	**-1.0**	**-0.9**	**-0.9**	**-0.7**	**-0.7**	**-0.6**	**-0.6**	**-0.6**	**-0.6**	**-0.6**
(2.1) Interest expenditure	*1.0*	*1.2*	*1.5*	*1.5*	*1.5*	*1.6*	*1.8*	*1.9*	*2.0*	*2.2*	*2.3*	*2.5*	*2.6*	*2.7*
(2.2) Growth effect (real)	*-3.9*	*0.7*	*0.5*	*-0.8*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-0.9*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.1*
(2.3) Inflation effect	*-3.7*	*-4.9*	*-3.2*	*-1.8*	*-1.5*	*-1.6*	*-1.6*	*-1.7*	*-1.8*	*-1.9*	*-2.0*	*-2.0*	*-2.1*	*-2.2*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**0.4**	**1.7**	**0.1**	**0.1**	**0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*0.3*	*1.7*	*0.1*	*0.1*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-4.4	-2.6	-2.8	-3.1	-3.3	-3.6	-3.9	-4.1	-4.4	-4.6	-4.8	-5.0	-5.3	-5.5
Gross financing needs	16.4	17.6	16.3	16.6	16.7	17.0	17.2	17.6	18.0	18.5	19.0	19.4	19.9	20.4









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**3.3**	**4.2**	**4.3**	**6.2**
of which					
Initial budgetary position		1.1	2.2	2.4	2.3
Ageing costs		2.2	2.0	2.0	3.9
of which	*Pensions*	0.1	-0.1	0.0	-0.1
	Health care	1.1	1.1	1.0	1.9
	Long-term care	1.3	1.3	1.2	2.4
	Education	-0.3	-0.2	-0.2	-0.2
Required structural primary balance related to S2		**2.7**	**2.6**	**2.8**	**4.6**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**2.5**	**3.5**	**3.7**	**4.6**
of which					
Initial budgetary position		0.5	1.7	1.8	1.7
Debt requirement		0.3	0.4	0.4	0.4
Ageing costs		1.6	1.4	1.4	2.5
of which	*Pensions*	0.3	0.0	0.1	0.0
	Health care	0.8	0.8	0.8	1.4
	Long-term care	0.8	0.8	0.8	1.4
	Education	-0.3	-0.3	-0.3	-0.3
Required structural primary balance related to S1		**1.8**	**1.9**	**2.1**	**3.0**

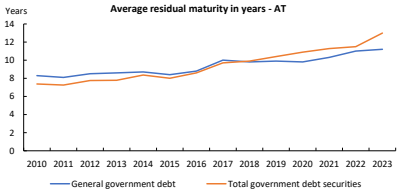
5. Additional aggravating and mitigating risk factors for fiscal sustainability

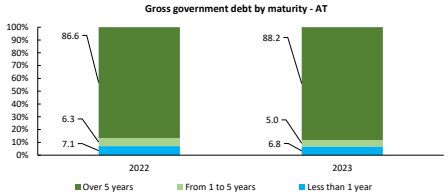
Public debt structure (2023) (% of total debt)		AT	EU
Share of short-term government debt		6.8	9.2
Share of gov't debt held by non-residents		64.1	n.a.
of which	*Non-EA residents*	19.0	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	AT	EU
Net external debt	19.4	n.a.
Net international investment position (NIIP)	16.6	0.9
Non-financial corporations debt	71.4	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	AT 2020	2021	2022	2023	EU 2023
State guarantees		**16.4**	**16.4**	**16.2**	**18.0**	**16.0**	**14.1**	**12.7**	**7.4**
of which	*One-off guarantees*	*16.4*	*16.4*	*16.2*	*16.0*	*14.2*	*12.7*	*11.6*	*6.1*
	Standardised guarantees	*0.0*	*0.0*	*0.0*	*2.1*	*1.8*	*1.4*	*1.1*	*1.3*
Contingent liabilities related to support to financial institutions		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.1***	***0.1***	***0.1***	***0.2***	***0.2***	***0.2***	***0.1***	***0.2***

Government contingent liability risks from banking sector (2023)	AT %	AT annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	95.9	3.3	n.a.	n.a.
Share of non-performing loans	2.1	0.4	1.9	0.1

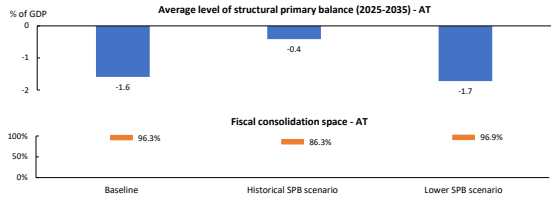
"n.a." means not available

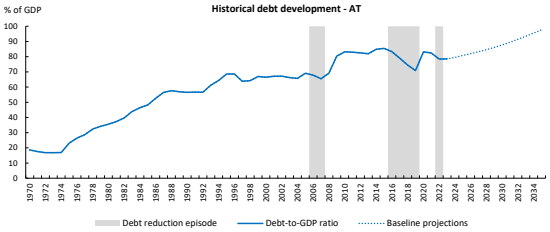
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)

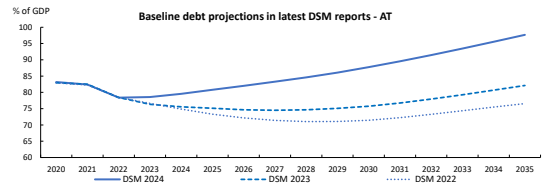
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.01%	0.12%	0.01%	0.15%	0.01%	0.18%

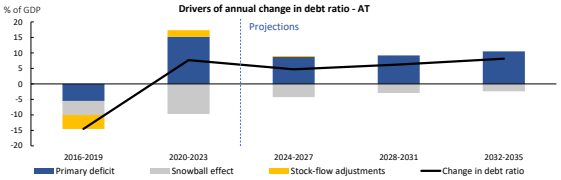
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	79.5	80.8	82.0	83.3	84.6	86.1	87.7	89.5	91.4	93.5	95.5	97.7
Primary balance	-2.1	-2.2	-2.1	-2.2	-2.2	-2.2	-2.3	-2.4	-2.5	-2.6	-2.7	-2.7
Structural primary balance (before CoA)	-1.3	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6
Real GDP growth	-0.6	1.0	1.3	1.3	1.3	1.2	1.1	1.1	1.1	1.1	1.2	1.2
Potential GDP growth	0.7	0.7	0.8	1.1	1.0	1.0	1.1	1.1	1.1	1.1	1.2	1.2
Inflation rate	4.2	2.3	1.9	1.9	2.0	2.1	2.1	2.2	2.2	2.3	2.4	2.3
Implicit interest rate (nominal)	2.0	1.9	1.9	2.0	2.2	2.3	2.5	2.6	2.7	2.8	2.9	3.0
Gross financing needs	16.3	16.6	16.7	17.0	17.2	17.6	18.0	18.5	19.0	19.4	19.9	20.4
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	79.5	80.8	82.0	82.9	83.7	84.3	84.5	84.7	84.9	85.4	85.9	86.6
Primary balance	-2.1	-2.2	-1.9	-1.7	-1.5	-1.2	-1.1	-1.1	-1.0	-1.1	-1.1	-1.2
Structural primary balance (before CoA)	-1.3	-1.6	-1.2	-0.8	-0.4	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Real GDP growth	-0.6	1.0	1.0	1.1	1.0	1.0	1.4	1.4	1.4	1.1	1.2	1.2
Gross financing needs	16.3	16.6	16.5	16.5	16.5	16.4	16.4	16.5	16.5	16.7	16.9	17.1
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	79.5	81.0	82.2	83.6	85.0	86.5	88.2	90.1	92.0	94.1	96.2	98.3
Implicit interest rate (nominal)	2.0	2.1	2.0	2.1	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
Gross financing needs	16.3	16.7	16.8	17.1	17.4	17.7	18.2	18.6	19.1	19.6	20.0	20.5
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	79.5	80.8	82.1	83.5	85.1	86.6	88.4	90.3	92.4	94.5	96.7	99.0
Primary balance	-2.1	-2.3	-2.2	-2.3	-2.4	-2.4	-2.5	-2.6	-2.7	-2.7	-2.8	-2.9
Structural primary balance (before CoA)	-1.3	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7	-1.7
Real GDP growth	-0.6	1.1	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.1	1.2	1.2
Gross financing needs	16.3	16.6	16.8	17.1	17.5	17.8	18.3	18.7	19.2	19.7	20.2	20.7
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	79.5	81.3	83.0	84.8	86.8	88.9	91.3	93.8	96.5	99.3	102.2	105.2
Implicit interest rate (nominal)	2.0	2.0	2.0	2.3	2.5	2.6	2.8	2.9	3.1	3.2	3.3	3.4
Real GDP growth	-0.6	0.5	0.8	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.7	0.7
Gross financing needs	16.3	16.7	16.9	17.4	17.8	18.3	18.9	19.5	20.2	20.8	21.5	22.1

21. POLAND

This annex assesses fiscal sustainability risks for Poland over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([195]). Government gross financing needs are expected to remain relatively large, at around 14% of GDP over 2025-2026. Financial markets' perceptions of sovereign risk are investment grade, as confirmed by the recent update by main rating agencies.

2 – Medium-term fiscal sustainability risks are high.

Under the DSA baseline, debt is projected to increase steadily over the medium term, reaching around 95% of GDP in 2035 ([196]). The increase in the government debt ratio is partially driven by the assumed structural primary deficit of 2.8% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing ([197]). This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([198]). Moreover, ageing-related expenditure is projected to increase, weighing on public finances. The baseline projection benefits from a favourable but declining snowball effect only up to 2027 that turns debt-increasing afterwards. Government gross financing needs are expected to increase to large levels over the projection period, reaching around 17% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against alternative deterministic scenarios. Three scenarios lead to higher debt levels than the baseline. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the debt ratio would exceed the baseline level by around 7 pps. by 2035. Under the *lower SPB scenario* (in which the improvement in the SPB forecast for 2025 is halved) and *the financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline) the debt ratio would also be higher than in the baseline by 2035, by around 1 pp. By contrast, under the *historical SPB scenario* (in which the SPB returns to its historical 15-year average of -1.9% of GDP), the debt ratio would be lower than in the baseline by 2035, by around 7 pps.

The stochastic projections run around the baseline indicate low risk ([199])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 99%, pointing to medium risk given the low initial debt level. At the same time, low uncertainty surrounds the baseline debt projection, as measured by the difference of around 22 pps. between the 10th and 90th debt distribution percentiles in five years' time.

([195]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([196]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 2.8% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 2.1%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([197]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that Poland commits to in its medium-term plan beyond 2025 is not taken into account in the projection.

([198]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([199]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

3 – Long-term fiscal sustainability risks are medium. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([200]). The medium risk largely stems from the unfavourable initial deficit level and to a smaller extent from an increase in ageing-related costs.

The S2 indicator points to medium risk. It signals that Poland would need to improve its structural primary balance by 4.8% of GDP to ensure that debt stabilises over the long term. This result is mainly driven by the unfavourable budgetary position, contributing 3.9 pps. The projected increase in ageing costs contributes further by 0.9 pps., with health care and long-term care expenditure amounting to 1.5 pps, partially offset by a decrease in pension expenditure.

The S1 indicator also points to medium risk. This indicator shows that a significant fiscal effort of 4.4% of GDP would be needed for Poland to reduce its debt to 60% of GDP by 2070. This result is also mainly driven by the unfavourable initial budgetary position (contributing 3.7 pps.). The projected increase in ageing costs contributes an additional 0.7 pps.

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors are related to the relatively high level of interest rates compared to historical rates (Section 1.3), the potential legal costs associated with Swiss franc-denominated loans and some exposure to non-performing loans (Section 4.2.3). On the other hand, risk-mitigating factors are related to relatively stable financing sources (with a large domestic investor base and gradually increasing average maturity of external debt) and the currency denomination of debt, i.e. over three-quarters of outstanding debt is denominated in local currency (Section 4.1).

([200]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)							Long term		
Overall (S0)	Overall		Deterministic scenarios: Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
LOW	HIGH	Overall	HIGH	MEDIUM	HIGH	HIGH	HIGH	LOW	MEDIUM	MEDIUM	MEDIUM
		Debt level (2035), % of GDP	94.6	87.5	95.7	101.7	95.3				
		Debt peak year	2035	2035	2035	2035	2035				
		Fiscal consolidation space	96%	90%	100%	96%	96%				
		Probability of debt ratio exceeding in 2029 its 2024 level						99%			
		Difference between 90th and 10th percentiles (% of GDP)						22.4			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

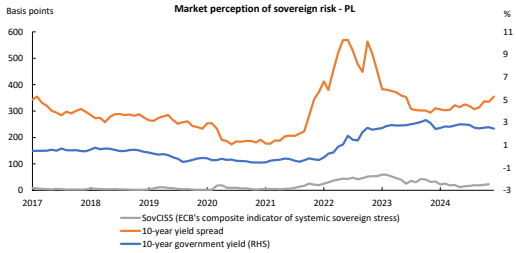
2. Short-term fiscal sustainability risks

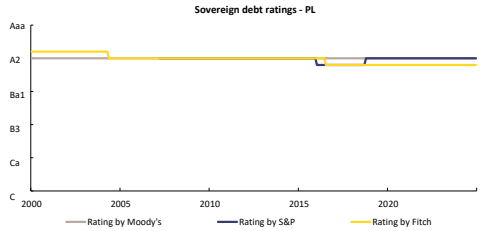
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.36**
Fiscal sub-component	0.36	0.32
Financial competitiveness sub-component	0.49	0.38

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	355.0

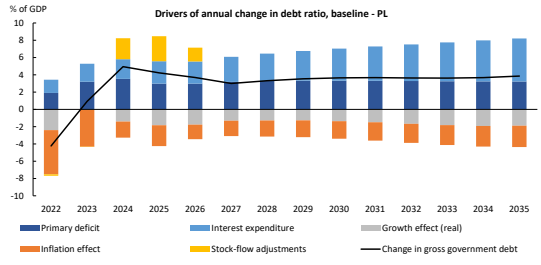
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

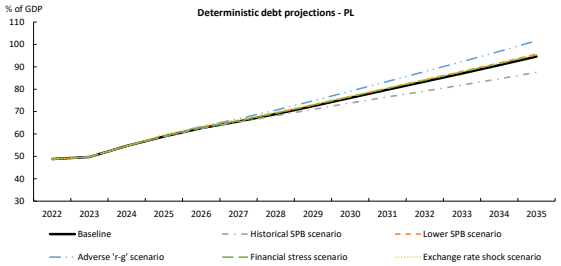


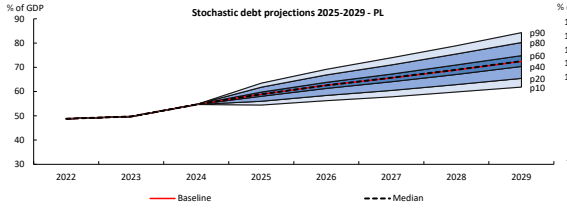


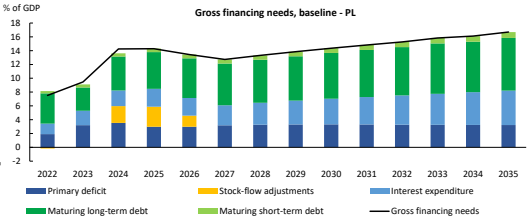
3. Medium-term fiscal sustainability risks

Poland - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**48.8**	**49.7**	**54.7**	**58.9**	**62.6**	**65.6**	**68.9**	**72.4**	**76.1**	**79.8**	**83.4**	**87.0**	**90.7**	**94.6**
Change in the ratio (-1+2+3)	*-4.2*	*0.9*	*4.9*	*4.2*	*3.7*	*3.0*	*3.3*	*3.5*	*3.7*	*3.7*	*3.6*	*3.6*	*3.7*	*3.9*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-1.9**	**-3.2**	**-3.5**	**-3.0**	**-3.0**	**-3.2**	**-3.3**	**-3.3**	**-3.3**	**-3.3**	**-3.3**	**-3.3**	**-3.2**	**-3.2**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-3.0***	***-2.6***	***-3.0***	***-2.8***	***-3.0***	***-3.2***	***-3.3***	***-3.3***	***-3.3***	***-3.3***	***-3.3***	***-3.3***	***-3.2***	***-3.2***
(1.1.1) Structural primary balance (before CoA)	*-3.0*	*-2.6*	*-3.0*	*-2.8*	*-2.8*	*-2.8*	*-2.8*	*-2.8*	*-2.8*	*-2.8*	*-2.8*	*-2.8*	*-2.8*	*-2.8*
(1.1.2) Cost of ageing (CoA)					*0.2*	*0.4*	*0.5*	*0.5*	*0.5*	*0.4*	*0.4*	*0.3*	*0.3*	*0.2*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.2*	*-0.2*
(1.2) Cyclical component	***0.8***	***-0.6***	***-0.5***	***-0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.3***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-6.0**	**-2.3**	**-1.0**	**-1.7**	**-0.9**	**-0.2**	**0.0**	**0.2**	**0.3**	**0.4**	**0.4**	**0.4**	**0.4**	**0.6**
(2.1) Interest expenditure	*1.5*	*2.1*	*2.3*	*2.6*	*2.6*	*2.9*	*3.2*	*3.4*	*3.7*	*4.0*	*4.2*	*4.5*	*4.7*	*5.0*
(2.2) Growth effect (real)	*-2.4*	*-0.1*	*-1.4*	*-1.8*	*-1.8*	*-1.3*	*-1.3*	*-1.3*	*-1.4*	*-1.5*	*-1.7*	*-1.8*	*-1.9*	*-1.9*
(2.3) Inflation effect	*-5.1*	*-4.3*	*-1.9*	*-2.4*	*-1.7*	*-1.8*	*-1.9*	*-1.9*	*-2.0*	*-2.1*	*-2.2*	*-2.3*	*-2.4*	*-2.5*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**-0.2**	**0.0**	**2.4**	**2.9**	**1.6**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.6*	*0.4*	*3.1*	*2.9*	*1.6*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.5*	*-0.4*	*-0.7*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-4.5	-4.6	-5.3	-5.4	-5.5	-6.1	-6.5	-6.8	-7.0	-7.3	-7.5	-7.7	-8.0	-8.2
Gross financing needs	7.5	9.5	14.2	14.3	13.4	12.7	13.3	13.8	14.4	14.8	15.3	15.8	16.1	16.7









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**3.8**	**4.8**	**5.1**	**8.0**
of which					
Initial budgetary position		2.7	3.9	4.0	3.8
Ageing costs		1.1	0.9	1.1	4.2
of which	*Pensions*	-0.6	-0.7	-0.4	-0.7
	Health care	0.9	0.8	0.8	1.8
	Long-term care	0.7	0.7	0.6	3.1
	Education	0.1	0.1	0.0	0.1
Required structural primary balance related to S2		**2.0**	**2.0**	**2.3**	**5.2**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**3.2**	**4.4**	**4.6**	**6.0**
of which					
Initial budgetary position		2.5	3.7	3.9	3.7
Debt requirement		-0.1	0.0	0.0	0.0
Ageing costs		0.8	0.7	0.8	2.3
of which	*Pensions*	-0.2	-0.3	-0.2	-0.3
	Health care	0.7	0.6	0.6	1.3
	Long-term care	0.4	0.4	0.4	1.4
	Education	0.0	0.0	0.0	0.0
Required structural primary balance related to S1		**1.5**	**1.6**	**1.8**	**3.2**

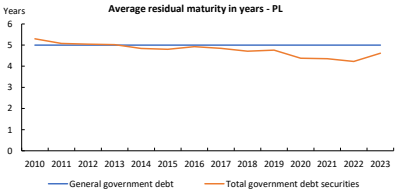
5. Additional aggravating and mitigating risk factors for fiscal sustainability

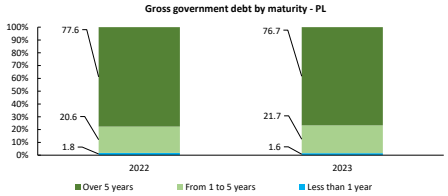
Public debt structure (2023) (% of total debt)	PL	EU
Share of short-term government debt	1.6	9.2
Share of gov't debt held by non-residents	33.6	n.a.
of which Non-EA residents	12.1	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	PL	EU
Net external debt	4.6	n.a.
Net international investment position (NIIP)	-32.6	0.9
Non-financial corporations debt	32.2	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	PL 2020	2021	2022	2023	EU 2023
State guarantees		**1.4**	**1.2**	**1.2**	**2.5**	**3.9**	**5.3**	**5.3**	**7.4**
of which	*One-off guarantees*	*0.7*	*0.6*	*0.6*	*1.4*	*2.3*	*3.7*	*3.6*	*6.1*
	Standardised guarantees	*0.7*	*0.6*	*0.6*	*1.1*	*1.6*	*1.6*	*1.7*	*1.3*
Contingent liabilities related to support to financial institutions		**0.0**	**0.0**	**0.0**	**0.0**	**2.1**	**1.0**	**0.0**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	0.0	0.0	0.0	0.0	2.1	1.0	0.0	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.2***

Government contingent liability risks from banking sector (2023)	PL %	PL annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	70.8	-5.4	n.a.	n.a.
Share of non-performing loans	5.5	-0.2	1.9	0.1

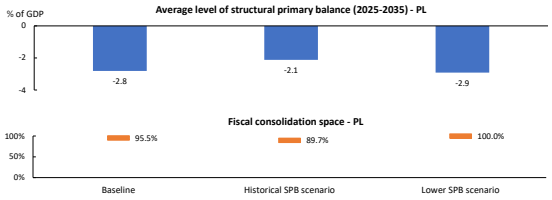
"n.a." means not available

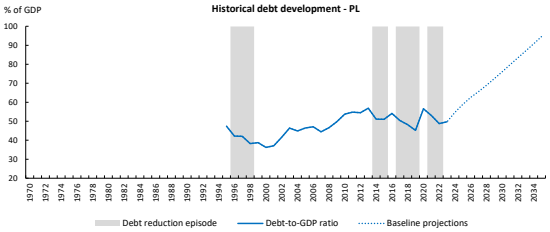
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)

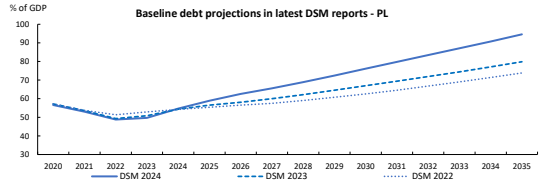
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.00%	0.05%	0.00%	0.12%	0.00%	0.16%

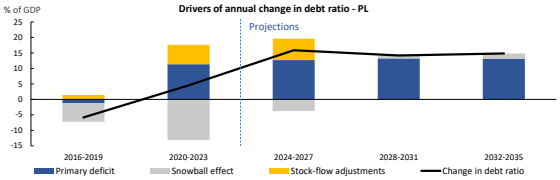
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	54.7	58.9	62.6	65.6	68.9	72.4	76.1	79.8	83.4	87.0	90.7	94.6
Primary balance	-3.5	-3.0	-3.0	-3.2	-3.3	-3.3	-3.3	-3.3	-3.3	-3.3	-3.2	-3.2
Structural primary balance (before CoA)	-3.0	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8	-2.8
Real GDP growth	3.0	3.6	3.2	2.2	2.0	1.9	2.0	2.1	2.2	2.3	2.3	2.2
Potential GDP growth	2.8	2.9	2.8	2.2	2.0	1.9	2.0	2.1	2.2	2.3	2.3	2.2
Inflation rate	3.9	4.6	3.0	2.9	2.9	2.9	2.9	2.9	2.9	2.8	2.8	2.8
Implicit interest rate (nominal)	4.9	5.1	4.6	4.9	5.1	5.2	5.4	5.5	5.6	5.7	5.7	5.8
Gross financing needs	14.2	14.3	13.4	12.7	13.3	13.8	14.4	14.8	15.3	15.8	16.1	16.7
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	54.7	58.9	62.5	65.3	68.2	71.0	73.8	76.5	79.2	81.9	84.6	87.5
Primary balance	-3.5	-3.0	-2.8	-2.9	-2.8	-2.6	-2.6	-2.5	-2.4	-2.4	-2.4	-2.3
Structural primary balance (before CoA)	-3.0	-2.8	-2.6	-2.4	-2.1	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9
Real GDP growth	3.0	3.6	3.0	2.1	2.0	1.9	2.1	2.2	2.3	2.3	2.3	2.2
Gross financing needs	14.2	14.3	13.3	12.4	12.8	13.0	13.4	13.6	13.9	14.3	14.4	14.9
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	54.7	59.0	62.8	65.9	69.3	72.9	76.6	80.4	84.0	87.7	91.4	95.3
Implicit interest rate (nominal)	4.9	5.4	4.8	5.0	5.2	5.3	5.5	5.6	5.6	5.7	5.8	5.8
Gross financing needs	14.2	14.4	13.6	12.9	13.4	14.0	14.5	14.9	15.4	16.0	16.2	16.8
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	54.7	58.9	62.7	65.8	69.2	72.9	76.7	80.4	84.2	87.9	91.7	95.7
Primary balance	-3.5	-3.1	-3.1	-3.3	-3.4	-3.4	-3.4	-3.4	-3.4	-3.4	-3.4	-3.3
Structural primary balance (before CoA)	-3.0	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9	-2.9
Real GDP growth	3.0	3.7	3.1	2.2	2.0	1.9	2.0	2.1	2.2	2.3	2.3	2.2
Gross financing needs	14.2	14.3	13.5	12.8	13.4	14.0	14.5	15.0	15.5	16.1	16.3	16.9
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	54.7	59.2	63.3	66.8	70.6	74.8	79.1	83.5	87.9	92.3	96.9	101.7
Implicit interest rate (nominal)	4.9	5.3	4.8	5.2	5.4	5.6	5.8	5.9	6.0	6.1	6.2	6.2
Real GDP growth	3.0	3.1	2.7	1.7	1.5	1.4	1.5	1.6	1.7	1.8	1.8	1.7
Gross financing needs	14.2	14.4	13.7	13.1	13.7	14.4	15.0	15.6	16.2	16.9	17.3	18.1
6. Exchange rate depreciation scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	54.7	59.8	63.4	66.4	69.8	73.3	77.0	80.6	84.3	87.9	91.6	95.5
Exchange rate depreciation	0.0	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

22. PORTUGAL

This annex assesses fiscal sustainability risks for Portugal over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([201]). Government gross financing needs are expected to increase in 2024 and then stabilise at around 7% of GDP on average over 2025-2026. Financial markets' perceptions of sovereign risk are investment grade, as confirmed by the main rating agencies.

2 – Medium-term fiscal sustainability risks are medium.

Under the DSA baseline, debt is projected to decline but remain at a high level in the medium term, reaching around 74% of GDP in 2035 ([202]). The debt reduction is supported by the assumed structural primary surplus of 2.5% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing ([203]). This structural primary balance (SPB) level is high compared with past fiscal performance ([204]). Moreover, ageing-related expenditure is projected to increase, weighing on public finances. At the same time, the baseline projection benefits from a still favourable (although strongly declining) snowball effect up to 2034. Government gross financing needs are expected to stabilise over the projection period and reach around 7% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. All four scenarios lead to higher debt levels than the baseline in 2035 with particularly adverse developments under the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of 0.5% of GDP). Under this stress scenario, the debt ratio would be higher than under the baseline by about 14 pps. of GDP in 2035. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate deteriorates by 1 pp. compared with the baseline), the debt ratio would be higher than under the baseline by around 7 pps. of GDP in 2035. Under the *financial stress scenario* (in which interest rates temporarily increase by 1.3 pps. compared with the baseline) the debt ratio would be higher by only around 1 pp. in 2035. Finally, the debt ratio is expected to remain broadly unchanged in 2035 under the *lower structural primary balance (SPB) scenario* (in which the projected cumulative improvement in the SPB over 2024-2025 is halved).

The stochastic projections run around the baseline indicate medium risk, due to a medium probability of debt increasing over the next five years ([205])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 23%, pointing to

([201]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([202]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary surplus, before changes in ageing costs, of 2.5% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 0.9%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([203]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that Portugal commits to in its medium-term plan beyond 2025 is not taken into account in the projection.

([204]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([205]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

medium risk given the current high debt level. High uncertainty surrounds the baseline debt projection, as measured by the difference of around 46 pps. of GDP between the 10th and 90th debt distribution percentiles in five years' time.

3 – Long-term fiscal sustainability risks are low. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([206]). The low risk stems from the favourable initial budgetary position which is partly offset by the projected increase in ageing costs.

The S2 indicator points to low risk. It signals that relative to the baseline, Portugal could relax its structural primary balance by 2 pps. of GDP and still ensure that debt stabilises over the long term. This result is mainly driven by the favourable initial budgetary position (contributing -2 pps. of GDP).

The S1 indicator also points to low risk. This indicator shows that Portugal does not need to improve its fiscal position to reduce its debt to 60% of GDP by 2070. This result is mainly driven the favourable initial budgetary position (contributing -2.4 pps.), which is partly offset by the projected ageing-related public spending and the debt requirement, contributing 1.7 pps. and 0.7 pps. respectively.

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors are related to (i) country-specific factors as the ongoing requests for a financial rebalancing of PPPs, (ii) vulnerabilities in some public corporations, and (iii) Portugal's negative net international investment position (Sections 4.2.2 and 4.2.4). On the other-hand, risk-mitigating factors include (i) Portugal's comfortable cash buffer, (ii) the maturity structure of its debt, most of which with fixed rates, (iii) relatively stable financing sources (with a diversified and expanding investor base), and (iv) the large share of debt denominated in euro (Section 4.1). Portugal's debt management strategy targeting the smoothening of the debt redemption profile also contributes to mitigate risks.

([206]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
Overall (S0)	Overall		Deterministic scenarios					Stochastic projections	S2	S1	Overall (S1 + S2)
			Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress				
		Overall	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM			
		Debt level (2035), % of GDP	74.5	88.6	74.5	81.2	75.2				
LOW	MEDIUM	Debt peak year	2025	2025	2025	2025	2025		LOW	LOW	LOW
		Fiscal consolidation space	17%	41%	18%	17%	17%				
		Probability of debt ratio exceeding in 2029 its 2024 level						23%			
		Difference between 90th and 10th percentiles (% of GDP)						46.1			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

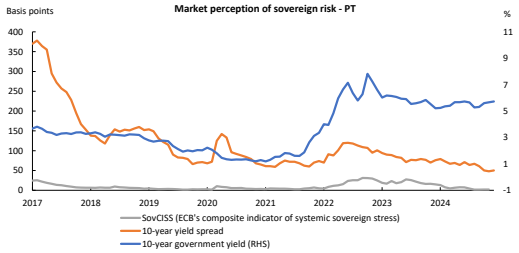
2. Short-term fiscal sustainability risks

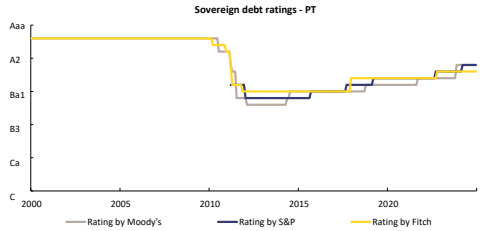
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.40**
Fiscal sub-component	0.36	0.31
Financial competitiveness sub-component	0.49	0.45

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	50.0

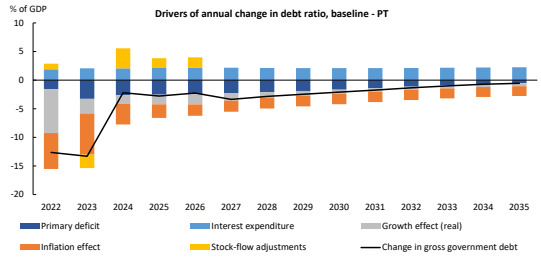
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

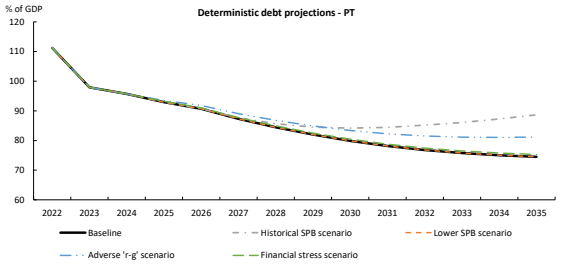


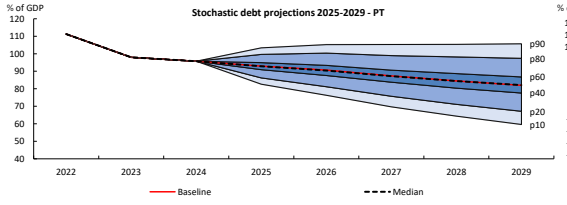


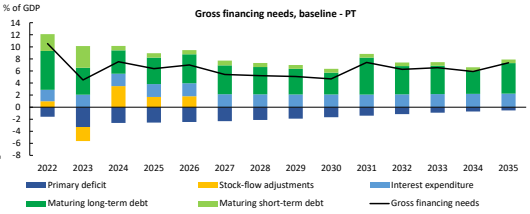
3. Medium-term fiscal sustainability risks

Portugal - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**111.2**	**97.9**	**95.7**	**92.9**	**90.7**	**87.3**	**84.5**	**82.0**	**79.9**	**78.1**	**76.8**	**75.8**	**75.0**	**74.5**
Change in the ratio (-1+2+3)	*-12.6*	*-13.3*	*-2.2*	*-2.8*	*-2.3*	*-3.4*	*-2.8*	*-2.5*	*-2.1*	*-1.7*	*-1.4*	*-1.0*	*-0.7*	*-0.5*
of which														
(1) Primary balance (1.1+1.2+1.3)	**1.6**	**3.3**	**2.6**	**2.5**	**2.5**	**2.3**	**2.1**	**1.9**	**1.7**	**1.4**	**1.1**	**0.9**	**0.7**	**0.5**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***1.1***	***3.2***	***2.5***	***2.5***	***2.4***	***2.3***	***2.1***	***1.9***	***1.7***	***1.4***	***1.1***	***0.9***	***0.7***	***0.5***
(1.1.1) Structural primary balance (before CoA)	*1.1*	*3.2*	*2.5*	*2.5*	*2.5*	*2.5*	*2.5*	*2.5*	*2.5*	*2.5*	*2.5*	*2.5*	*2.5*	*2.5*
(1.1.2) Cost of ageing (CoA)					*0.1*	*0.3*	*0.4*	*0.6*	*0.9*	*1.2*	*1.4*	*1.7*	*1.9*	*2.1*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*
(1.2) Cyclical component	***0.5***	***0.5***	***0.2***	***0.0***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***-0.1***	***-0.5***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-12.1**	**-7.7**	**-3.1**	**-1.9**	**-1.6**	**-1.1**	**-0.7**	**-0.6**	**-0.4**	**-0.3**	**-0.2**	**-0.1**	**0.0**	**0.0**
(2.1) Interest expenditure	*1.9*	*2.1*	*2.1*	*2.1*	*2.1*	*2.2*	*2.1*	*2.1*	*2.1*	*2.1*	*2.1*	*2.2*	*2.2*	*2.2*
(2.2) Growth effect (real)	*-7.7*	*-2.6*	*-1.5*	*-1.7*	*-1.8*	*-1.3*	*-1.0*	*-0.8*	*-0.7*	*-0.6*	*-0.6*	*-0.5*	*-0.5*	*-0.5*
(2.3) Inflation effect	*-6.3*	*-7.2*	*-3.6*	*-2.4*	*-2.0*	*-2.0*	*-1.9*	*-1.9*	*-1.8*	*-1.8*	*-1.8*	*-1.7*	*-1.7*	*-1.7*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**1.0**	**-2.3**	**3.5**	**1.7**	**1.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*1.0*	*-2.3*	*3.5*	*1.7*	*1.8*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-0.7	1.1	0.5	0.4	0.2	0.1	0.0	-0.2	-0.4	-0.7	-1.0	-1.3	-1.5	-1.7
Gross financing needs	10.5	4.5	7.5	6.4	7.0	5.4	5.2	5.1	4.7	7.4	6.3	6.5	5.9	7.4









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**-1.4**	**-2.0**	**-0.9**	**5.4**
of which					
Initial budgetary position		-1.6	-2.0	-1.8	-1.8
Ageing costs		0.2	0.0	0.8	7.2
of which	*Pensions*	-1.5	-1.7	-0.7	-1.4
	Health care	1.2	1.1	1.1	1.9
	Long-term care	0.4	0.4	0.4	6.5
	Education	0.1	0.1	0.1	0.1
Required structural primary balance related to S2		**0.7**	**0.6**	**1.6**	**7.9**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**0.6**	**0.0**	**0.6**	**3.1**
of which					
Initial budgetary position		-2.1	-2.4	-2.2	-2.4
Debt requirement		0.8	0.7	0.7	0.7
Ageing costs		1.9	1.7	2.1	4.8
of which	*Pensions*	0.6	0.4	0.9	0.5
	Health care	1.0	0.9	0.9	1.4
	Long-term care	0.3	0.3	0.3	2.8
	Education	0.0	0.1	0.1	0.1
Required structural primary balance related to S1		**2.7**	**2.5**	**3.1**	**5.6**

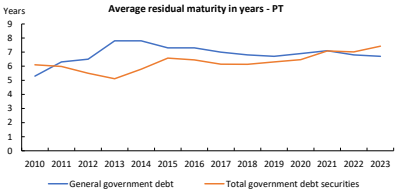
5. Additional aggravating and mitigating risk factors for fiscal sustainability

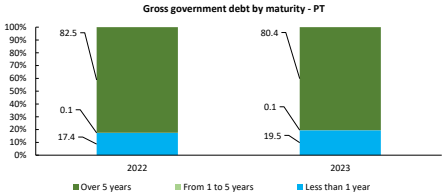
Public debt structure (2023) (% of total debt)	PT	EU
Share of short-term government debt	19.5	9.2
Share of gov't debt held by non-residents	42.0	n.a.
of which Non-EA residents	12.5	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	PT	EU
Net external debt	53	n.a.
Net international investment position (NIIP)	-72.3	0.9
Non-financial corporations debt	70.8	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	PT 2020	2021	2022	2023	EU 2023
State guarantees		**6.4**	**5.6**	**4.8**	**6.4**	**6.0**	**4.4**	**3.7**	**7.4**
of which	*One-off guarantees*	*6.4*	*5.6*	*4.8*	*3.2*	*2.8*	*2.2*	*1.8*	*6.1*
	Standardised guarantees	*0.0*	*0.0*	*0.0*	*3.2*	*3.2*	*2.2*	*1.9*	*1.3*
Contingent liabilities related to support to financial institutions		**3.4**	**2.9**	**2.2**	**0.5**	**0.2**	**0.2**	**0.2**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	3.4	2.9	2.2	0.5	0.2	0.2	0.2	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***2.7***	***2.5***	***2.2***	***2.3***	***2.0***	***1.7***	***1.4***	***0.2***

Government contingent liability risks from banking sector (2023)	PT %	PT annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	72.6	0.8	n.a.	n.a.
Share of non-performing loans	2.9	-0.5	1.9	0.1

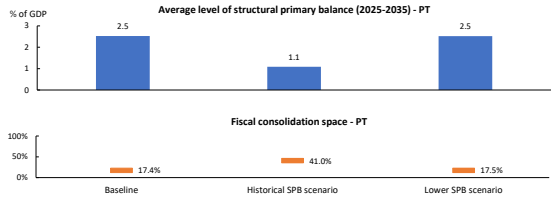
"n.a." means not available

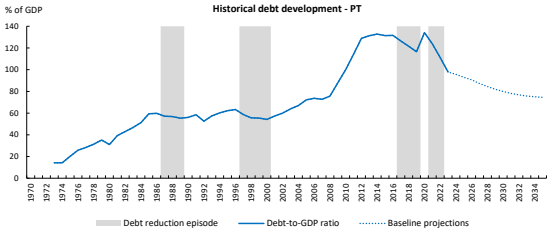
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)

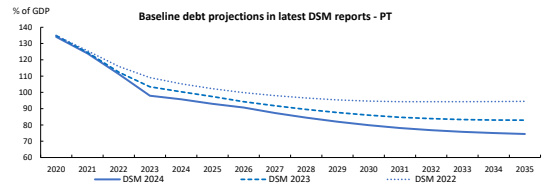
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.00%	0.10%	0.01%	0.17%	0.01%	0.26%

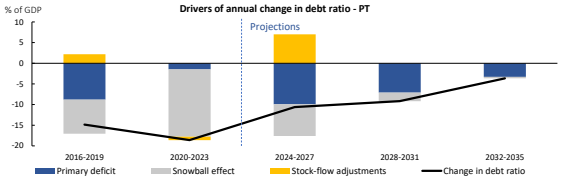
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	95.7	92.9	90.7	87.3	84.5	82.0	79.9	78.1	76.8	75.8	75.0	74.5
Primary balance	2.6	2.5	2.5	2.3	2.1	1.9	1.7	1.4	1.1	0.9	0.7	0.5
Structural primary balance (before CoA)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Real GDP growth	1.7	1.9	2.0	1.4	1.1	1.0	0.9	0.8	0.8	0.7	0.7	0.7
Potential GDP growth	2.3	2.1	1.9	1.5	1.2	1.0	0.9	0.8	0.8	0.7	0.7	0.7
Inflation rate	3.8	2.5	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.4	2.3
Implicit interest rate (nominal)	2.2	2.3	2.4	2.5	2.5	2.6	2.6	2.7	2.8	2.9	3.0	3.1
Gross financing needs	7.5	6.4	7.0	5.4	5.2	5.1	4.7	7.4	6.3	6.5	5.9	7.4
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	95.7	92.9	90.7	87.7	85.7	84.5	84.2	84.4	85.2	86.1	87.3	88.6
Primary balance	2.6	2.5	2.2	1.7	1.1	0.5	0.1	-0.3	-0.7	-0.9	-1.2	-1.3
Structural primary balance (before CoA)	2.5	2.5	2.1	1.6	1.1	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Real GDP growth	1.7	1.9	2.3	1.7	1.3	1.1	0.6	0.5	0.5	0.7	0.7	0.7
Gross financing needs	7.5	6.4	7.3	5.9	6.2	6.6	6.5	9.6	8.8	9.3	8.7	10.6
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	95.7	93.2	91.0	87.7	84.9	82.5	80.5	78.7	77.4	76.5	75.8	75.2
Implicit interest rate (nominal)	2.2	2.6	2.5	2.5	2.6	2.6	2.7	2.8	2.9	3.0	3.1	3.1
Gross financing needs	7.5	6.7	7.1	5.5	5.3	5.2	4.8	7.5	6.4	6.6	6.0	7.5
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	95.7	92.9	90.7	87.3	84.5	82.0	79.9	78.2	76.8	75.8	75.1	74.5
Primary balance	2.6	2.5	2.5	2.3	2.1	1.9	1.7	1.4	1.1	0.9	0.7	0.5
Structural primary balance (before CoA)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Real GDP growth	1.7	1.9	2.0	1.4	1.1	1.0	0.9	0.8	0.8	0.7	0.7	0.7
Gross financing needs	7.5	6.4	7.0	5.4	5.2	5.1	4.7	7.4	6.3	6.6	5.9	7.4
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	95.7	93.5	91.8	89.0	86.8	84.9	83.4	82.2	81.5	81.1	81.1	81.2
Implicit interest rate (nominal)	2.2	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4
Real GDP growth	1.7	1.4	1.5	0.9	0.6	0.5	0.4	0.3	0.3	0.2	0.2	0.2
Gross financing needs	7.5	6.5	7.2	5.6	5.6	5.5	5.1	8.0	6.9	7.3	6.7	8.3

23. ROMANIA

This annex assesses fiscal sustainability risks for Romania over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are high. The Commission's early-detection indicator (S0) signals short-term fiscal risks ([207]). The short-term risk is primarily driven by macroeconomic and financial vulnerabilities, in particular relatively tight financing conditions in 2024 and high current account deficits and low household saving rates in 2023. Fiscal vulnerabilities also contributed to the risk, particularly due to the relatively high government deficits in 2024. Government gross financing needs are expected to remain relatively large, at around 13.5% of GDP over 2025-2026. Financial markets' perceptions of sovereign risk have been deteriorating; Romania is one notch above investment grade threshold, and now on negative watch for two key rating agencies.

2 – Medium-term fiscal sustainability risks are high.

Under the DSA baseline, debt is projected to increase rapidly, reaching around 106% of GDP in 2035 ([208]). The increase in the government debt ratio is largely driven by the assumed structural primary deficit of 5.2% of GDP as of 2025 ([209]), at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing ([210]). This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([211]). Moreover, ageing-related expenditure is projected to increase, weighing on public finances. At the same time, the baseline projection benefits from a still favourable (although declining) snowball effect up to 2031. Government gross financing needs are expected to increase significantly over the projection period, reaching around 24% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against alternative deterministic scenarios. Most of the scenarios lead to higher debt levels than the baseline. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the debt ratio would exceed the baseline level by around 7 pps. by 2035. Under the *lower SPB scenario* (in which the improvement in the SPB forecast for 2025 is halved) and *the financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline) the debt ratio would also be 1 pp. higher than in the baseline by 2035. By contrast, under the *historical SPB scenario* (in which the SPB returns to its historical 15-year average of -2.6% of GDP), the debt ratio would be 22 pps. lower than in the baseline by 2035.

([207]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([208]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 5.2% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 1.8%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2035) implies that several projected variables, including debt, budget balance and GDP, for T+2 (in this case 2026) can differ from the Commission 2024 autumn forecast (see Box 2.1 in the 2023 DSM for further explanations).

([209]) This 2025 SPB level includes the lingering impact of the 2023 pension reform. By contrast, in the 2023 DSM, the SPB assumption excluding changes in cost of ageing was anchored to the 2024 SPB level, and the cost of ageing was expected to increase in 2025.

([210]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that Romania commits to in its medium-term plan beyond 2025 is not taken into account in the projection.

([211]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

The stochastic projections run around the baseline indicate medium risk ([212])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 92%, pointing to medium risk given the initial debt level. At the same time, high uncertainty surrounds the baseline debt projection, as measured by the difference of around 44 pps. between the 10th and 90th debt distribution percentiles in five years' time.

3 – Long-term fiscal sustainability risks are medium. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([213]). The medium risk largely stems from the unfavourable initial deficit level.

The S2 indicator points to medium risk. It signals that Romania would need to improve its structural primary balance by 4.7% of GDP to ensure that debt stabilises over the long term. This result is mainly driven by the unfavourable budgetary position, contributing 5.8 pps. The projected decline in ageing costs partly offsets this effect (-1.1 pps)., in particular due to the expected decline in pension spending, which offset the increase in health care and long-term care expenditure.

The S1 indicator also points to medium risk. This indicator shows that a significant fiscal effort of 5.8% of GDP would be needed for Romania to reduce its debt to 60% of GDP by 2070. This result is also mainly driven by the unfavourable initial budgetary position (contributing 5.6 pps.).

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors are related to (i) the share of debt held by non-residents (Section 4.1.2), the currency denomination of debt (Section 4.1.3), some exposure to non-performing loans (Section 4.2.3) and the country's negative net international investment position (Section 4.2.4). The latter is low if non-defaultable instruments are excluded. On the other hand, risk-mitigating factors include (i) the lengthening of debt maturity in recent years, and the low share of short-term debt (Section 4.1.1) as well as external and private debt (Section 4.2.4).

([212]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

([213]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)							Long term		
Overall (S0)	Overall		Deterministic scenarios: Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
HIGH	HIGH	Overall	HIGH	MEDIUM	HIGH	HIGH	HIGH	MEDIUM	MEDIUM	MEDIUM	MEDIUM
		Debt level (2035), % of GDP	106.4	85.2	107.2	113.5	107.0				
		Debt peak year	2035	2035	2035	2035	2035				
		Fiscal consolidation space	100%	100%	100%	100%	100%				
		Probability of debt ratio exceeding in 2029 its 2024 level						92%			
		Difference between 90th and 10th percentiles (% of GDP)						43.7			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

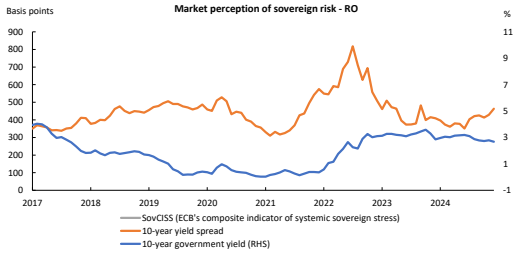
2. Short-term fiscal sustainability risks

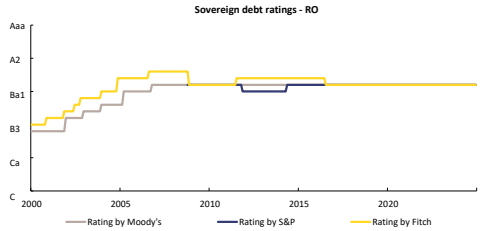
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.49**
Fiscal sub-component	0.36	0.32
Financial competitiveness sub-component	0.49	0.58

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	463.0

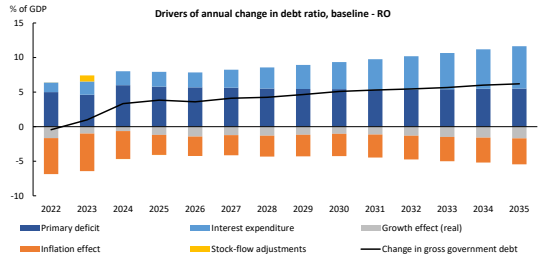
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

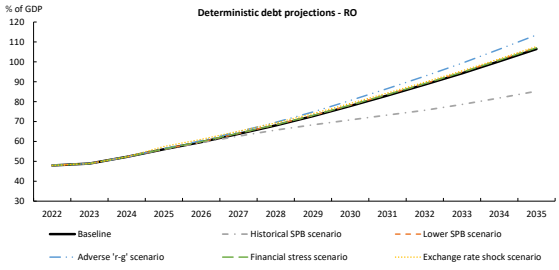


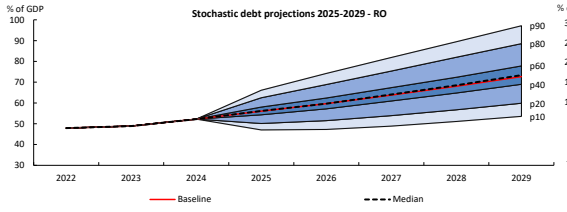


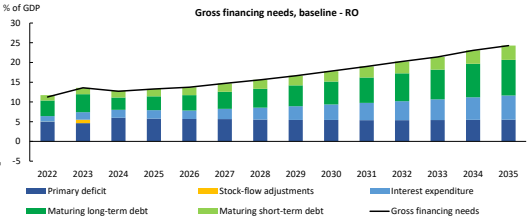
3. Medium-term fiscal sustainability risks

Romania - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**47.9**	**48.9**	**52.2**	**56.1**	**59.7**	**63.8**	**68.0**	**72.7**	**77.8**	**83.1**	**88.6**	**94.2**	**100.2**	**106.4**
Change in the ratio (-1+2+3)	*-0.4*	*1.0*	*3.3*	*3.8*	*3.6*	*4.1*	*4.2*	*4.6*	*5.1*	*5.3*	*5.5*	*5.7*	*6.0*	*6.2*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-5.0**	**-4.6**	**-6.0**	**-5.8**	**-5.7**	**-5.6**	**-5.5**	**-5.4**	**-5.4**	**-5.4**	**-5.4**	**-5.4**	**-5.5**	**-5.5**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-4.8***	***-4.3***	***-5.4***	***-5.2***	***-5.3***	***-5.4***	***-5.4***	***-5.4***	***-5.4***	***-5.4***	***-5.4***	***-5.4***	***-5.5***	***-5.5***
(1.1.1) Structural primary balance (before CoA)	*-4.8*	*-4.3*	*-5.4*	*-5.2*	*-5.2*	*-5.2*	*-5.2*	*-5.2*	*-5.2*	*-5.2*	*-5.2*	*-5.2*	*-5.2*	*-5.2*
(1.1.2) Cost of ageing (CoA)					*0.0*	*0.1*	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*
(1.2) Cyclical component	***-0.2***	***-0.4***	***-0.6***	***-0.6***	***-0.4***	***-0.3***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-5.5**	**-4.5**	**-2.7**	**-1.9**	**-2.1**	**-1.5**	**-1.3**	**-0.8**	**-0.3**	**-0.1**	**0.1**	**0.3**	**0.5**	**0.7**
(2.1) Interest expenditure	*1.4*	*1.9*	*2.0*	*2.1*	*2.2*	*2.6*	*3.0*	*3.5*	*3.9*	*4.4*	*4.8*	*5.3*	*5.7*	*6.1*
(2.2) Growth effect (real)	*-1.6*	*-1.0*	*-0.6*	*-1.2*	*-1.4*	*-1.2*	*-1.3*	*-1.2*	*-1.0*	*-1.1*	*-1.3*	*-1.5*	*-1.6*	*-1.7*
(2.3) Inflation effect	*-5.2*	*-5.4*	*-4.0*	*-2.9*	*-2.8*	*-2.9*	*-3.0*	*-3.1*	*-3.2*	*-3.3*	*-3.4*	*-3.5*	*-3.6*	*-3.8*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**0.0**	**0.9**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.5*	*0.9*	*-0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.5*	*0.0*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-6.2	-6.2	-7.4	-7.4	-7.4	-8.0	-8.5	-8.9	-9.4	-9.8	-10.2	-10.7	-11.2	-11.6
Gross financing needs	11.3	13.6	12.7	13.3	13.7	14.7	15.6	16.6	17.8	19.0	20.3	21.4	23.1	24.3









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**3.7**	**4.7**	**5.3**	**7.8**
of which					
Initial budgetary position		3.5	5.8	6.0	5.8
Ageing costs		0.2	-1.1	-0.7	2.0
of which	*Pensions*	-0.8	-2.1	-1.6	-2.1
	Health care	0.6	0.6	0.6	1.6
	Long-term care	0.3	0.3	0.3	2.4
	Education	0.0	0.0	0.0	0.0
Required structural primary balance related to S2		**0.7**	**-0.5**	**0.1**	**2.5**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**4.7**	**5.8**	**6.1**	**7.3**
of which					
Initial budgetary position		3.4	5.6	5.7	5.6
Debt requirement		-0.2	-0.1	-0.1	-0.1
Ageing costs		1.5	0.2	0.4	1.8
of which	*Pensions*	0.8	-0.5	-0.3	-0.5
	Health care	0.5	0.5	0.5	1.3
	Long-term care	0.2	0.2	0.2	1.0
	Education	0.1	0.1	0.1	0.1
Required structural primary balance related to S1		**1.7**	**0.5**	**0.9**	**2.1**

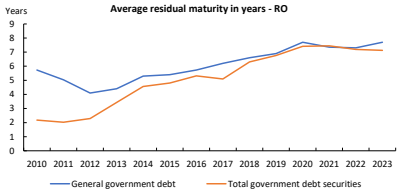
5. Additional aggravating and mitigating risk factors for fiscal sustainability

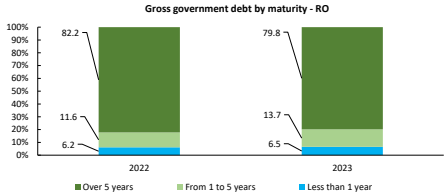
Public debt structure (2023) (% of total debt)	RO	EU
Share of short-term government debt	6.5	9.2
Share of gov't debt held by non-residents	50.9	n.a.
of which Non-EA residents	16.9	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	RO	EU
Net external debt	19.2	n.a.
Net international investment position (NIIP)	-41.4	0.9
Non-financial corporations debt	28.2	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		RO 2017	2018	2019	2020	2021	2022	2023	EU 2023
State guarantees		**2.3**	**2.1**	**2.0**	**3.4**	**4.1**	**4.4**	**4.1**	**7.4**
of which	*One-off guarantees*	*0.4*	*0.4*	*0.3*	*0.6*	*0.7*	*0.7*	*0.7*	*6.1*
	Standardised guarantees	*1.9*	*1.7*	*1.7*	*2.8*	*3.4*	*3.8*	*3.4*	*1.3*
Contingent liabilities related to support to financial institutions		**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.7
	Securities issued under liquidity schemes	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.0
	Special purpose entity	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.0
Public-private partnerships (PPPs)		***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.2***

Government contingent liability risks from banking sector (2023)	RO %	RO annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	69.2	-1.8	n.a.	n.a.
Share of non-performing loans	3.0	-0.4	1.9	0.1

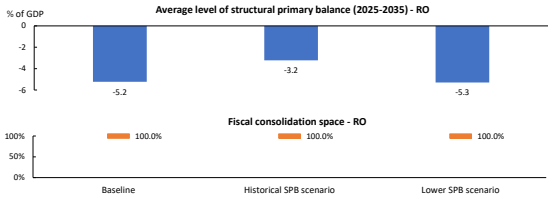
"n.a." means not available

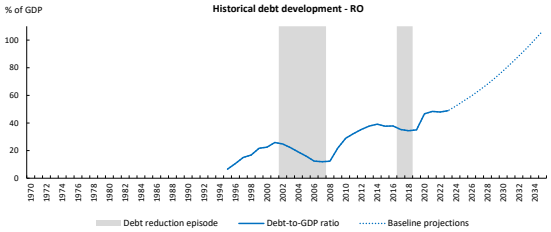
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)

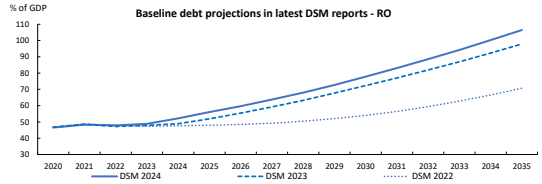
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.00%	0.01%	0.00%	0.01%	0.00%	0.01%

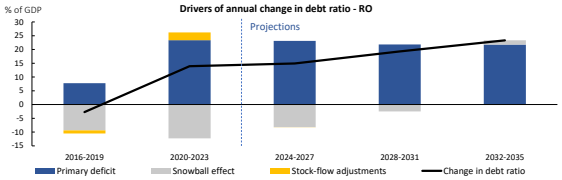
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	52.2	56.1	59.7	63.8	68.0	72.7	77.8	83.1	88.6	94.2	100.2	106.4
Primary balance	-6.0	-5.8	-5.7	-5.6	-5.5	-5.4	-5.4	-5.4	-5.4	-5.4	-5.5	-5.5
Structural primary balance (before CoA)	-5.4	-5.2	-5.2	-5.2	-5.2	-5.2	-5.2	-5.2	-5.2	-5.2	-5.2	-5.2
Real GDP growth	1.4	2.5	2.8	2.2	2.2	1.8	1.5	1.6	1.7	1.8	1.8	1.8
Potential GDP growth	2.3	2.2	2.3	1.8	1.6	1.6	1.5	1.6	1.7	1.8	1.8	1.8
Inflation rate	9.0	5.9	5.3	5.1	4.9	4.8	4.6	4.5	4.3	4.1	4.0	3.9
Implicit interest rate (nominal)	4.6	4.4	4.2	4.7	5.1	5.5	5.7	6.0	6.1	6.3	6.4	6.5
Gross financing needs	12.7	13.3	13.7	14.7	15.6	16.6	17.8	19.0	20.3	21.4	23.1	24.3
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	52.2	56.1	59.4	62.7	65.7	68.4	70.8	73.2	75.6	78.6	81.8	85.2
Primary balance	-6.0	-5.8	-5.2	-4.6	-4.0	-3.3	-3.1	-3.0	-2.8	-2.8	-2.9	-2.9
Structural primary balance (before CoA)	-5.4	-5.2	-4.6	-3.9	-3.3	-2.6	-2.6	-2.6	-2.6	-2.6	-2.6	-2.6
Real GDP growth	1.4	2.5	2.3	1.9	1.7	1.6	2.0	2.1	2.2	1.8	1.8	1.8
Gross financing needs	12.7	13.3	13.3	13.6	13.9	14.1	14.7	15.2	15.7	16.4	17.5	18.2
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	52.2	56.2	59.9	64.1	68.4	73.1	78.2	83.6	89.1	94.8	100.8	107.0
Implicit interest rate (nominal)	4.6	4.7	4.3	4.8	5.2	5.5	5.8	6.0	6.2	6.3	6.4	6.5
Gross financing needs	12.7	13.4	13.8	14.8	15.7	16.7	17.9	19.1	20.4	21.5	23.2	24.4
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	52.2	56.1	59.8	64.0	68.4	73.0	78.2	83.6	89.1	94.8	100.9	107.2
Primary balance	-6.0	-5.8	-5.7	-5.7	-5.6	-5.5	-5.5	-5.5	-5.4	-5.5	-5.6	-5.6
Structural primary balance (before CoA)	-5.4	-5.3	-5.3	-5.3	-5.3	-5.3	-5.3	-5.3	-5.3	-5.3	-5.3	-5.3
Real GDP growth	1.4	2.5	2.7	2.2	2.0	2.0	1.5	1.6	1.7	1.8	1.8	1.8
Gross financing needs	12.7	13.3	13.8	14.8	15.8	16.8	17.9	19.1	20.4	21.6	23.2	24.5
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	52.2	56.4	60.4	64.9	69.6	74.8	80.6	86.6	92.8	99.3	106.3	113.5
Implicit interest rate (nominal)	4.6	4.6	4.4	5.0	5.4	5.8	6.1	6.4	6.6	6.7	6.9	6.9
Real GDP growth	1.4	2.0	2.3	1.7	1.7	1.3	1.0	1.1	1.2	1.3	1.3	1.3
Gross financing needs	12.7	13.4	13.9	15.0	16.0	17.2	18.5	19.9	21.3	22.6	24.5	26.0
6. Exchange rate depreciation scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	52.2	57.5	61.0	65.1	69.3	74.0	79.1	84.3	89.8	95.5	101.5	107.7
Exchange rate depreciation	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

24. SLOVENIA

This annex assesses fiscal sustainability risks for Slovenia over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not signal major short-term fiscal risks ([214]). Government gross financing needs are expected to remain low, at around 7% of GDP over 2025-2026. Financial markets' perceptions of sovereign risk are investment grade, as confirmed by the main rating agencies.

2 – Medium-term fiscal sustainability risks are medium.

Under the DSA baseline, debt is projected to decline slightly until 2028 before increasing again over the medium term, reaching around 68% of GDP in 2035 ([215]). The increase in the government debt ratio is partially driven by the assumed structural primary deficit of 0.7% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing. This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([216]). Moreover, ageing-related expenditure is projected to increase significantly, weighing on public finances. At the same time, the baseline projection benefits from a still favourable (although declining) snowball effect up to 2035. Government gross financing needs are expected to increase over the projection period, reaching around 10% of GDP in 2035.

The deterministic stress tests do not identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. All four scenarios lead to somewhat higher debt levels than the baseline. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the debt ratio would exceed the baseline level by around 5 pps. by 2035. Under the *lower SPB scenario* (in which the improvement in the SPB forecast for 2025 is halved) and the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of -0.8% of GDP), and the debt ratio would be 1 pp. higher than in the baseline by 2035. Finally, under the *financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline), the debt ratio would be broadly unchanged.

The stochastic projections run around the baseline indicate low risk ([217])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 33%, pointing to medium risk given the initial debt level. At the same time, low uncertainty surrounds the baseline debt projection, as measured by the difference of around 26 pps. between the 10th and 90th debt distribution percentiles in five years' time.

([214]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([215]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 0.7% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 2.2%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([216]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([217]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

3 – Long-term fiscal sustainability risks are medium. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([218]). The medium risk stems mostly from the projected increase in ageing-related costs and the unfavourable initial deficit level.

The S2 indicator points to medium risk. It signals that Slovenia would need to improve its structural primary balance by 6% of GDP to ensure that debt stabilises over the long term. This result is mainly driven by the projected increase in ageing costs, which contributes 4.5 pps., of which 3.1 pps. stem from pension expenditure and 1.7 pps. jointly from health care and long-term care expenditure, partially offset by a negative contribution from education. The remaining required effort is due to the unfavourable budgetary position, contributing 1.4 pps.

The S1 indicator also points to medium risk. This indicator shows that a significant fiscal effort of 4.4% of GDP would be needed for Slovenia to reduce its debt to 60% of GDP by 2070. This result is also mainly driven by the projected increase in ageing costs (contributing 3.6 pps.) and the initial deficit level (contributing 0.7 pps.).

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors relate to (i) the large share of government debt held by non-residents (Section 4.1.2). On the other hand, risk-mitigating factors include (i) the stabilisation of debt maturity at high levels in recent years (Section 4.1.1), (ii) relatively stable financing sources with a diversified, and (iii) large investor base (Section 4.1.2). Also, the government holds a high cash buffer, around 7% of GDP as of end-2024.

([218]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
Overall (S0)	Overall		Deterministic scenarios					Stochastic projections	S2	S1	Overall (S1 + S2)
			Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress				
		Overall	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM	LOW			
		Debt level (2035), % of GDP	67.7	68.2	68.9	72.4	68.0				
LOW	MEDIUM	Debt peak year	2035	2035	2035	2035	2035		MEDIUM	MEDIUM	MEDIUM
		Fiscal consolidation space	52%	54%	56%	52%	52%				
		Probability of debt ratio exceeding in 2029 its 2024 level						33%			
		Difference between 90th and 10th percentiles (% of GDP)						26.3			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

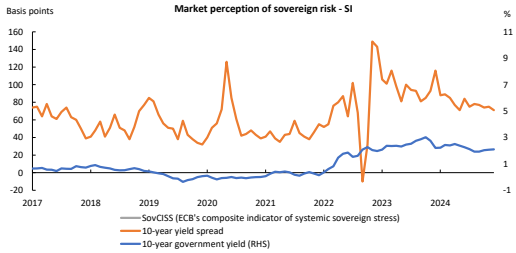
2. Short-term fiscal sustainability risks

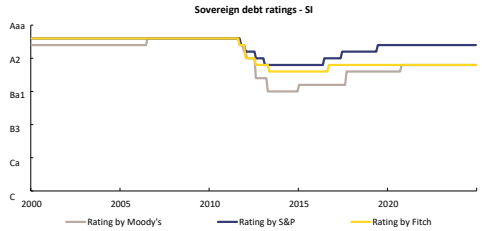
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.25**
Fiscal sub-component	0.36	0.26
Financial competitiveness sub-component	0.49	0.25

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	71.0

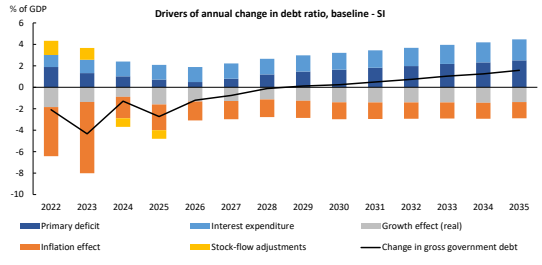
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

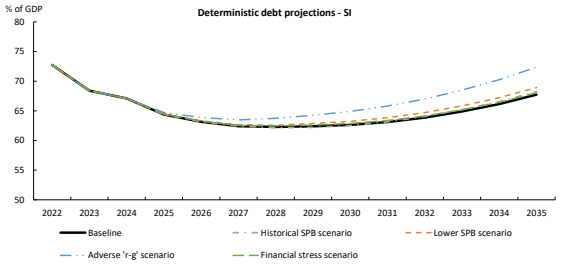


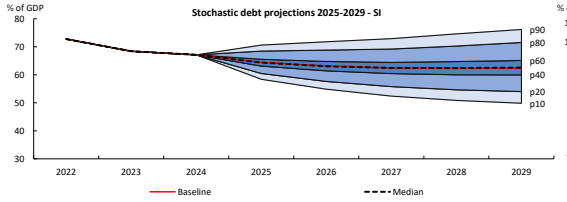


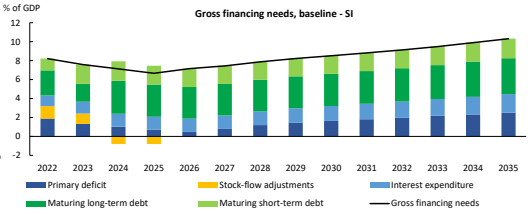
3. Medium-term fiscal sustainability risks

Slovenia - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**72.7**	**68.4**	**67.1**	**64.4**	**63.2**	**62.4**	**62.3**	**62.4**	**62.6**	**63.1**	**63.9**	**64.9**	**66.1**	**67.7**
Change in the ratio (-1+2+3)	*-2.1*	*-4.3*	*-1.3*	*-2.7*	*-1.2*	*-0.8*	*-0.1*	*0.1*	*0.2*	*0.5*	*0.7*	*1.0*	*1.3*	*1.6*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-1.9**	**-1.3**	**-1.0**	**-0.7**	**-0.5**	**-0.8**	**-1.2**	**-1.5**	**-1.6**	**-1.8**	**-2.0**	**-2.2**	**-2.3**	**-2.5**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-3.2***	***-1.9***	***-1.0***	***-0.7***	***-0.9***	***-1.1***	***-1.3***	***-1.5***	***-1.6***	***-1.8***	***-2.0***	***-2.2***	***-2.3***	***-2.5***
(1.1.1) Structural primary balance (before CoA)	*-3.2*	*-1.9*	*-1.0*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*
(1.1.2) Cost of ageing (CoA)					*0.2*	*0.3*	*0.5*	*0.7*	*0.9*	*1.0*	*1.2*	*1.4*	*1.5*	*1.7*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*
(1.2) Cyclical component	***1.3***	***1.1***	***0.5***	***0.6***	***0.4***	***0.3***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***-0.5***	***-0.6***	***-0.6***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-5.3**	**-6.8**	**-1.5**	**-2.6**	**-1.7**	**-1.6**	**-1.3**	**-1.3**	**-1.4**	**-1.3**	**-1.2**	**-1.1**	**-1.1**	**-0.9**
(2.1) Interest expenditure	*1.1*	*1.2*	*1.4*	*1.4*	*1.4*	*1.4*	*1.5*	*1.5*	*1.6*	*1.6*	*1.7*	*1.8*	*1.9*	*2.0*
(2.2) Growth effect (real)	*-1.8*	*-1.4*	*-0.9*	*-1.6*	*-1.3*	*-1.3*	*-1.1*	*-1.3*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*
(2.3) Inflation effect	*-4.6*	*-6.6*	*-2.0*	*-2.4*	*-1.8*	*-1.7*	*-1.6*	*-1.6*	*-1.6*	*-1.5*	*-1.5*	*-1.5*	*-1.5*	*-1.5*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**1.3**	**1.1**	**-0.8**	**-0.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*1.3*	*1.1*	*-0.8*	*-0.8*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-4.3	-3.1	-2.3	-2.1	-2.3	-2.5	-2.7	-3.0	-3.2	-3.4	-3.7	-4.0	-4.2	-4.5
Gross financing needs	8.2	7.6	7.1	6.7	7.2	7.4	7.9	8.2	8.5	8.8	9.1	9.5	9.9	10.3









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**6.2**	**6.0**	**6.1**	**8.9**
of which					
Initial budgetary position		1.5	1.4	1.5	1.5
Ageing costs		4.7	4.5	4.6	7.4
of which	*Pensions*	3.1	3.1	3.2	3.1
	Health care	0.9	0.9	0.8	1.9
	Long-term care	0.9	0.8	0.7	2.6
	Education	-0.2	-0.2	-0.2	-0.2
Required structural primary balance related to S2		**5.1**	**5.3**	**5.4**	**8.1**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**4.7**	**4.4**	**4.5**	**6.1**
of which					
Initial budgetary position		0.8	0.7	0.8	0.7
Debt requirement		0.2	0.1	0.1	0.1
Ageing costs		3.7	3.6	3.7	5.3
of which	*Pensions*	2.5	2.5	2.6	2.5
	Health care	0.7	0.7	0.7	1.6
	Long-term care	0.6	0.6	0.5	1.4
	Education	-0.2	-0.2	-0.2	-0.2
Required structural primary balance related to S1		**3.6**	**3.6**	**3.8**	**5.4**

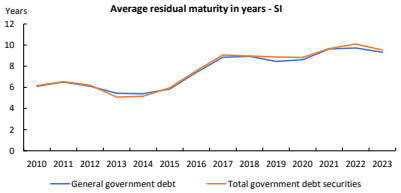
5. Additional aggravating and mitigating risk factors for fiscal sustainability

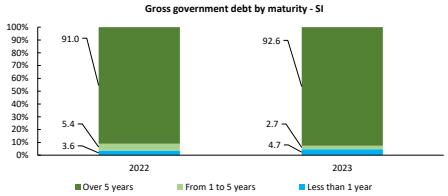
Public debt structure (2023) (% of total debt)		SI	EU
Share of short-term government debt		4.7	9.2
Share of gov't debt held by non-residents		55.5	n.a.
of which	*Non-EA residents*	10.0	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	SI	EU
Net external debt	-8.5	n.a.
Net international investment position (NIIP)	2.3	0.9
Non-financial corporations debt	34.7	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	SI 2020	2021	2022	2023	EU 2023
State guarantees		**8.6**	**7.5**	**6.4**	**6.5**	**5.5**	**5.1**	**3.9**	**7.4**
of which	*One-off guarantees*	*8.6*	*7.5*	*6.4*	*6.3*	*5.4*	*5.1*	*3.9*	*6.1*
	Standardised guarantees	*0.0*	*0.0*	*0.0*	*0.2*	*0.1*	*0.1*	*0.0*	*1.3*
Contingent liabilities related to support to financial institutions		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
	Securities issued under liquidity schemes	0.0	0.0	n.a.	n.a.	n.a.	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	n.a.	n.a.	n.a.	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.2***

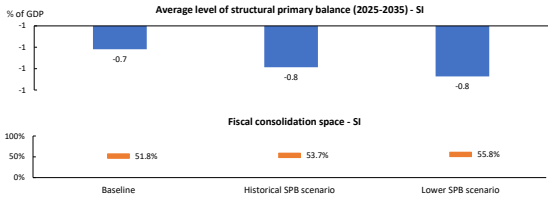
Government contingent liability risks from banking sector (2023)	SI %	SI annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	68.8	-1.5	n.a.	n.a.
Share of non-performing loans	1.7	-0.3	1.9	0.1

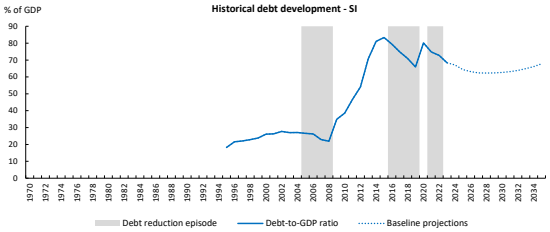
"n.a." means not available

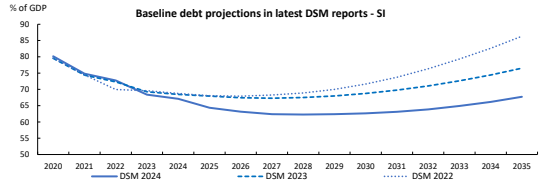
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)					
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.00%	0.04%	0.00%	0.08%	0.00%	0.11%

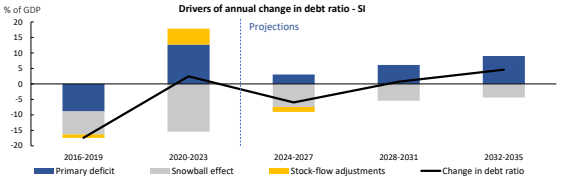
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	67.1	64.4	63.2	62.4	62.3	62.4	62.6	63.1	63.9	64.9	66.1	67.7
Primary balance	-1.0	-0.7	-0.5	-0.8	-1.2	-1.5	-1.6	-1.8	-2.0	-2.2	-2.3	-2.5
Structural primary balance (before CoA)	-1.0	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7
Real GDP growth	1.4	2.5	2.2	2.1	1.9	2.1	2.4	2.4	2.4	2.3	2.3	2.2
Potential GDP growth	2.5	2.5	2.5	2.4	2.3	2.3	2.4	2.4	2.4	2.3	2.3	2.2
Inflation rate	3.0	3.7	2.8	2.8	2.7	2.6	2.6	2.5	2.5	2.4	2.4	2.3
Implicit interest rate (nominal)	2.1	2.2	2.3	2.4	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1
Gross financing needs	7.1	6.7	7.2	7.4	7.9	8.2	8.5	8.8	9.1	9.5	9.9	10.3
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	67.1	64.4	63.2	62.4	62.2	62.2	62.5	63.1	64.1	65.2	66.6	68.2
Primary balance	-1.0	-0.7	-0.5	-0.8	-1.2	-1.4	-1.7	-1.9	-2.1	-2.3	-2.4	-2.6
Structural primary balance (before CoA)	-1.0	-0.7	-0.7	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
Real GDP growth	1.4	2.5	2.2	2.1	2.1	2.2	2.3	2.3	2.3	2.3	2.3	2.2
Gross financing needs	7.1	6.7	7.2	7.5	7.8	8.2	8.5	8.9	9.3	9.6	10.0	10.5
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	67.1	64.4	63.3	62.6	62.5	62.6	62.9	63.4	64.1	65.2	66.5	68.0
Implicit interest rate (nominal)	2.1	2.3	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.0	3.1
Gross financing needs	7.1	6.7	7.2	7.5	7.9	8.3	8.6	8.9	9.2	9.5	10.0	10.4
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	67.1	64.4	63.3	62.7	62.6	62.9	63.2	63.8	64.7	65.9	67.2	68.9
Primary balance	-1.0	-0.8	-0.6	-0.9	-1.3	-1.6	-1.8	-1.9	-2.1	-2.3	-2.4	-2.6
Structural primary balance (before CoA)	-1.0	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8	-0.8
Real GDP growth	1.4	2.6	2.1	2.1	2.0	2.0	2.4	2.4	2.4	2.3	2.3	2.2
Gross financing needs	7.1	6.7	7.3	7.6	8.0	8.4	8.7	9.0	9.3	9.7	10.1	10.6
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	67.1	64.7	63.9	63.5	63.7	64.3	64.9	65.8	67.0	68.5	70.3	72.4
Implicit interest rate (nominal)	2.1	2.2	2.4	2.5	2.6	2.7	2.9	3.0	3.1	3.2	3.3	3.4
Real GDP growth	1.4	2.0	1.7	1.6	1.4	1.6	1.9	1.9	1.9	1.8	1.8	1.7
Gross financing needs	7.1	6.7	7.3	7.6	8.1	8.5	8.9	9.3	9.7	10.1	10.6	11.1

25. SLOVAKIA

This annex assesses fiscal sustainability risks for Slovakia over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are high. The Commission's early-detection indicator (S0) signals high short-term fiscal risks for 2025 ([219]). The short-term risk is primarily driven by macroeconomic and financial vulnerabilities, in particular relatively tight financing conditions in 2024 and high current account deficits and low household saving rates in 2023. Fiscal vulnerabilities also contributed to the risk, particularly due to the relatively high government deficits in 2024. Government gross financing needs are expected to remain moderate, at around 9% of GDP over 2025-2026. Financial markets' perceptions of sovereign risk are investment grade, as confirmed by the main rating agencies. However, following the downgrade of Fitch rating agency to A- (from A) in December 2023, Moody's rating agency downgraded the rating of Slovakia to A3 from A2, revising the outlook to stable from negative, in December 2024. The downgrade reflects Slovakia's broad institutional challenges amid political tensions. Despite the government's commitment to reduce the deficit, Moody's expects Slovakia's debt burden to rise above that of similarly rated peers in the coming years.

2 – Medium-term fiscal sustainability risks are high.

Under the DSA baseline, debt is projected to increase over the medium term, reaching around 96% of GDP in 2035 ([220]). The increase in the government debt ratio is partially driven by the assumed structural primary deficit of 3% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing ([221]). This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([222]). Moreover, ageing-related expenditure is projected to increase significantly, weighing on public finances. At the same time, the baseline projection benefits from a still favourable (although declining) snowball effect. Government gross financing needs are expected to increase over the projection period, reaching relatively high levels of around 14% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. Three scenarios lead to higher debt levels than the baseline. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1.0 pp. compared with the baseline), the debt ratio would exceed the baseline level by around 6 pps. by 2035. Under the *lower SPB scenario* (in which the improvement in the SPB forecast for 2025 is halved), the debt ratio would increase by around 5 pps. by 2035. Under *the financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline) the debt ratio would be higher than in the baseline by 2035, by around 1 pp. By contrast, in the *historical structural primary balance (SPB) scenario* (in which the SPB returns to its historical 15-year average of -2.1% of GDP), the debt ratio would be lower than the baseline by around 7 pps. by 2035.

([219]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([220]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 3% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (average of 1.7%); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper, No. 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([221]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that Slovakia commits to in its medium-term plan beyond 2025 is not taken into account in the projection.

([222]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by-one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

The stochastic projections run around the baseline indicate medium risk due to the medium probability of debt increasing over the next five years ([223])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 90%, pointing to medium risk given the initial debt level. Some uncertainty surrounds the baseline debt projection, as measured by the difference of around 27 pps. between the 10th and 90th debt distribution percentiles in five years' time.

3 – Long-term fiscal sustainability risks are high. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([224]). The high risk stems from the projected increase in ageing-related costs and the unfavourable initial budgetary position.

The S2 indicator points to high risk. It signals that Slovakia would need to improve its structural primary balance by 7.8% of GDP to ensure that debt stabilises over the long term. This result is mainly driven by the projected increase in ageing costs, which contributes 4.1 pps., of which 1.7 pps. stem from pension expenditure and 2.2 pps. jointly from health care and long-term care expenditure, further increased by a positive contribution from education. The remaining required effort is due to the unfavourable initial budgetary position, contributing 3.6 pps.

The S1 indicator also points to high risk. This indicator shows that a significant fiscal effort of 6.5% of GDP would be needed for Slovakia to reduce its debt to 60% of GDP by 2070. This result is also mainly driven by the projected increase in ageing costs (contributing 3.4 pps.) and the initial budgetary position (3.2 pps.).

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, the share of government debt held by non-residents (Section 4.1.2) can constitute a risk-increasing factor. On the other hand, risk-mitigating factors are related to the structure of debt, i.e. the low share of short-term government debt (Section 4.1.1) and the fact that the totality of government debt is denominated in euro, thus excluding currency risks (Section 4.1.3).

([223]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

([224]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)								Long term		
Overall (S0)	Overall		Deterministic scenarios: Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
HIGH	HIGH	Overall	HIGH	MEDIUM	HIGH	HIGH	HIGH	MEDIUM	HIGH	HIGH	HIGH
		Debt level (2035), % of GDP	95.7	88.6	101.6	101.9	96.3				
		Debt peak year	2035	2035	2035	2035	2035				
		Fiscal consolidation space	100%	84%	100%	100%	100%				
		Probability of debt ratio exceeding in 2029 its 2024 level						90%			
		Difference between 90th and 10th percentiles (% of GDP)						26.9			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

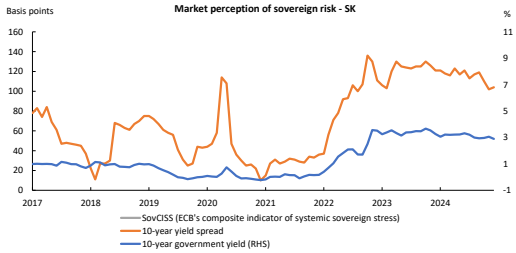
2. Short-term fiscal sustainability risks

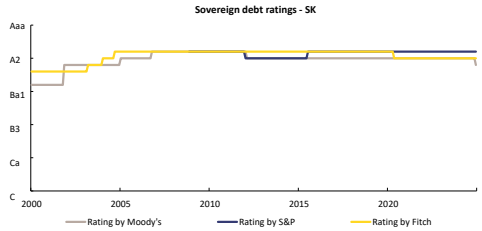
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.48**
Fiscal sub-component	0.36	0.22
Financial competitiveness sub-component	0.49	0.63

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	104.0

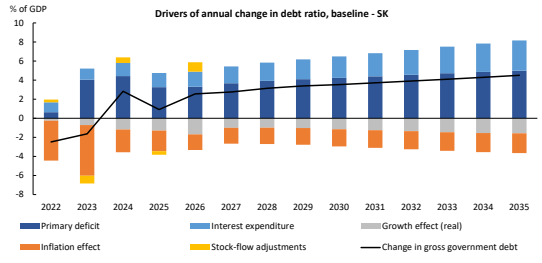
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

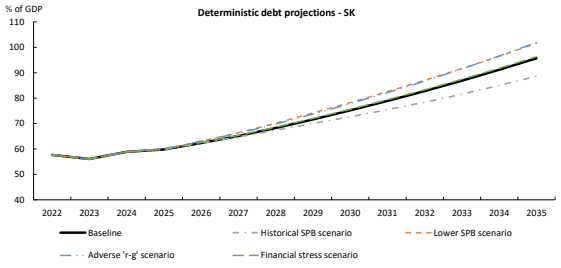


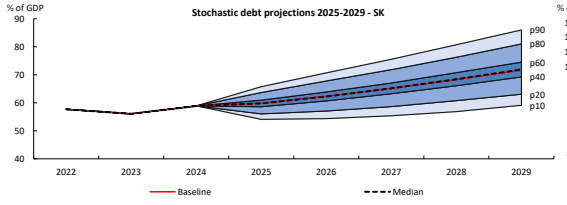


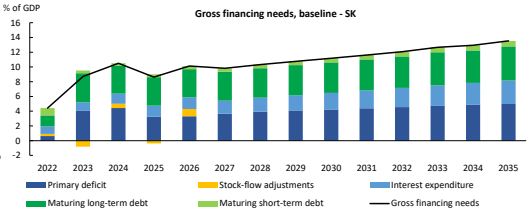
3. Medium-term fiscal sustainability risks

Slovakia - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**57.7**	**56.1**	**58.9**	**59.8**	**62.4**	**65.1**	**68.3**	**71.7**	**75.2**	**78.9**	**82.8**	**86.9**	**91.2**	**95.7**
Change in the ratio (-1+2+3)	*-2.5*	*-1.6*	*2.8*	*0.9*	*2.6*	*2.8*	*3.1*	*3.4*	*3.5*	*3.7*	*3.9*	*4.1*	*4.3*	*4.5*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-0.6**	**-4.0**	**-4.4**	**-3.3**	**-3.3**	**-3.7**	**-3.9**	**-4.1**	**-4.2**	**-4.4**	**-4.6**	**-4.7**	**-4.9**	**-5.0**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-0.9***	***-3.8***	***-4.1***	***-3.0***	***-3.3***	***-3.7***	***-3.9***	***-4.1***	***-4.2***	***-4.4***	***-4.6***	***-4.7***	***-4.9***	***-5.0***
(1.1.1) Structural primary balance (before CoA)	*-0.9*	*-3.8*	*-4.1*	*-3.0*	*-3.0*	*-3.0*	*-3.0*	*-3.0*	*-3.0*	*-3.0*	*-3.0*	*-3.0*	*-3.0*	*-3.0*
(1.1.2) Cost of ageing (CoA)					*0.3*	*0.7*	*0.9*	*1.1*	*1.2*	*1.3*	*1.5*	*1.6*	*1.8*	*1.9*
(1.1.3) Others (taxes and property income)					*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*
(1.2) Cyclical component	***0.3***	***-0.3***	***-0.3***	***-0.3***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-3.4**	**-4.9**	**-2.2**	**-2.0**	**-1.7**	**-0.9**	**-0.8**	**-0.7**	**-0.7**	**-0.7**	**-0.7**	**-0.6**	**-0.6**	**-0.5**
(2.1) Interest expenditure	*1.0*	*1.2*	*1.4*	*1.5*	*1.6*	*1.8*	*1.9*	*2.1*	*2.2*	*2.4*	*2.6*	*2.8*	*3.0*	*3.2*
(2.2) Growth effect (real)	*-0.3*	*-0.7*	*-1.2*	*-1.3*	*-1.7*	*-1.0*	*-1.0*	*-1.0*	*-1.2*	*-1.3*	*-1.4*	*-1.5*	*-1.6*	*-1.6*
(2.3) Inflation effect	*-4.2*	*-5.3*	*-2.4*	*-2.2*	*-1.6*	*-1.7*	*-1.7*	*-1.8*	*-1.8*	*-1.8*	*-1.9*	*-1.9*	*-2.0*	*-2.1*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**0.3**	**-0.8**	**0.6**	**-0.4**	**1.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*0.3*	*-0.8*	*0.6*	*-0.4*	*1.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-2.0	-5.0	-5.5	-4.5	-4.9	-5.5	-5.8	-6.2	-6.5	-6.8	-7.2	-7.5	-7.8	-8.2
Gross financing needs	4.4	8.7	10.5	8.6	10.1	9.8	10.3	10.8	11.2	11.6	12.1	12.7	12.9	13.5









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**9.9**	**7.8**	**8.0**	**11.3**
of which					
Initial budgetary position		5.5	3.6	3.7	3.7
Ageing costs		4.5	4.1	4.3	7.7
of which	*Pensions*	1.9	1.7	2.0	1.7
	Health care	1.1	1.0	1.0	2.1
	Long-term care	1.2	1.2	1.1	3.7
	Education	0.2	0.2	0.2	0.2
Required structural primary balance related to S2		**4.8**	**4.8**	**5.1**	**8.4**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**8.7**	**6.5**	**6.8**	**8.4**
of which					
Initial budgetary position		5.0	3.2	3.3	3.1
Debt requirement		0.0	0.0	0.0	0.0
Ageing costs		3.7	3.4	3.5	5.3
of which	*Pensions*	1.9	1.6	1.8	1.7
	Health care	0.9	0.8	0.8	1.6
	Long-term care	0.7	0.7	0.7	1.8
	Education	0.2	0.2	0.2	0.2
Required structural primary balance related to S1		**3.6**	**3.6**	**3.8**	**5.4**

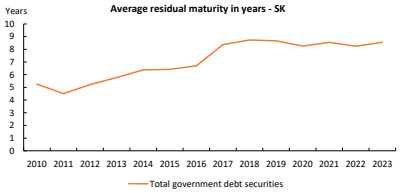
5. Additional aggravating and mitigating risk factors for fiscal sustainability

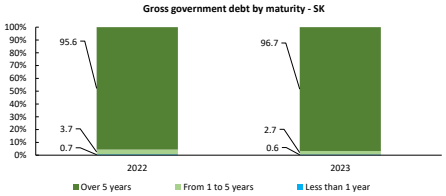
Public debt structure (2023) (% of total debt)	SK	EU
Share of short-term government debt	0.6	9.2
Share of gov't debt held by non-residents	51.9	n.a.
of which Non-EA residents	10.2	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	SK	EU
Net external debt	33.8	n.a.
Net international investment position (NIIP)	-54.9	0.9
Non-financial corporations debt	41.4	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		SK 2017	2018	2019	2020	2021	2022	2023	EU 2023
State guarantees		**0.0**	**0.1**	**0.0**	**0.7**	**0.9**	**0.9**	**1.0**	**7.4**
of which	*One-off guarantees*	*0.0*	*0.1*	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*	*6.1*
	Standardised guarantees	*0.0*	*0.0*	*0.0*	*0.6*	*0.8*	*0.9*	*0.9*	*1.3*
Contingent liabilities related to support to financial institutions		**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**n.a.**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.7
	Securities issued under liquidity schemes	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.0
	Special purpose entity	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.0
Public-private partnerships (PPPs)		***2.6***	***1.9***	***1.7***	***1.7***	***1.5***	***1.3***	***1.1***	***0.2***

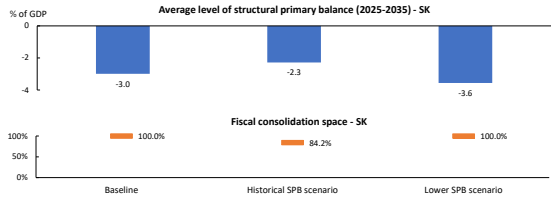
Government contingent liability risks from banking sector (2023)	SK %	SK annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	92.8	1.3	n.a.	n.a.
Share of non-performing loans	3.3	-0.1	1.9	0.1

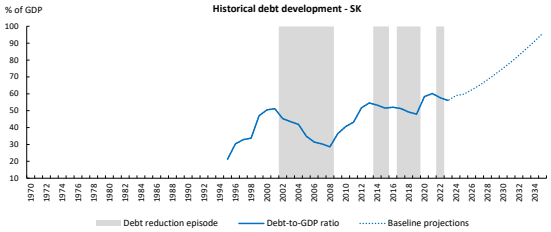
"n.a." means not available

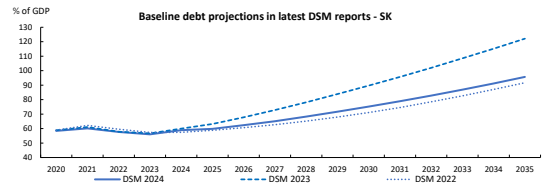
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)					
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.00%	0.15%	0.01%	0.32%	0.03%	0.41%

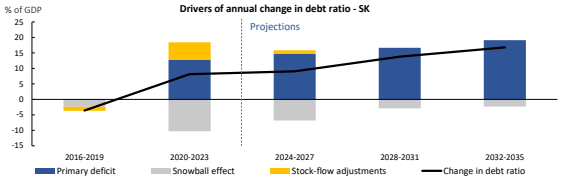
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	58.9	59.8	62.4	65.1	68.3	71.7	75.2	78.9	82.8	86.9	91.2	95.7
Primary balance	-4.4	-3.3	-3.3	-3.7	-3.9	-4.1	-4.2	-4.4	-4.6	-4.7	-4.9	-5.0
Structural primary balance (before CoA)	-4.1	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0
Real GDP growth	2.2	2.3	3.0	1.7	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.8
Potential GDP growth	2.3	2.3	2.2	1.7	1.6	1.6	1.7	1.7	1.8	1.8	1.9	1.8
Inflation rate	4.4	3.8	2.8	2.8	2.7	2.6	2.6	2.5	2.5	2.4	2.4	2.3
Implicit interest rate (nominal)	2.6	2.7	2.8	2.9	3.1	3.2	3.3	3.4	3.4	3.5	3.6	3.6
Gross financing needs	10.5	8.6	10.1	9.8	10.3	10.8	11.2	11.6	12.1	12.7	12.9	13.5
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	58.9	59.8	62.3	64.8	67.4	70.0	72.7	75.5	78.4	81.6	85.0	88.6
Primary balance	-4.4	-3.3	-3.1	-3.3	-3.4	-3.3	-3.4	-3.5	-3.7	-3.8	-3.9	-4.1
Structural primary balance (before CoA)	-4.1	-3.0	-2.8	-2.5	-2.3	-2.1	-2.1	-2.1	-2.1	-2.1	-2.1	-2.1
Real GDP growth	2.2	2.3	2.8	1.6	1.5	1.5	1.8	1.9	1.9	1.8	1.9	1.8
Gross financing needs	10.5	8.6	10.0	9.5	9.7	9.9	10.2	10.5	10.8	11.3	11.5	12.0
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	58.9	59.9	62.5	65.4	68.6	72.0	75.6	79.4	83.3	87.4	91.8	96.3
Implicit interest rate (nominal)	2.6	2.9	2.9	3.1	3.2	3.3	3.3	3.4	3.5	3.6	3.6	3.7
Gross financing needs	10.5	8.7	10.2	9.9	10.4	10.9	11.3	11.7	12.2	12.7	13.0	13.6
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	58.9	60.0	63.1	66.4	70.1	74.2	78.3	82.5	87.0	91.7	96.5	101.6
Primary balance	-4.4	-3.7	-3.8	-4.2	-4.5	-4.7	-4.8	-5.0	-5.1	-5.3	-5.4	-5.6
Structural primary balance (before CoA)	-4.1	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6	-3.6
Real GDP growth	2.2	2.7	2.8	1.6	1.5	1.5	1.7	1.7	1.8	1.8	1.9	1.8
Gross financing needs	10.5	9.0	10.6	10.4	11.0	11.5	12.0	12.5	13.0	13.7	14.0	14.6
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	58.9	60.1	63.0	66.2	69.8	73.7	77.8	82.2	86.7	91.5	96.6	101.9
Implicit interest rate (nominal)	2.6	2.8	2.9	3.1	3.3	3.5	3.6	3.7	3.8	3.9	4.0	4.0
Real GDP growth	2.2	1.8	2.5	1.2	1.1	1.1	1.2	1.2	1.3	1.3	1.4	1.3
Gross financing needs	10.5	8.7	10.3	10.0	10.6	11.1	11.6	12.2	12.7	13.4	13.8	14.5

26. FINLAND

This annex assesses fiscal sustainability risks for Finland over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not signal any short-term fiscal risks ([225]). Government gross financing needs are expected to edge down to around 16% of GDP on average over 2025-2026. Financial markets' perceptions of sovereign risk have remained stable, as confirmed by the rating agencies.

2 – Medium-term fiscal sustainability risks are high.

Under the DSA baseline, debt is projected to increase steadily over the medium term, reaching around 96% of GDP in 2035 ([226]). The baseline rests on the assumption of a structural primary deficit of 0.1% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing ([227]). This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([228]). The projected increase in debt is mainly explained by positive stock-flow adjustments (1.4% of GDP on average over 2026-2035), due to the build-up of a public pension fund. Moreover, cost of ageing is projected to increase, weighing on public finances. On the other hand, the debt increase is mitigated by a still favourable snowball effect (around -0.9% of GDP on average over the same period). Government gross financing needs are expected to increase over the projection period, reaching 18% of GDP in 2035.

The deterministic stress tests identify additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against four alternative deterministic scenarios. All four scenarios lead to higher debt levels than the baseline. Under the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1 pp. compared with the baseline), the debt ratio would be around 7 pps. higher than in the baseline by 2035. Similarly, the debt ratio would exceed the baseline level by 2035 by around 3 pps. under the *lower structural primary balance (SPB) scenario* (in which the improvement in the SPB forecast for 2025 is halved), and by around 1 pp. under both the *historical SPB scenario* (in which the SPB returns to its historical 15-year average of -0.7% of GDP) and *the financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline).

The stochastic projections run around the baseline indicate high risk due to the high probability of debt increasing over the next five years ([229])**.** These stochastic simulations indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of 74%, pointing to

([225]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([226]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary deficit, before changes in ageing costs, of 0.1% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (1.1% on average); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([227]) The no-fiscal-policy-change assumption as from 2026 implies that the adjustment that Finland commits to in its medium-term plan beyond 2025 is not taken into account in the projection.

([228]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([229]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

high risk given the initial debt level above 60% of GDP. At the same time, the uncertainty surrounding the baseline debt projection is low, as measured by the difference of around 25 pps. between the 10th and 90th debt distribution percentiles in five years' time.

3 – Long-term fiscal sustainability risks are medium. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([230]). The medium risk mainly stems from the projected increase in ageing-related expenditure and the positive stock-flow adjustments.

The S2 indicator points to medium risk. It signals that Finland would need to improve its structural primary balance by 3.1 pps. to ensure that debt stabilises over the long term. This result is underpinned by the projected increase in ageing-related costs (contributing 1.7 pps.) and the unfavourable initial budgetary position (1.3 pps.). Ageing costs are primarily driven by a projected increase in long-term care (1.5 pps.), pensions and health care (both 0.5 pps.), only partly offset by a projected decrease in education spending (-0.8 pps.). The unfavourable initial budgetary position reflects not only the initial levels of structural primary deficit and debt, but also incorporates the impact of positive stock-flow adjustments over the long term.

The S1 indicator points to low risk. This indicator shows that a limited fiscal effort of 1.8 pps. would be needed for Finland to reduce its debt to 60% of GDP by 2070. This result is broadly equally driven by the initial budgetary position, the excess of debt over 60% of GDP and ageing costs.

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, government guarantees, and the related implicit liabilities for the public sector, are the largest in the EU. On the other hand, risk-mitigating factors include relatively stable financing sources (with a diversified and large investor base) and the currency denomination of debt (Section 4.1).

([230]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)							Long term		
Overall (S0)	Overall		Deterministic scenarios: Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
LOW	HIGH	Overall	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	MEDIUM	LOW	MEDIUM
		Debt level (2035), % of GDP	96.5	97.5	99.0	103.5	97.2				
		Debt peak year	2035	2035	2035	2035	2035				
		Fiscal consolidation space	87%	88%	90%	87%	87%				
		Probability of debt ratio exceeding in 2029 its 2024 level						74%			
		Difference between 90th and 10th percentiles (% of GDP)						25.3			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

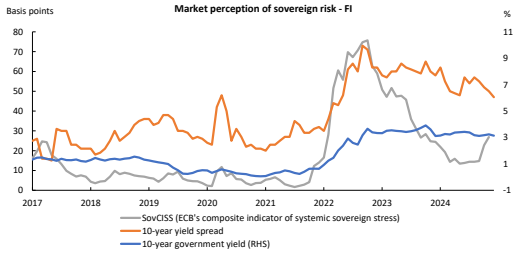
2. Short-term fiscal sustainability risks

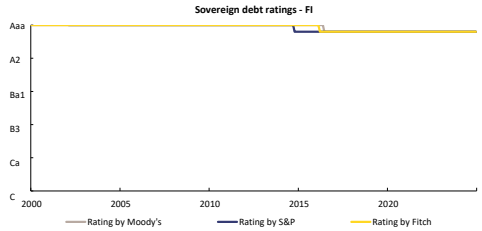
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.34**
Fiscal sub-component	0.36	0.31
Financial competitiveness sub-component	0.49	0.35

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	47.0

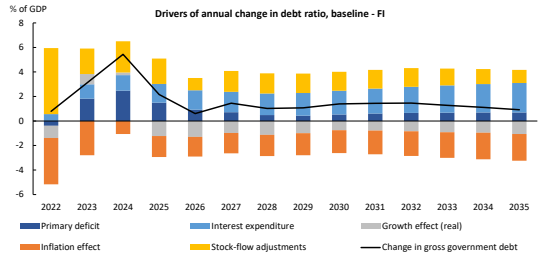
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

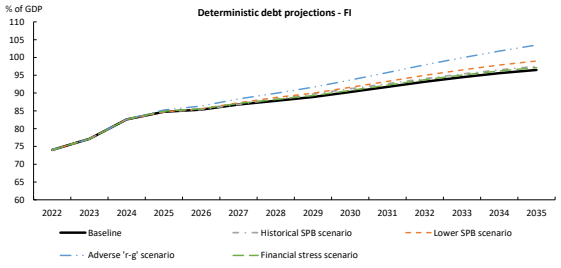


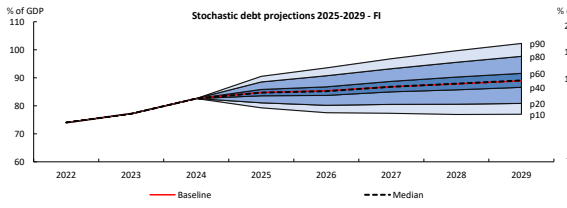


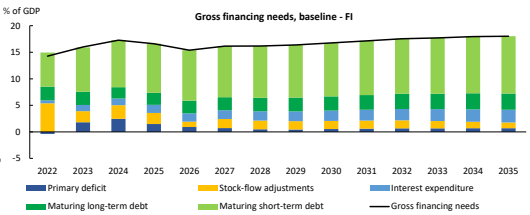
3. Medium-term fiscal sustainability risks

Finland - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**74.0**	**77.1**	**82.6**	**84.7**	**85.3**	**86.8**	**87.8**	**88.9**	**90.3**	**91.7**	**93.2**	**94.5**	**95.6**	**96.5**
Change in the ratio (-1+2+3)	*0.8*	*3.1*	*5.4*	*2.2*	*0.6*	*1.4*	*1.0*	*1.1*	*1.4*	*1.4*	*1.5*	*1.3*	*1.1*	*0.9*
of which														
(1) Primary balance (1.1+1.2+1.3)	**0.4**	**-1.8**	**-2.5**	**-1.5**	**-0.9**	**-0.7**	**-0.5**	**-0.4**	**-0.5**	**-0.6**	**-0.7**	**-0.7**	**-0.7**	**-0.7**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***0.5***	***-0.4***	***-0.6***	***-0.1***	***-0.1***	***-0.2***	***-0.3***	***-0.4***	***-0.5***	***-0.6***	***-0.7***	***-0.7***	***-0.7***	***-0.7***
(1.1.1) Structural primary balance (before CoA)	*0.5*	*-0.4*	*-0.6*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*
(1.1.2) Cost of ageing (CoA)					*0.0*	*0.0*	*0.1*	*0.3*	*0.3*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*
(1.1.3) Others (taxes and property income)					*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.2*	*-0.2*
(1.2) Cyclical component	***-0.2***	***-1.4***	***-1.9***	***-1.4***	***-0.8***	***-0.5***	***-0.2***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-4.2**	**-0.8**	**0.4**	**-1.4**	**-1.3**	**-1.0**	**-1.1**	**-0.9**	**-0.7**	**-0.7**	**-0.7**	**-0.8**	**-0.8**	**-0.8**
(2.1) Interest expenditure	*0.6*	*1.2*	*1.3*	*1.5*	*1.6*	*1.7*	*1.8*	*1.8*	*1.9*	*2.0*	*2.1*	*2.2*	*2.3*	*2.4*
(2.2) Growth effect (real)	*-1.0*	*0.8*	*0.2*	*-1.2*	*-1.3*	*-1.0*	*-1.1*	*-1.0*	*-0.8*	*-0.8*	*-0.8*	*-0.9*	*-1.0*	*-1.1*
(2.3) Inflation effect	*-3.8*	*-2.8*	*-1.1*	*-1.7*	*-1.6*	*-1.7*	*-1.7*	*-1.8*	*-1.9*	*-1.9*	*-2.0*	*-2.1*	*-2.2*	*-2.2*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**5.4**	**2.1**	**2.6**	**2.1**	**1.0**	**1.7**	**1.6**	**1.6**	**1.5**	**1.5**	**1.5**	**1.4**	**1.2**	**1.1**
(3.1) Base	*5.1*	*2.2*	*2.6*	*2.1*	*1.0*	*1.7*	*1.6*	*1.6*	*1.5*	*1.5*	*1.5*	*1.4*	*1.2*	*1.1*
(3.2) Adjustment due to the exchange rate effect	*0.3*	*-0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	0.0	-1.5	-1.9	-1.6	-1.7	-1.9	-2.1	-2.3	-2.5	-2.6	-2.8	-2.9	-3.0	-3.1
Gross financing needs	14.3	16.0	17.3	16.6	15.4	16.2	16.2	16.4	16.8	17.1	17.5	17.7	17.9	18.0









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**3.3**	**3.1**	**3.4**	**5.3**
of which					
Initial budgetary position		1.6	1.3	1.4	1.4
Ageing costs		1.6	1.7	1.8	3.8
of which	*Pensions*	0.4	0.5	0.7	0.4
	Health care	0.6	0.5	0.5	1.2
	Long-term care	1.5	1.5	1.4	3.0
	Education	-0.9	-0.8	-0.8	-0.8
Required structural primary balance related to S2		**2.3**	**2.9**	**3.3**	**5.2**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**2.0**	**1.8**	**2.1**	**3.0**
of which					
Initial budgetary position		1.2	0.7	0.8	0.6
Debt requirement		0.4	0.5	0.5	0.6
Ageing costs		0.5	0.5	0.7	1.8
of which	*Pensions*	-0.2	-0.1	0.1	-0.1
	Health care	0.4	0.3	0.3	0.9
	Long-term care	1.0	1.0	1.0	1.7
	Education	-0.7	-0.7	-0.7	-0.7
Required structural primary balance related to S1		**1.1**	**1.7**	**1.9**	**2.9**

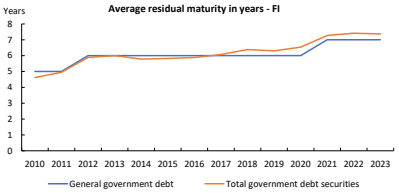
5. Additional aggravating and mitigating risk factors for fiscal sustainability

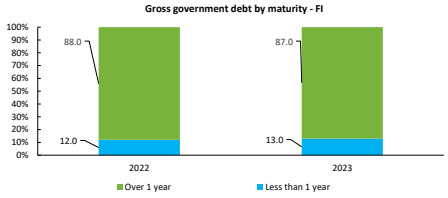
Public debt structure (2023) (% of total debt)	FI	EU
Share of short-term government debt	13.0	9.2
Share of gov't debt held by non-residents	52.6	n.a.
of which Non-EA residents	18.2	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	FI	EU
Net external debt	56.8	n.a.
Net international investment position (NIIP)	12.1	0.9
Non-financial corporations debt	76.3	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	FI 2020	2021	2022	2023	EU 2023
State guarantees		**23.7**	**15.3**	**17.1**	**16.8**	**17.3**	**17.3**	**17.9**	**7.4**
of which	*One-off guarantees*	*22.4*	*13.9*	*15.5*	*14.9*	*15.2*	*15.1*	*15.7*	*6.1*
	Standardised guarantees	*1.2*	*1.5*	*1.7*	*1.9*	*2.1*	*2.1*	*2.2*	*1.3*
Contingent liabilities related to support to financial institutions		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.2***

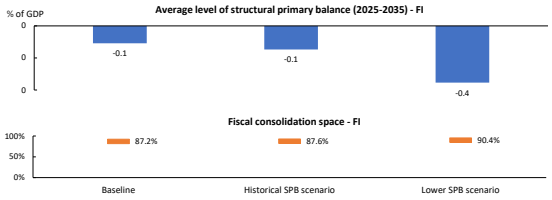
Government contingent liability risks from banking sector (2023)	FI %	FI annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	125.7	5.5	n.a.	n.a.
Share of non-performing loans	1.2	0.2	1.9	0.1

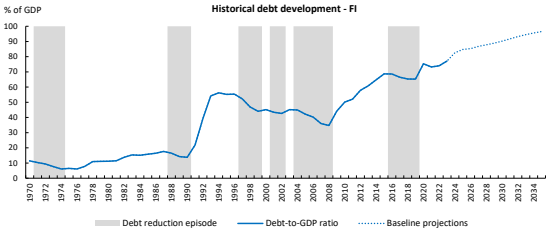
"n.a." means not available

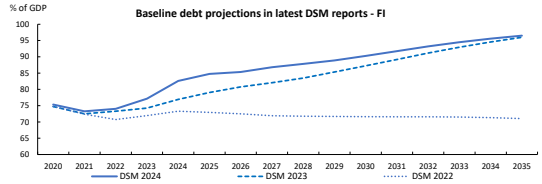
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)					
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.06%	0.22%	0.10%	0.34%	0.11%	0.37%

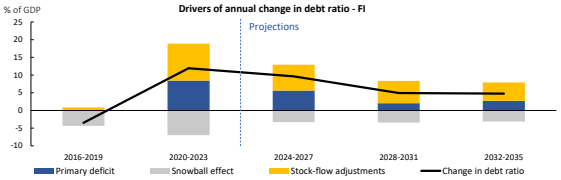
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	82.6	84.7	85.3	86.8	87.8	88.9	90.3	91.7	93.2	94.5	95.6	96.5
Primary balance	-2.5	-1.5	-0.9	-0.7	-0.5	-0.4	-0.5	-0.6	-0.7	-0.7	-0.7	-0.7
Structural primary balance (before CoA)	-0.6	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Real GDP growth	-0.3	1.5	1.6	1.2	1.3	1.2	0.9	0.9	0.9	1.0	1.0	1.2
Potential GDP growth	0.5	0.7	0.5	0.7	0.7	0.9	0.9	0.9	0.9	1.0	1.0	1.2
Inflation rate	1.4	2.1	1.9	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.4	2.3
Implicit interest rate (nominal)	1.7	1.9	1.9	2.0	2.1	2.2	2.3	2.3	2.4	2.5	2.5	2.6
Gross financing needs	17.3	16.6	15.4	16.2	16.2	16.4	16.8	17.1	17.5	17.7	17.9	18.0
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	82.6	84.7	85.3	86.8	88.3	89.7	91.2	92.6	94.0	95.4	96.5	97.5
Primary balance	-2.5	-1.5	-0.9	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.7	-0.8
Structural primary balance (before CoA)	-0.6	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
Real GDP growth	-0.3	1.5	1.6	1.2	1.0	1.1	1.0	1.0	1.1	1.0	1.0	1.2
Gross financing needs	17.3	16.6	15.4	16.2	16.4	16.7	17.1	17.4	17.7	17.9	18.1	18.2
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	82.6	84.9	85.6	87.1	88.2	89.3	90.7	92.2	93.8	95.1	96.2	97.2
Implicit interest rate (nominal)	1.7	2.1	2.0	2.1	2.2	2.2	2.3	2.4	2.5	2.5	2.6	2.6
Gross financing needs	17.3	16.8	15.5	16.3	16.3	16.5	16.9	17.3	17.7	17.8	18.1	18.2
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	82.6	84.7	85.6	87.3	88.7	90.0	91.6	93.3	95.0	96.5	97.9	99.0
Primary balance	-2.5	-1.6	-1.1	-0.9	-0.8	-0.7	-0.8	-0.9	-0.9	-0.9	-0.9	-0.9
Structural primary balance (before CoA)	-0.6	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4	-0.4
Real GDP growth	-0.3	1.7	1.5	1.1	1.2	1.3	0.9	0.9	0.9	1.0	1.0	1.2
Gross financing needs	17.3	16.7	15.6	16.4	16.6	16.8	17.2	17.6	18.1	18.3	18.5	18.7
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	82.6	85.2	86.4	88.3	89.9	91.6	93.7	95.8	97.9	99.9	101.8	103.5
Implicit interest rate (nominal)	1.7	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	2.9
Real GDP growth	-0.3	1.0	1.1	0.7	0.8	0.7	0.4	0.4	0.4	0.5	0.5	0.7
Gross financing needs	17.3	16.8	15.7	16.5	16.7	17.0	17.5	18.0	18.6	18.9	19.3	19.5

27. SWEDEN

This annex assesses fiscal sustainability risks for Sweden over the short, medium and long term, based on the Commission 2024 autumn forecast.

1 – Short-term risks to fiscal sustainability are low. The Commission's early-detection indicator (S0) does not signal any short-term fiscal risks ([231]). Government gross financing needs are expected to be low, at around 7% of GDP on average over 2025-2026. Financial markets' perceptions of sovereign risk have remained stable, as confirmed by the rating agencies.

2 – Medium-term fiscal sustainability risks are low.

Under the DSA baseline, debt is projected to decrease steadily over the medium term, reaching around 26% of GDP in 2035 ([232]). The decline in debt is underpinned by the assumed structural primary surplus of 0.2% of GDP as of 2025, at unchanged fiscal policy as from 2026 and excluding changes in cost of ageing ([233]). This structural primary balance (SPB) level is low compared with past fiscal performance, indicating that the country has already had tighter fiscal positions in the past ([234]). Moreover, Sweden is expected to benefit from a still favourable snowball effect (around -0.6% of GDP on average over 2026-2035). Ageing-related expenditure is projected to remain broadly unchanged over that period. Government gross financing needs are expected to decrease slightly over the projection period, reaching around 6% of GDP in 2035.

The deterministic stress tests do not identify any additional sources of vulnerability. To assess the impact of changes in key assumptions, the baseline projection is stress-tested against several alternative deterministic scenarios. All scenarios confirm the downward trend in debt and bring it to levels at most 4 pps. away from the baseline by 2035, in all cases well below 60% of GDP. The DSA scenarios include the *adverse interest-growth rate differential scenario* (in which the interest-growth rate differential deteriorates by 1 pp. compared with the baseline), the *lower structural primary balance (SPB) scenario* (in which the improvement in the SPB forecast for 2025 is halved), the *historical SPB scenario* (in which the SPB returns to its historical 15-year average of 0.8% of GDP) and *the financial stress scenario* (in which interest rates temporarily increase by 1 pp. compared with the baseline).

The stochastic projections run around the baseline indicate low risk due to the low probability of debt increasing over the next five years ([235])**.** These stochastic simulations

([231]) S0 is a composite indicator of short-term risk of fiscal stress. It is based on a wide range of fiscal and financial-competitiveness indicators that have proven to be good predictors of emerging fiscal stress in the past.

([232]) The assumptions underlying the Commission's no-fiscal-policy-change baseline include: (i) a structural primary surplus, before changes in ageing costs, of 0.2% of GDP from 2025 onwards; (ii) inflation converging linearly towards the inflation expectations 10 years ahead; (iii) the nominal short- and long-term interest rates on new and rolled-over debt converging linearly from current values to market-based forward nominal rates by 2034; (iv) real GDP growth rates from the Commission 2024 autumn forecast, followed by the EPC/POWG T+10 methodology projections between 2027 and 2035 (1.7% on average); (v) ageing costs in line with the 2024 Ageing Report (European Commission, Institutional Paper 279, April 2024). For further information on the methodology, see Chapter 2 of this report. Note that the anchoring of the structural primary balance on the first forecast year (2025) implies that several projected variables, including debt, budget balance and GDP, for 2026 can differ from the Commission 2024 autumn forecast (see Box I.2.1 in the 2023 DSM for further explanations).

([233]) Since the net expenditure path endorsed by the Council based on Sweden's medium-term plan does not reflect an actual target for the Swedish authorities but rather an upper limit, the baseline reflects measures underpinning the country's actual budgetary plans for 2025, followed by the standard no-fiscal-policy-change assumption as from 2026. Therefore, the net expenditure path in Sweden's medium-term plan is not taken into account in the baseline projection.

([234]) This assessment is based on the fiscal consolidation space indicator, which measures the frequency with which a tighter fiscal position than assumed in a given scenario has been observed in the past., as measured by one minus the percentile rank of the projected SPB within the distribution of SPBs observed in the country since 1980 (subject to data availability).

([235]) The stochastic projections show the joint impact on debt of 10,000 different shocks affecting the government's budgetary position, economic growth, interest rates and exchange rates. This covers 80% of all the simulated debt paths and therefore excludes tail events.

indicate that the debt ratio will be higher in 2029 than in 2024 with a probability of only 23%, entailing low risk given the low initial level of debt. Moreover, the uncertainty surrounding the baseline debt projection is low, as measured by the difference of around 11 pps. between the 10th and 90th debt distribution percentiles in five years' time.

3 – Long-term fiscal sustainability risks are low. This assessment is based on the combination of two fiscal gap indicators, capturing the required fiscal effort in 2026 to stabilise debt (S2 indicator) and to bring it to 60% of GDP (S1 indicator) over the long term ([236]). The low risk is explained by the favourable initial budgetary position, allowing for a limited increase in ageing-related expenditure.

The S2 indicator points to low risk. It signals that Sweden would only need to improve its structural primary balance by 1.0 pp. to ensure that debt stabilises over the long term. This result is underpinned by the favourable initial budgetary position (contributing 0.3 pps.), leaving some leeway for the limited projected increase in ageing costs (contributing 0.8 pps.) that mainly results from an increase in long-term care and health care costs.

The S1 indicator also points to low risk. The negative value of this indicator (-0.8 pps.) shows that the country has a safety margin to maintain its debt below the 60% of GDP reference value by 2070. This result is mainly driven by the favourable initial budgetary position (contribution of -0.3 pps.) and the low starting level of the debt ratio (contribution of -0.7 pps.), which more than compensate for the projected increase in ageing costs by 2070 (contribution of 0.3 pps.).

4 – Finally, several additional risk factors need to be considered in the assessment. On the one hand, risk-increasing factors are related to the sensitivity to the interest rate given the relatively high share of short-term public debt (Section 4.1.1) and contingent liability risks stemming from elevated private debt (Section 4.2.4). On the other hand, risk-mitigating factors include a relatively low share of public debt held by non-residents (Section 4.1.1), relatively stable financing sources with a diversified and large investor base (Section 4.1.2), low borrowing costs reflecting a long-standing strong creditor status (Section 1.3), and Sweden's positive net international investment position (Section 4.24).

([236]) The S2 indicator measures the one-year change in SPB in 2026 that would be required to stabilise public debt over an infinite horizon. It is complemented by the S1 indicator, which measures the one-year change in SPB in 2026 needed to bring the debt ratio to 60% by 2070. The impact of the drivers of S1 and S2 may differ due to the infinite horizon component considered in the S2 indicator. For both S1 and S2, the risk assessment depends on the amount of fiscal consolidation needed: 'high risk' if the required effort exceeds 6% of GDP, 'medium risk' if it is between 2% and 6% of GDP, and 'low risk' if the effort is negative or below 2% of GDP. The overall long-term risk classification combines the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 if it signals a higher risk than S2. See Annex A5 for further details.

1. Overview of key fiscal sustainability risks

Short term	Medium term - Debt sustainability analysis (DSA)							Long term		
		Deterministic scenarios								
Overall (S0)	Overall		Baseline	Historical SPB	Lower SPB	Adverse 'r-g'	Financial stress	Stochastic projections	S2	S1	Overall (S1 + S2)
		Overall	LOW	LOW	LOW	LOW	LOW	LOW			
		Debt level (2035), % of GDP	25.9	21.6	26.9	27.9	26.1				
LOW	LOW	Debt peak year	2025	2025	2025	2025	2025		LOW	LOW	LOW
		Fiscal consolidation space	81%	77%	81%	81%	81%				
		Probability of debt ratio exceeding in 2029 its 2024 level						23%			
		Difference between 90th and 10th percentiles (% of GDP)						11.2			

(1) Debt level in 2035. Green: below 60% of GDP. Yellow: between 60% and 90%. Red: above 90%. (2) The debt peak year indicates whether debt is projected to increase overall over the next decade. Green: debt peaks early. Yellow: peak towards the middle of the projection period. Red: late peak. (3) Fiscal consolidation space measures the share of past fiscal positions in the country that were more stringent than the one assumed in the baseline. Green: high value, i.e. the assumed fiscal position is plausible by historical standards and leaves room for corrective measures if needed. Yellow: intermediate. Red: low. (4) Probability of debt ratio exceeding in 2029 its 2024 level. Green: low probability. Yellow: intermediate. Red: high (also reflecting the initial debt level). (5) the difference between the 90th and 10th percentiles measures uncertainty, based on the debt distribution under 10000 different shocks. Green, yellow and red cells indicate increasing uncertainty.

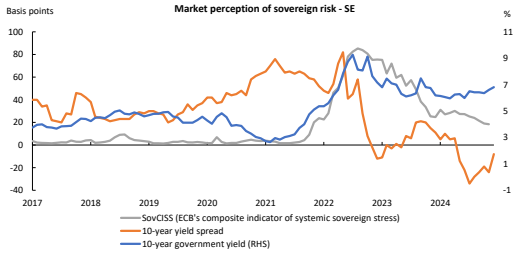
2. Short-term fiscal sustainability risks

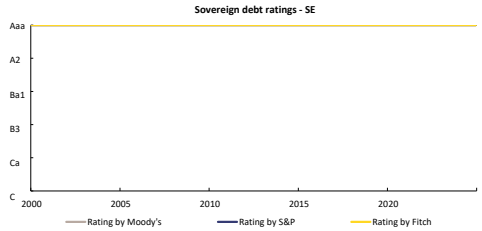
S0 indicator	Critical threshold *	2024
Overall index	**0.46**	**0.27**
Fiscal sub-component	0.36	0.08
Financial competitiveness sub-component	0.49	0.37

* The thresholds underpinning the S0 indicator are presented in more details in Annex A1. Values over the threshold point to high short-term fiscal risks in 2025.

Financial market information (31 December 2024)	
10-year sovereign yield spread vs. German Bund (bps.)	-8.0

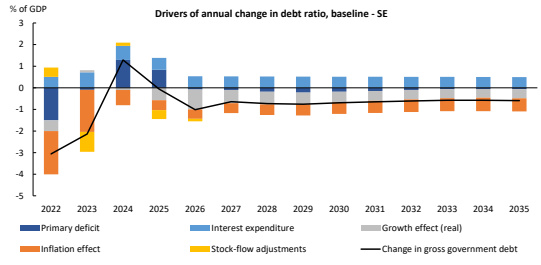
Green: low risk (spread below 100 bps.), Yellow: medium risk (spread between 100 and 300 bps.); Red: high risk (spread above 300 bps.)

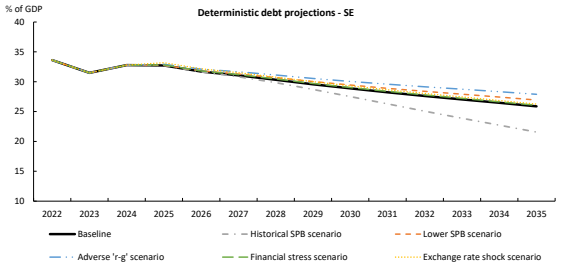


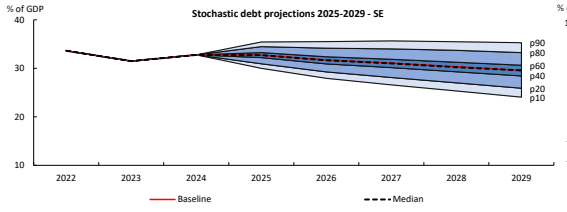


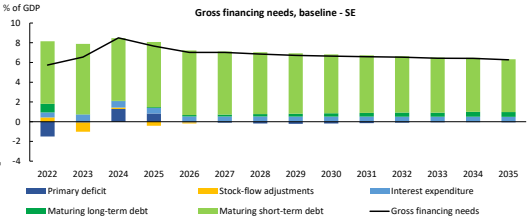
3. Medium-term fiscal sustainability risks

Sweden - baseline scenario (% of GDP)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**33.6**	**31.5**	**32.8**	**32.7**	**31.7**	**31.1**	**30.3**	**29.6**	**28.9**	**28.2**	**27.6**	**27.0**	**26.5**	**25.9**
Change in the ratio (-1+2+3)	*-3.1*	*-2.1*	*1.3*	*-0.1*	*-1.0*	*-0.6*	*-0.7*	*-0.8*	*-0.7*	*-0.7*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
of which														
(1) Primary balance (1.1+1.2+1.3)	**1.5**	**0.1**	**-1.3**	**-0.8**	**0.1**	**0.1**	**0.2**	**0.2**	**0.2**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***1.4***	***0.9***	***0.0***	***0.2***	***0.3***	***0.3***	***0.2***	***0.2***	***0.2***	***0.1***	***0.1***	***0.1***	***0.1***	***0.1***
(1.1.1) Structural primary balance (before CoA)	*1.4*	*0.9*	*0.0*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*
(1.1.2) Cost of ageing (CoA)					*-0.2*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*0.0*	*0.0*	*0.0*	*0.0*
(1.1.3) Others (taxes and property income)					*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.2*	*-0.2*	*-0.2*
(1.2) Cyclical component	***0.1***	***-0.8***	***-1.3***	***-1.0***	***-0.2***	***-0.2***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-2.0**	**-1.1**	**-0.2**	**-0.5**	**-0.8**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.5**
(2.1) Interest expenditure	*0.5*	*0.7*	*0.7*	*0.6*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*
(2.2) Growth effect (real)	*-0.5*	*0.1*	*-0.1*	*-0.6*	*-0.9*	*-0.6*	*-0.6*	*-0.5*	*-0.5*	*-0.5*	*-0.4*	*-0.4*	*-0.4*	*-0.4*
(2.3) Inflation effect	*-2.0*	*-1.9*	*-0.7*	*-0.5*	*-0.4*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
(2.4) Exchange rate effect linked to the interest rate	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3) Stock-flow adjustments	**0.4**	**-0.9**	**0.1**	**-0.4**	**-0.1**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.5*	*-1.3*	*0.2*	*-0.4*	*-0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(3.2) Adjustment due to the exchange rate effect	*0.9*	*0.3*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	0.9	0.2	-0.7	-0.3	-0.2	-0.3	-0.3	-0.3	-0.3	-0.4	-0.4	-0.4	-0.4	-0.4
Gross financing needs	5.7	6.5	8.5	7.7	7.0	6.9	6.7	6.6	6.6	6.5	6.4	6.4	6.3	









4. Long-term fiscal sustainability risks

S2 indicator (required effort in 2026 to stabilise debt over infinite horizon)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**-0.6**	**1.0**	**0.9**	**3.5**
of which					
Initial budgetary position		-1.2	0.3	0.3	0.3
Ageing costs		0.7	0.8	0.6	3.2
of which	*Pensions*	-0.5	-0.4	-0.5	-0.4
	Health care	0.6	0.6	0.6	1.4
	Long-term care	1.1	1.1	1.1	2.8
	Education	-0.6	-0.6	-0.5	-0.6
Required structural primary balance related to S2		**0.9**	**1.2**	**1.1**	**3.7**

S1 indicator (required effort in 2026 to bring debt to 60% of GDP by 2070)		DSM 2023	DSM 2024		
			Baseline	Lower productivity scenario	Non-demographic risk scenario
Overall index (% of GDP)		**-2.2**	**-0.8**	**-0.7**	**0.5**
of which					
Initial budgetary position		-1.6	-0.3	-0.3	-0.3
Debt requirement		-0.7	-0.7	-0.7	-0.7
Ageing costs		0.1	0.3	0.2	1.5
of which	*Pensions*	-0.5	-0.4	-0.4	-0.4
	Health care	0.4	0.4	0.4	1.0
	Long-term care	0.7	0.7	0.7	1.4
	Education	-0.4	-0.4	-0.4	-0.4
Required structural primary balance related to S1		**-0.7**	**-0.6**	**-0.5**	**0.7**

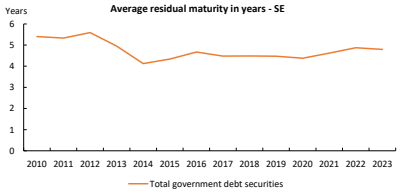
5. Additional aggravating and mitigating risk factors for fiscal sustainability

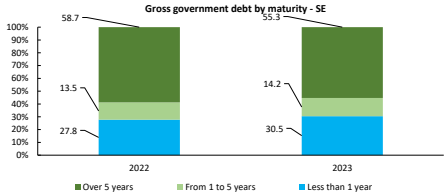
Public debt structure (2023) (% of total debt)	SE	EU
Share of short-term government debt	30.5	9.2
Share of gov't debt held by non-residents	16.9	n.a.
of which Non-EA residents	2.1	n.a.

"n.a." means not available

Additional liabilities or mitigating factors from other sectors (% of GDP)	SE	EU
Net external debt	41.5	n.a.
Net international investment position (NIIP)	38.5	0.9
Non-financial corporations debt	117.2	73.5

"n.a." means not available





General government contingent liabilities (% of GDP)		2017	2018	2019	SE 2020	2021	2022	2023	EU 2023
State guarantees		**10.7**	**11.1**	**11.0**	**12.6**	**12.1**	**11.8**	**11.0**	**7.4**
of which	*One-off guarantees*	*10.7*	*11.1*	*11.0*	*12.6*	*12.1*	*11.8*	*11.0*	*6.1*
	Standardised guarantees	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.3*
Contingent liabilities related to support to financial institutions		**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.7**
of which	*Liabilities and assets outside gen. gov. under guarantee*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Public-private partnerships (PPPs)		***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.2***

Government contingent liability risks from banking sector (2023)	SE %	SE annual change in pps.	EU %	EU annual change in pps.
Bank loans-to-deposits ratio	162.8	0.5	n.a.	n.a.
Share of non-performing loans	1.0	0.2	1.9	0.1

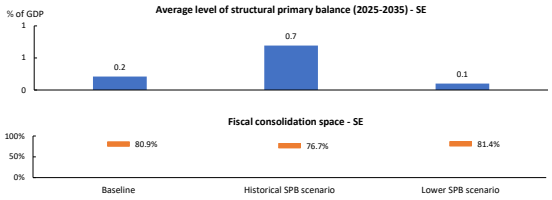
"n.a." means not available

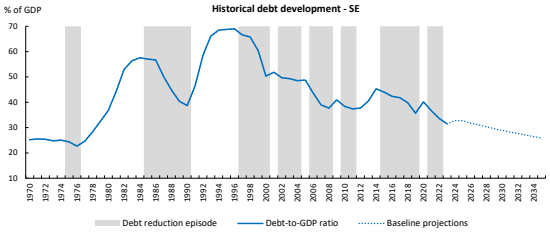
Model-based probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL)

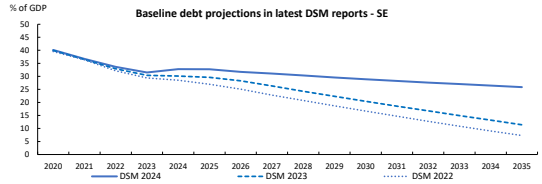
Recapitalisation at 4.5%		Recapitalisation at 8%		Recapitalisation at 10.5%	
Stress	Severe stress	Stress	Severe stress	Stress	Severe stress
0.01%	0.06%	0.01%	0.07%	0.01%	0.08%

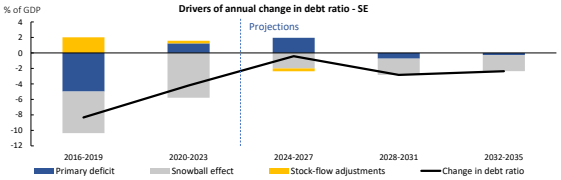
Green: low risk (model-based probability lower than 0.50%), Yellow: medium risk (model-based probability between 0.50% and 1%); Red: high risk (model-based probability higher than 1%)

6. Historical background









7. Underlying assumptions of deterministic debt projections

1. Baseline	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	32.8	32.7	31.7	31.1	30.3	29.6	28.9	28.2	27.6	27.0	26.5	25.9
Primary balance	-1.3	-0.8	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
Structural primary balance (before CoA)	0.0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Real GDP growth	0.3	1.8	2.9	2.0	2.0	1.9	1.7	1.6	1.6	1.6	1.6	1.7
Potential GDP growth	1.2	1.4	1.4	1.9	1.8	1.8	1.7	1.6	1.6	1.6	1.6	1.7
Inflation rate	2.3	1.4	1.3	1.5	1.6	1.7	1.8	2.0	2.1	2.2	2.4	2.3
Implicit interest rate (nominal)	2.1	1.7	1.7	1.7	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.9
Gross financing needs	8.5	7.7	7.0	7.0	6.9	6.7	6.6	6.6	6.5	6.4	6.4	6.3
2. Historical SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	32.8	32.7	31.6	30.8	29.9	28.7	27.5	26.3	25.0	23.9	22.7	21.6
Primary balance	-1.3	-0.8	0.2	0.3	0.5	0.6	0.7	0.7	0.7	0.7	0.7	0.7
Structural primary balance (before CoA)	0.0	0.2	0.4	0.5	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Real GDP growth	0.3	1.8	2.8	1.9	1.8	1.8	1.8	1.8	1.7	1.6	1.6	1.7
Gross financing needs	8.5	7.7	6.9	6.8	6.5	6.2	5.9	5.6	5.2	4.9	4.6	4.2
3. Financial stress scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	32.8	32.8	31.8	31.2	30.5	29.7	29.0	28.4	27.8	27.2	26.6	26.1
Implicit interest rate (nominal)	2.1	2.1	1.7	1.8	1.8	1.8	1.8	1.9	1.9	1.9	2.0	2.0
Gross financing needs	8.5	7.8	7.1	7.1	6.9	6.8	6.7	6.6	6.6	6.5	6.5	6.3
4. Lower SPB scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	32.8	32.8	31.8	31.3	30.7	30.0	29.4	28.9	28.4	27.9	27.4	26.9
Primary balance	-1.3	-0.9	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0	-0.1	0.0
Structural primary balance (before CoA)	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Real GDP growth	0.3	1.9	2.9	2.0	1.9	1.9	1.7	1.6	1.6	1.6	1.6	1.7
Gross financing needs	8.5	7.7	7.1	7.1	7.0	6.9	6.9	6.8	6.8	6.7	6.7	6.6
5. Adverse 'r-g' scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	32.8	32.9	32.1	31.7	31.1	30.6	30.1	29.6	29.1	28.7	28.3	27.9
Implicit interest rate (nominal)	2.1	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.1	2.1	2.2	2.2
Real GDP growth	0.3	1.3	2.4	1.5	1.5	1.4	1.2	1.1	1.1	1.1	1.1	1.2
Gross financing needs	8.5	7.7	7.2	7.2	7.1	7.0	7.0	6.9	6.9	6.9	6.9	6.8
6. Exchange rate depreciation scenario	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**	**2033**	**2034**	**2035**
Gross public debt	32.8	33.2	32.2	31.5	30.8	30.0	29.3	28.6	28.0	27.4	26.9	26.3
Exchange rate depreciation	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Part III

Methodological and statistical annexes

ANNEX A1

Criteria and decision trees used to assess fiscal sustainability risks

This annex presents the approach followed to assess fiscal sustainability risks over the short, medium and long term. Graph A1.1 provides an overview of the main building blocks. The general approach is the same as in the 2023 Debt Sustainability Monitor.

The remainder of this annex is organised as follows. Sections A1.1, A1.2 and A1.3 describe the approach to assess short-, medium- and long-term fiscal sustainability risks. Section A1.4 provides an overview of the thresholds used for the risk classification throughout the report.

A1.1. SHORT-TERM RISK ASSESSMENT

The analysis of short-term fiscal sustainability risks relies on the composite S0 indicator. This early-detection indicator of fiscal stress follows a signalling approach: it flashes red when certain variables (among a set of 25) exceed critical thresholds beyond which they tended to be associated with episodes of fiscal stress in the past. S0 includes two sub-indices that cover the fiscal side and the financial-competitiveness side. The main benefit of this approach is therefore that it does not only consider purely fiscal factors, but also the risks that may arise from non-fiscal factors, thus recognising the role of structural weaknesses in triggering fiscal stress. Further details on S0 are available in Chapter 1 and Annex A2 of this report.

A1.2. MEDIUM-TERM RISK ASSESSMENT

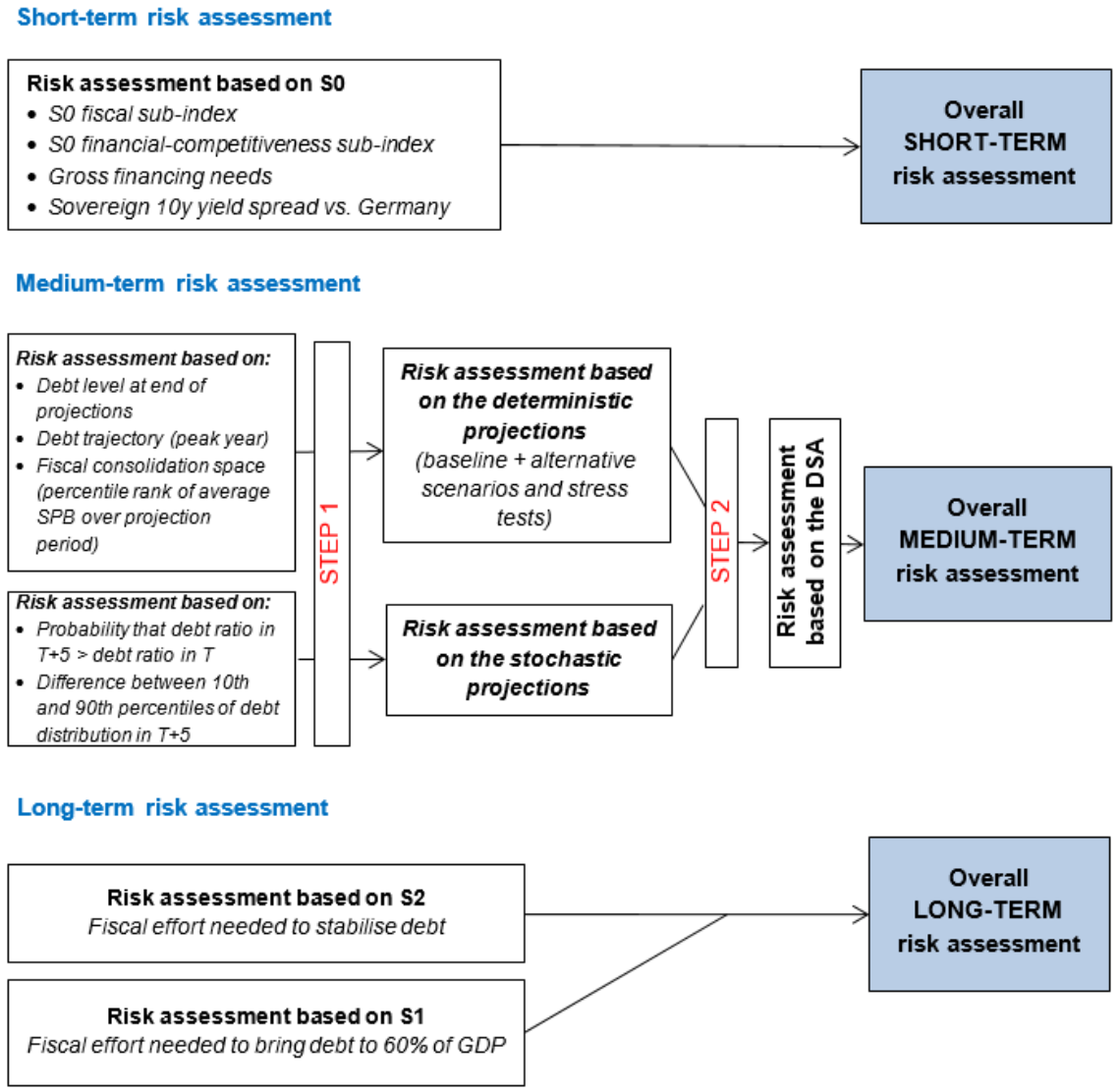
The assessment of medium-term risks is based on the debt sustainability analysis (DSA) risk classification, which is established in two steps. The first step assigns a risk category to the country under consideration for each of the deterministic projections (including the baseline) and for the stochastic projections. The second step combines the risk categories derived from the various deterministic scenarios and from the stochastic projections to conclude on the overall DSA risk classification. Further details on the DSA can be found in Chapter 2.

In the first step, *the risk assessment based on the deterministic scenarios* depends on three criteria. These are (1) the projected debt level in 10 years' time, (2) the projected debt trajectory (as summarised by the year in which debt is projected to peak), and (3) the 'fiscal consolidation space', as measured by the percentile rank of the projected structural primary balance (SPB) in the past distribution of SPBs. The fiscal consolidation space gives an indication of whether the projected SPB is plausible in view of the country's track record, and whether the country has fiscal room for manoeuvre to take corrective measures if necessary.

The decision tree for deterministic projections describes how the three criteria interplay. First, the value of each criterion is associated with a risk category (low, medium or high, according to the thresholds reported in Table A1.1 below), then the risk categories derived from the three criteria are combined along the decision tree presented in Graph A1.2. While the risk classification starts from the risk signal associated with the projected debt level, this signal may be notched up or down by one category depending on the projected debt trajectory and the available 'fiscal consolidation space'. Fiscal consolidation space is measured by one minus the percentile rank of the SPB within the country-specific historical distribution of the SPB. The historical distributions start at the earliest in 1980, depending on data availability. The calculations notably exclude major crisis years, such as the Global Financial Crisis (2008-09) and the COVID-19 pandemic (2020-21).

***The risk category based on the stochastic projections* depends on two criteria.** The first one is the probability that the debt level in 5 years' time will not exceed its current level. The second one is the amount of uncertainty, as measured by the difference between the 10th and 90th percentiles of the distribution of debt paths resulting from the stochastic projections (i.e. the difference between the worst and the best possible outcomes, leaving aside tail events). The thresholds associated with these criteria are reported in Table A1.1, and the decision tree combining the two criteria is presented in Graph A1.3.

Graph A1.1: **The multi-dimensional approach to assess fiscal sustainability risks**



Source: Commission services.

The second step combines the signals from the deterministic and stochastic projections. Each country is first attributed a preliminary risk classification based on the baseline. This preliminary category may then be notched up, but not down. It may be adjusted from low to medium or from medium to high based on the outcome of other scenarios and stochastic projections, as described in Graph A1.4. On the other hand, if a country is considered at high risk under the baseline, the overall DSA risk category is automatically high.

Table A1.1:**DSA: thresholds for the deterministic and stochastic projections**

	Criterion	Threshold	
Deterministic projections	Debt level in 2035	**High:** above 90% of GDP **Medium:** between 60% and 90% of GDP **Low:** below 60% of GDP	
	Debt trajectory (debt peak year)	**High:** peak year between T+7 (2031) and end of projections (2035), or still increasing by end of projections **Medium:** peak year between T+3 (2027) and T+6 (2030) **Low:** peak year within the T+2 forecast horizon (2024-2026)	
	Fiscal consolidation space (1 - percentile rank of average SPB in 2025-2035)	**High:** up to 25% **Medium:** between 25% and 50% **Low:** above 50%	
Stochastic projections	Probability of debt not stabilising over the next 5 years, i.e. of debt ratio in 2029 exceeding the initial debt ratio	Initial debt ratio ≥ 90%	**High:** if probability > 30% **Medium:** if 0 < probability ≤ 30% **Low:** if probability = 0
		60 % ≤ initial debt ratio < 90%	**High:** if probability > 60% **Medium:** if 30% < probability ≤ 60% **Low:** if probability ≤ 30%
		Initial debt ratio < 60%	**Medium:** if probability > 70% **Low:** if probability ≤ 70%
	Size of macroeconomic uncertainty (diff. btw 10th and 90th percentiles of the distribution of debt paths)	**High:** the third of the countries with highest dispersion **Medium:** the third of the countries with intermediate dispersion **Low:** the third of the countries with lowest dispersion	

Source: Commission services.

Graph A1.2: **DSA, step 1: decision tree for the deterministic projections (including the baseline)**

All deterministic DSA scenarios				
Case	Debt level	Debt path	Consolidation space	Overall
1	HIGH	HIGH/MEDIUM	**ANY**	HIGH
2	HIGH	LOW	HIGH/MEDIUM	HIGH
3	HIGH	LOW	LOW	MEDIUM
4	MEDIUM	HIGH	HIGH/MEDIUM	HIGH
5	MEDIUM	HIGH	LOW	MEDIUM
6	MEDIUM	MEDIUM	ANY	MEDIUM
7	MEDIUM	LOW	HIGH/MEDIUM	MEDIUM
8	MEDIUM	LOW	LOW	LOW
9	LOW	HIGH	HIGH/MEDIUM	MEDIUM
10	LOW	HIGH	LOW	LOW
11	LOW	MEDIUM/LOW	ANY	LOW

Note: the table is to be read as a decision tree, starting from the debt level then moving on to the debt path and the fiscal consolidation space. The risk category derived from the debt level in T+10 is notched up if the debt path points to high risk and the consolidation space points to medium or high risk (cases 4 and 9). Indeed, in these cases, countries have an increasing debt and limited consolidation space, meaning that there is a chance that there is no feasible adjustment path to curb the debt path. Conversely, the risk is notched down if both the debt path and the consolidation space indicator point to low risk (cases 3 and 8). In these cases, even if the projected debt level is high/medium, the debt path is decreasing, and the country has enough space to take measures in case of adverse shocks.

Source: Commission services.

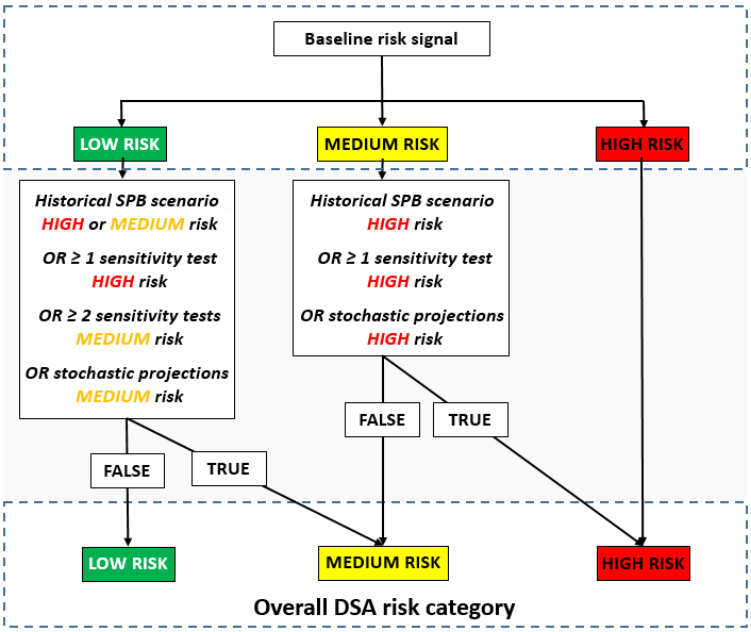
Graph A1.3: **DSA, step 1: decision tree for the stochastic projections**

Probability of debt not stabilising	Size of uncertainty	Overall
HIGH	ANY	HIGH
MEDIUM	HIGH	MEDIUM
MEDIUM	MEDIUM	MEDIUM
MEDIUM	LOW	LOW
LOW	HIGH	MEDIUM
LOW	MEDIUM	LOW
LOW	LOW	LOW

Note: The table is to be read from left to right as a decision tree, starting from the probability of debt not stabilising then moving on to the size of uncertainty. It gives a strong weight to the probability of debt not stabilising over the next 5 years. Only in cases where the signal associated to this probability is medium and uncertainty is low, is the overall risk category notched down to low risk. Conversely, in cases where this probability is deemed low, but uncertainty is high, the overall risk category is notched up to medium risk.

Source: Commission services.

Graph A1.4: **DSA, step 2: decision tree for the overall DSA risk classification**



Note: it is not possible for a country to be classified at low risk under the baseline and at high risk under the stochastic projections.
Source: Commission services.

A1.3. LONG-TERM RISK ASSESSMENT

The assessment of long-term fiscal sustainability risks is based on the S2 and S1 indicators. The S2 indicator measures the fiscal effort needed to stabilise debt in the long term, regardless of the level, based on the infinite version of the government budget constraint (see Box 3.1). The S1 indicator measures the fiscal effort needed to bring debt to 60% of GDP by 2070. For both indicators, the risk assessment depends on the amount of fiscal consolidation needed: high risk if the required effort exceeds 6 pp. of GDP, medium risk if it lies between 2 pp. and 6 pp. of GDP, and low risk if the effort is negative or below 2 pp. of GDP (see Table A1.3). Finally, the overall long-term risk classification brings together the risk categories derived from S1 and S2. S1 may notch up the risk category derived from S2 when it signals a higher risk than S2. As a result, a country is assessed to be at high risk if (i) the S2 indicator flags high risk, irrespective of the risk category derived from S1, or (ii) S2 signals medium risk but S1 points to high risk (see Table A1.2). Similarly, a country is assessed at medium risk if S2 points to low risk but S1 flags medium or high risk. The aim of these adjustments is to capture risks linked to higher debt levels, as explained in Box 3.1. The long-term risk classification is discussed in Chapter 3, and technical details can be found in Annex A5.

Table A1.2:**Decision tree for the long-term risk classification**

Risk derived from S2	Risk derived from S1	Overall long-term risk category
HIGH	Any	HIGH
MEDIUM	HIGH	HIGH
	MEDIUM	MEDIUM
	LOW	
LOW	HIGH	MEDIUM
	MEDIUM	
	LOW	LOW

Source: Commission services.

A1.4. THRESHOLDS FOR ASSESSING FISCAL SUSTAINABILITY RISKS

The thresholds underpinning the various heat maps presented in the report can be found in the following tables. *The thresholds for the DSA risk classification*, both for the deterministic and stochastic projections, are reported in Table A1.1. ***For the short term,*** Table A1.3 reports the thresholds used for the S0 indicator, its sub-indices, and each of the variables that they include. The overall S0 index and its sub-indices use only one threshold, beyond which they identify vulnerabilities. For the individual variables, the upper thresholds derived from the signalling approach are complemented by lower thresholds, set at around 80% of the upper thresholds, so that variables may flash red, yellow or not flash at all. ***For the S1 and S2 indicators,*** Table A1.3 reports upper and lower thresholds to distinguish between low, medium and high risk. The percentile ranks of the SPBs implied by S1 and S2 are subject to the same thresholds as average SPBs in DSA scenarios (Table A1.1).

Table A1.3: **Overview of the thresholds used for the fiscal sustainability risk classification**

	Safety	*Upper threshold*	*Lower threshold*
SHORT-TERM RISKS			
S0 overall index	<	0.46	:
S0 fiscal sub-index	<	0.36	:
S0 financial-competitiveness sub-index	<	0.49	:
Fiscal risks from the fiscal context			
Balance (% of GDP)	>	-9.6	-7.7
Primary balance (% of GDP)	>	0.2	0.3
Cyclically-adjusted balance (% of GDP)	>	-2.5	-2.0
Stabilising primary balance (% of GDP)	<	2.3	1.9
Gross debt (% of GDP)	<	68.4	54.8
Change in gross debt (% of GDP)	<	8.1	6.4
Short-term public debt (% of GDP)	<	13.2	10.6
Net debt (% of GDP)	<	59.5	47.6
Gross financing needs (% of GDP)	<	15.9	12.8
Interest-growth rate differential (%)	<	4.8	3.8
Change in governement expenditure (% of GDP)	<	1.9	1.5
Change in governement consumption (% of GDP)	<	0.6	0.5
Fiscal risks from the macro-financial context			
Yield curve (%)	>	0.6	0.7
Real GDP growth (%)	>	-0.7	-0.5
GDP per capita in PPP (% US level)	>	72.7	87.2
Net international investment position (% of GDP)	>	-19.8	-15.8
Net savings households (% of GDP)	>	2.6	3.1
Private debt (% of GDP)	<	164.7	131.8
Private credit flow (% of GDP)	<	11.7	9.4
Short-term debt non-financial corporations (% of GDP)	<	15.4	12.3
Short-term debt households (% of GDP)	<	2.9	2.3
Construction (% of value added)	<	7.5	6.0
Current account balance (% of GDP)	>	-2.5	-2.0
Change in REER (%)	<	9.7	7.7
Change in nominal ULC (%)	<	7.0	5.6
Fiscal risks from financial market developments			
Sovereign yield spreads (bp) - 10 year	<	231.0	184.8
MEDIUM-TERM RISKS			
DSA variables	see Table A1.2		
LONG-TERM RISKS			
S2 indicator	<	6	2
Percentile rank of the SPB implied by S2	>	25%	50%
S1 indicator	<	6	2
Percentile rank of the SPB implied by S1	>	25%	50%

Note: Variables common to the scoreboard used in the macroeconomic imbalances procedure (MIP) have different thresholds here than under the MIP, because the methodologies to calculate them are different

Source: Commission services.

ANNEX A2

The short-term fiscal sustainability risk indicator (S0)

This annex describes the methodology of the Commission's early-warning indicator S0. S0 is a composite indicator that combines fiscal, financial and competitiveness variables to identify potential risks of fiscal stress in the coming year using an empirical method known as the signalling approach. It is based on a set of 25 contemporaneous and lagged indicators that have proven to be good predictors of emerging fiscal stress in the past (see A2.1 for more details). It can be further divided into two sub-components: fiscal risks and financial-competitiveness risks.

The S0 is an early warning indicator to detect short-term fiscal sustainability risks in the next year. ([237]) Fiscal risks refers to various situations, including a credit event, a request for large official financing, an implicit default by the domestic government (in the case of high inflation) or a loss of market confidence (similar to what occurred during the global financial crisis, particularly in Europe). ([238]) S0 differs in nature from indicators that assess short-term fiscal sustainability risks from a financial market perspective (see Section 1.3) and from indicators that assess long-term fiscal sustainability risks, such as the Commission's fiscal gap indicators S1 and S2 (see Chapter 3).

The S0 is a composite indicator based on 25 fiscal and financial-competitiveness variables. It is based on 12 fiscal and 13 financial-competitiveness variables that have proven to be good predictors of fiscal stress in the past (see Table A2.1). ([239]) On the fiscal side, the most powerful predictors are gross financing needs (see Box A2.1), the cyclically-adjusted government balance, net government debt, short-term government debt and the primary government balance. On the financial side, the most effective predictors are the yield curve, private sector credit flows, the current account balance, the net saving rate and the net international investment position. The S0 can be decomposed in two sub-components: fiscal risks and financial-competitiveness risks.

The S0 is calculated using an empirical method known as signalling approach that optimises risk thresholds based on past fiscal stress episodes (see also Box A2.2). This method involves setting critical risk thresholds endogenously, by analysing the behaviour of a large number of variables before past episodes of fiscal stress. More precisely, the critical thresholds are determined by minimising the missed crises and false alarms or by maximising the 'signalling power'. The signalling power indicates the effectiveness in correctly identifying true relationships and correctly rejecting false ones. S0 is then calculated as the weighted proportion of variables that have reached their critical thresholds, with weights given by their signalling power, and the critical threshold for S0 itself is derived endogenously. This method is applied to the fiscal and the financial-competitiveness sub-components of the S0. A higher S0 value indicates a greater proportion of variables meeting or exceeding their specific thresholds. ([240])

([237]) See Berti, K., Salto, M., and Lequien M. (2012), An early-detection index of fiscal stress for EU countries, *European Economy Economic Paper*, No. 475.

([238]) See Pamies Sumner, S., and Berti, K. (2017), A complementary tool to monitor fiscal stress in European economies, *European Commission Discussion Paper*, No. 49.

([239]) See Cerovic, S., Gerling, K., Hodge, A., and Medas, P. (2018), Predicting fiscal crises, *IMF Working paper*, No. 18 / 181; Pamies Sumner, S., and Berti, K. (2017), A complementary tool to monitor fiscal stress in European economies, *European Commission Discussion Paper*, No. 49; Bruns, M., and Poghosyan, T. (2016), Leading indicators of fiscal distress: Evidence from the extreme bound analysis, *IMF Working Paper*, No. 16/28; Berti, K., Salto, M. and Lequien, M. (2012), An early-detection index of fiscal stress for EU countries, *European Economy Economic Paper*, No. 475.

([240]) See Cerovic, S., Gerling, K., Hodge, A., and Medas, P. (2018), Predicting fiscal crises, *IMF Working paper*, No. 18 / 181.

Table A2.1:**Thresholds and signalling power of S0 indicator, fiscal and financial-competitiveness sub-indices and individual variables**

Variables	safety	threshold	signalling power	type I error	type II error	crisis number	no-crisis number
Gross financing needs, % GDP	<	15.95	0.26	0.24	0.50	26	621
Cyclically-adjusted govt. balance, % GDP	>	-2.50	0.23	0.52	0.25	40	981
Net debt, % GDP	<	59.51	0.20	0.18	0.62	26	586
Short-term govt. debt, % GDP	<	13.20	0.20	0.14	0.67	21	430
Primary govt. balance, % GDP	>	0.23	0.13	0.47	0.40	43	1058
Gross debt, % GDP	<	68.44	0.12	0.23	0.65	40	1047
Change in gross debt, % GDP	<	8.06	0.12	0.06	0.82	39	1018
Change in govt. expenditure, % GDP	<	1.90	0.11	0.13	0.76	41	1051
Stabilising primary balance, % GDP	<	2.34	0.08	0.13	0.79	38	983
Interest rate-growth differential	<	4.80	0.08	0.11	0.82	38	977
Headline gov. balance, % GDP	>	-9.61	0.07	0.04	0.89	44	1080
Change in govt. consumption expend., % GDP	<	0.61	0.07	0.17	0.76	38	972
Fiscal index	<	0.36	0.28	0.30	0.42	45	1083
Yield curve	>	0.59	0.37	0.34	0.29	35	813
Private sector credit flow, % GDP (t-1)	<	11.70	0.37	0.28	0.35	20	409
Current account, 3-year backward MA, % GDP (t-1)	>	-2.50	0.34	0.35	0.31	42	983
Net savings of households, % GDP (t-1)	>	2.61	0.33	0.42	0.25	28	699
Net international investment position, % GDP (t-1)	>	-19.80	0.29	0.47	0.24	25	500
GDP per capita in PPP, % of US level	>	72.70	0.22	0.44	0.33	51	1129
Construction, % value added (t-1)	<	7.46	0.22	0.27	0.51	43	1006
Short-term HH debt, % GDP (t-1)	<	2.90	0.21	0.52	0.26	19	403
Short-term NFC debt, % GDP (t-1)	<	15.40	0.20	0.54	0.26	19	403
Private sector debt, % GDP (t-1)	<	164.70	0.18	0.22	0.60	20	418
Change (3 years) in nominal ULC (t-1)	<	7.00	0.18	0.64	0.18	38	967
Change (3 years) of REER based on export deflator, 37 countries	<	9.67	0.11	0.18	0.71	24	460
Real GDP growth	>	-0.67	0.10	0.09	0.81	48	1124
Financial-competitiveness index	<	0.49	0.55	0.32	0.13	52	1158
Overall S0 index	<	0.46	0.55	0.22	0.23	52	1158

(1) Variables indicated as "t-1" are taken in lagged values. (2) The variables are ordered by their signalling power. This signalling power indicates the effectiveness in correctly identifying true relationships and correctly rejecting false ones. For instance, a signalling power of 0.3 suggests that the approach correctly identifies true relationships and correctly rejects false ones in about 30% of cases. The signalling power is defined as (1 - type I error - type II error). See Annex A4 for more details.

Source: Commission services.

By offering a structured assessment of short-term fiscal vulnerabilities across different dimensions, the S0 helps identify risks at both the national and EU levels. The S0 identifies short-term fiscal sustainability risks in three different dimensions. First, it measures the overall short-term fiscal sustainability risks at the aggregate country or EU/EA level. Second, it provides insights into vulnerabilities in two specific areas, namely fiscal and financial competitiveness, although not necessarily at the aggregate level. Finally, it allows the identification of specific sources of vulnerability through the assessment of 25 individual indicators. This detailed identification of short-term fiscal risks facilitates the identification of areas requiring policy action at Member State and/or EU level.

The interpretation of the risk assessment based on the S0 should be done with caution for several reasons:

- ***Limited scope of analysis***: While the S0 framework is comprehensive, it does not capture all relevant dimensions of short-term sustainability risks. Qualitative factors and variables with limited data availability are not included, which may impact the overall assessment.
- ***Potential limitations in rapidly evolving situations:*** The S0 is based on annual indicators from the previous and current year, which have historically been reliable predictors of fiscal stress. However, it may not fully account for unexpected or fast-moving developments that arise within a short timeframe.
- ***A risk signal does not imply inevitability:*** A high S0 risk signal highlights significant vulnerabilities but does not mean that fiscal stress is certain. Rather, it indicates areas where appropriate policy measures are needed to mitigate potential risks.

Given these considerations, the S0 assessment should always be complemented by a broader, country-specific analysis to ensure a more comprehensive understanding of fiscal sustainability risks.

Box A2.1: Gross financing needs: definition and measurement

Gross financing needs (GFN) are typically defined as the total payments or financing obligations a government must meet to service its debt and cover its budget deficit over a given period. GFN consist of three main components:

- ***General government deficit*** – Represents the headline fiscal balance, which is the sum of the primary balance and interest payments of the general government.
- ***Debt redemptions –*** Refer to the repayment of the principal amount of loans or bonds upon maturity to lenders or bondholders.
- ***Stock-flow adjustments (SFA)*** – Capture changes in the government's balance sheet that affect gross government debt but not the budget balance. SFA include three key elements:
    - *Other debt-creating/reducing flows* – 'Below-the-line' transactions that do not impact the government balance but reflect the net acquisition of financial assets.
    - *Cash-accrual differences* – Capture disparities between the cash-based fiscal deficit and the accrual-based ESA deficit. ([1])
    - *Other adjustments and discrepancies* – Account for additional factors and statistical discrepancies affecting debt dynamics. ([2])

Gross financing needs are primarily a flow concept focusing on the liquidity aspect of government finances, while government debt is a stock indicator assessing solvency risks. GFN provide insight into the funds required to finance government operations, factoring in borrowing terms, maturity structures, and amortization schedules for both principal and interest payments. By capturing immediate funding requirements, GFN play a crucial role in fiscal surveillance, particularly in monitoring potential market rollover risks in the short to medium term.

The European Commission regularly evaluates gross financing needs in its annual the Debt Sustainability Monitor, assessing both short- and medium-term fiscal risks. In terms of short-term risks, Section 1.2 of this report utilizes GFN to gauge liquidity pressures faced by EU countries. Specifically, short-term GFN calculations account for all maturing loans (both official and commercial) and other net debt-creating flows (stock-flow adjustments), ensuring a comprehensive measure of financing needs that require market funding (see Table 1). For medium-term risks, Section 2.3 presents GFN projections extending up to T+10, offering insights into the fiscal outlook over a longer horizon.

International institutions and creditors pay close attention to GFN when assessing fiscal risks, though definitions may vary depending on specific analytical objectives. Different financial instruments may be included in GFN calculations based on the intended scope of the assessment. Experts generally agree that a broad definition of GFN – aligned with the components of the Maastricht debt stock – provides a more comprehensive picture. This expanded definition typically includes currency and deposits, debt securities, and loans, though the precise coverage may differ depending on the purpose of the analysis.

([1]) The cash adjustment (or difference) to the ESA budget balance usually includes (i) the difference between interest paid (+) and interest accrued (-), e.g. deferred interest payments on certain (official) loans, (ii) changes in accounts payable (e.g. tax refunds not yet paid, trade credits granted by government suppliers, grants received from the EU but not yet paid to the final beneficiary, prepayments for mobile phone licences) or (iii) accounts receivable (e.g. tax receivables, military receivables, revenue from EU (structural) funds not yet received/disbursed, health care expenditure claw-back) or changes in arrears or clearance of called guarantees (applicable e.g. when called guarantees are not yet received/disbursed).

([2]) These include valuation effects, statistical discrepancies and other changes in volumes due to reclassification of units, all of which affect debt (and gross financing needs) ex-post.

(Continued on the next page)

Box (continued)

Table 1: **GFN definition - components and debt instruments**

	Balance sheet items (liabilities) under government debt	Components and debt instruments included in the GFN definition
Budget (headline) deficit		x
Maturing debt	Currency and deposits	
	Debt securities	x
	Commercial loans	x
	Official loans	x
Stock-flow adjustments		x

Source: Commission services.

Box A2.2: **Methodology behind the S0 indicator**

The optimal threshold for each variable in the composite indicator S0 is determined by minimising classification errors in predicting fiscal stress. For each variable the threshold is selected to minimise the total misclassification error, balancing false positive signals (predicting fiscal stress when non occurs) and false negative signals (failing to predict fiscal stress when it occurs). This optimisation is based on historical data, with different weights assigned to the two error types. The four possible signal-episode combinations are shown below (see Table 1). .

Table 1: **Possible cases based on type of signal sent by the variable at t-1 and state of the world at t**

	Fiscal stress episode	**No-fiscal stress episode**
Fiscal stress signal	True positive signal	False positive signal (Type I error)
No-fiscal stress signal	False negative signal (Type II error)	True negative signal

Source: Commission services

The threshold minimises the sum of false positives and false negatives, weighted to reflect the relative importance of avoiding missed fiscal stress episodes. Formally, for each variable *i* the optimal threshold (t_i^*) is chosen to minimise the total misclassification error for each variable (TME_i), which is defined as:
the sum of type I and type II errors for variable *i* (respectively fiscal stress signals followed by no-fiscal stress episodes - False Positive signals - and no-fiscal-stress signals followed by fiscal stress episodes – False Negative signals) as from the following total misclassification error for variable *i* (TME_i): ([1])

$$t_i^* = \arg\min_{t_i \in T_i} \left(TME_i\left(t_i\right)\right) =$$

$$= \arg\min_{t_i \in T_i} \left(\frac{FN_i\left(t_i\right)}{Fs} + \frac{FP_i\left(t_i\right)}{Nfs} \right) \qquad (1)$$

$i = 1,.., n$

where T_i = set of all values taken by variable *i* over all countries and years in the panel; $FN_i(t_i)$ = total number of false negative signals sent by variable *i* (over all countries and years) based on threshold t_i; $FP_i(t_i)$ = total number of false positive signals sent by variable *i* (over all countries and years) based on threshold t_i; *Fs* = total number of fiscal stress episodes recorded in the data; *Nfs* = total number of no-fiscal-stress episodes recorded in the data; ([2]) *n* = total number of variables used.

False negatives are weighted more heavily than false positives, as missing a fiscal stress episode has more severe consequences. The rationale for this weighting is that fiscal stress episodes are relatively rare compared to no-fiscal-stress episodes. Given the potential impact of failing to predict fiscal stress, it is preferable to err on the side of caution by assigning a higher cost to type II errors (false negatives) than to type I errors (false positives). As can be seen from the minimisation problem in (1), `false negative' signals are weighted more than `false positive' signals as:

$$\frac{1}{Fs} > \frac{1}{Nfs}$$

([1]) Following this methodological approach the optimal threshold will be such as to balance between type I and type II errors. For variables for which values above the threshold would signal fiscal stress, a relatively low threshold would produce relatively more false positive signals and fewer false negative signals, meaning higher type I error and lower type II error; the opposite would be true if a relatively high threshold was chosen.

([2]) Here we simplify on the total number of fiscal stress and non-fiscal-stress episodes as in fact also these numbers vary across variables. This is due to the fact that data availability constraints do not allow us to use the whole series of episodes for all variables.

(Continued on the next page)

Box (continued)

This is due to the fact that the total number of fiscal stress episodes recorded over a (large enough) panel of countries will be typically much smaller than the total number of non-fiscal-stress episodes. This is a positive feature of the model as we might reasonably want to weigh the type II error more than the type I given the more serious consequences deriving from failing to correctly predict a fiscal stress episode relative to predicting a fiscal stress episode when there will be none.
The threshold for variable *i* (with $i = 1,\ldots, n$) obtained from (1) is common to all countries in the panel. We define it as a common *absolute* threshold (a critical value for the level of public debt to GDP, or general government balance over GDP, for instance) but it could also be defined as a common *relative* threshold (a common percentage tail of the country-specific distributions). ([3]) In the latter case, while the optimal percentage tail obtained from (1) is the same for all countries, the associated absolute threshold will differ across countries reflecting differences in distributions (country *j*'s absolute threshold for variable *i* will reflect the country-specific history with regard to that variable). Both the aforementioned methods were applied and a decision was made to focus exclusively on the first, given that the second one tends to produce sensitive country-specific absolute thresholds for variable *i* only for those countries having a history of medium to high values for the variable concerned (or medium to low, depending on what the fiscal-stress-prone side of the distribution is), while country-specific thresholds would not be meaningful for the rest of the sample.
The TME function in equation (1) is the criterion we used to calculate the thresholds but it is not the only possible criterion used in the literature. The minimisation of the noise-to-signal ratio (*NSR*) is another possible option. ([4]) In this case the optimal threshold for variable *i* (t_i^*) is obtained as:

$$t_i^* = \arg\min_{t_i \in T_i} \left(NSR_i(t_i)\right) = \arg\min_{t_i \in T_i} \left(\frac{FP_i(t_i)/Nfs}{TP_i(t_i)/Fs} \right) \quad (2)$$

$i = 1,\ldots,n$

where $TP_i(t_i)$ = total number of true positive signals sent by variable *i* (over all countries and years) based on threshold t_i. The TME minimisation was preferred to this alternative criterion based on the size of the total errors produced.

1. THE CALCULATION OF THE COMPOSITE INDICATOR S0

The early-detection indicator of fiscal stress (S0) is constructed in a similar way to what done in Baldacci et al. (2011) and Reinhart et al. (2000). ([5]) To a certain country *j* and year *t*, a 1 is assigned for every variable *i* that signals fiscal stress for the following year (a dummy d^i is created for each variable *i* such that $d^i_{jt} = 1$ if a fiscal stress signal is sent by the variable and $d^i_{jt} = 0$ otherwise, i.e. if a no-fiscal-stress signal is sent or the variable is missing). The value of the composite indicator S0 for country *j* and year *t* ($S0_{jt}$) is then calculated as the weighted number of variables having reached their optimal thresholds with the weights given by the "signalling power" of the individual variables:

$$S0_{jt} = \sum_{i=1}^{n} w_i d^i_{jt} = \sum_{i=1}^{n} \frac{z_i}{\sum_{k=1}^{n} h^k_{jt} \cdot z_k} d^i_{jt} \quad (3)$$

where n = total number of variables; z_i = 1 – (type I error + type II error) = signalling power of variable *i*; and $h^k_{jt} \in \{0,1\}$ is an indicator variable taking value 1 if variable *k* is observed for country

([3]) See, for instance, Reinhart, Goldstein and Kaminsky (2000); Hemming, Kell and Schimmelpfennig (2003).
([4]) See, for instance, Reinhart, Goldstein and Kaminsky (2000); Hemming, Kell and Schimmelpfennig (2003).
([5]) See Berti et al. (2012). The difference with Baldacci et al. (2011) is that Berti et al. do not use a system of "double weighting" of each variable incorporated in the composite indicator based on the weight of the subgroup of variables it belongs to (fiscal and financial-competitiveness variables here) and the weight of the individual variable within the group. The difference with Reinhart et al. (2000) is in the way the individual variables' weights are computed (Reinhart et al. use as weights the inverse of the noise-to-signal ratios of the individual variables as they apply the NSR criterion, rather than the TME minimisation).

(Continued on the next page)

Box (continued)

j at time *t* and 0 otherwise. ([6]) The variables are therefore assigned higher weight in the composite indicator, the higher their past forecasting accuracy. ([7])

([6]) This ensures that the sum of the weights is equal to 1 regardless of data availability (which is of course necessary to be able to analyse the evolution of the composite indicator).

([7]) Moreover, as evident from (3), the weight attached to each variable is decreasing in the signalling power attached to the other variables, as well as in the number of variables available for a given country and year.

ANNEX A3

Understanding debt dynamics: a technical breakdown

A3.1. DECOMPOSING DEBT DYNAMICS

Deterministic government debt projections are based on a general identity characterising the evolution of the stock of debt. In a simplified version, the evolution of the government debt to GDP ratio can be described in the following way:

$$d_t = \alpha^n . d_{t-1} . \frac{(1+i_t)}{(1+g_t)} + \alpha^f . d_{t-1} . \frac{(1+i_t)}{(1+g_t)} . \frac{e_t}{e_{t-1}} - pb_t + f_t \quad (1)$$

where d_t represents the total government debt to GDP ratio in year t

α^n represents the share of total government debt denominated in national currency

α^f represents the share of total government debt denominated in foreign currency

i_t represents the implicit interest rate on government debt ([241])

g_t represents the *nominal* growth rate of GDP (in national currency)

e_t represents the nominal exchange rate (expressed as national currency per unit of foreign currency)

pb_t represents the primary balance over GDP

f_t represents the stock-flow adjustments over GDP.

In order to obtain the debt dynamics, d_{t-1} is subtracted from both sides of equation (1). This gives the following expression:

$$\Delta d_t = \alpha^n . d_{t-1} . \frac{(i_t - g_t)}{(1+g_t)} + \alpha^f . d_{t-1} . \frac{(i_t - g_t) + \varepsilon_t . (1+i_t)}{(1+g_t)} - pb_t + f_t \quad (2)$$

where $\varepsilon_t = \frac{e_t}{e_{t-1}} - 1$ represents the rate of depreciation of the national currency.

Decomposing further the nominal GDP growth rate, and rearranging the different terms, we obtain:

$$\Delta d_t = d_{t-1} . \frac{i_t}{(1+g_t)} - d_{t-1} . \frac{gr_t}{(1+g_t)} - d_{t-1} . \frac{\pi_t (1+gr_t)}{(1+g_t)} + \alpha^f . d_{t-1} . \varepsilon_t . \frac{(1+i_t)}{(1+g_t)} - pb_t + f_t \quad (2)'$$

where gr_t represents the *real* growth rate of GDP

π_t represents the inflation rate (in terms of GDP deflator, in national currency)

This expression allows us identifying the key drivers of the debt ratio dynamics, in particular the snow-ball effect, which can be further decomposed into four terms:

- (+) the interest rate effect: $d_{t-1} . \frac{i_t}{(1+g_t)}$

- (-) the real GDP growth effect: $-d_{t-1} . \frac{gr_t}{(1+g_t)}$

- (-) the inflation effect: $-d_{t-1} . \frac{\pi_t (1+gr_t)}{(1+g_t)}$

- (+) the exchange rate effect: $\alpha^f . d_{t-1} . \varepsilon_t . \frac{(1+i_t)}{(1+g_t)}$

As can be easily seen from this expression, both the interest rate and the foreign exchange depreciation rate contribute to the increase of the debt ratio. On the other hand, higher real GDP growth and higher inflation erode the debt to GDP ratio. ([242])

([241]) By simplicity, it is assumed that this interest rate is the same for government debt denominated in national currency and in foreign currency.

([242]) This presentation, based on the government debt ratio identity equation, allows grasping the impact of real GDP growth and inflation on the debt motion coming from direct valuation effects (as government debt is expressed as a share of

Other key contributors to the debt motion are the primary balance (pb_t) (that is further decomposed in our tables between the structural primary balance before cost of ageing, the cost of ageing, the cyclical component and one-offs and other temporary measures) and stock and flow adjustments (f_t).

As can be seen from the exchange rate effect expression, both valuation effects affecting the *stock* of foreign currency denominated debt and *interest rate* payments (on this share of government debt) contribute to the debt dynamic. ([243]) Looking at historical series, Eurostat includes the exchange rate effect on the *stock* of foreign currency denominated debt in stock and flow adjustments, while the impact due to the cost of servicing debt in foreign currency is included in interest payments. In our tables, we follow this convention.

In practice, the equation used in our model is slightly more complex than equation (1), as we consider three currencies: the national currency, the EUR (foreign currency for non-euro area countries) and the USD (foreign currency for all countries). Hence, equation (1) becomes:

$$d_t = \alpha^{n}.d_{t-1}.\frac{(1+i_t)}{(1+g_t)} + \alpha^{eur}.d_{t-1}.\frac{(1+i_t)}{(1+g_t)}.\frac{e_t}{e_{t-1}} + \alpha^{usd}.d_{t-1}.\frac{(1+i_t)}{(1+g_t)}.\frac{\tilde{e}_{t-1}}{\tilde{e}_t}.\frac{e_t}{e_{t-1}} - pb_t + f_t \qquad (1)'$$

where α^{eur} represents the share of total government debt denominated in euros

α^{usd} represents the share of total government debt denominated in USD

e_t represents the nominal exchange rate between the national currency and the euro (expressed as national currency per EUR)

$\tilde{e}_t$ represents the nominal exchange rate between the USD and the euro (expressed as USD per EUR).

Such a specification allows taking into account the effect of exchange rate movements on government debt not only in non-euro area countries, but also in euro area countries (among which government debt issued in USD can be significant).

A3.2. PROJECTING THE IMPLICIT INTEREST RATE ON GOVERNMENT DEBT

As seen from equation (1), a key driver of the debt motion is the implicit interest rate on government debt. Projecting the implicit interest rate on government debt requires not only assumptions on *market* interest rates (for newly issued debt), but also taking into account explicitly the current and future maturity structure of government debt (between short-term and long-term government debt, and between maturing, rolled-over or not, and non-maturing government debt). This allows a differential treatment in terms of interest rates applied to successive "debt vintages", and interestingly captures different levels of exposure of sovereigns to immediate financial markets' pressures.

Formally, in our model, the implicit interest rate is expressed in the following way:

$$iir_t = \alpha_{t-1}.i_t^{ST} + (1-\alpha_{t-1}).iir_t^{LT} \qquad (3)$$

where iii_t is the implicit interest rate in year t ([244])

i_t^{ST} is the *market* short-term interest rate in year t

iir_t^{LT} is the implicit long-term interest rate in year t

α_{t-1} is the share of short-term debt in total government debt (and $(1-\alpha_{t-1})$ is the share of long-term debt in total government debt). ([245])

GDP). However, the primary balance is also influenced by economic activity and inflation. Such behavioural effects are explicitly taken into account in the fiscal reaction function scenario presented in Chapter 2 of the report.

([243]) An indirect effect, due to the fact that exchange rate movements affect the value of GDP in domestic currency through changes in prices in the tradable sector, could also be shown. However, in practice, in line with other institutions practices (e.g. IMF), these effects are not isolated (data limitation would require to impose further assumptions; effect likely to be of second-order).

([244]) This corresponds to *i* in the previous section.

Our model considers two types of government debt in terms of maturity: short-term debt (debt issued with an *original* maturity of less than one year) and long-term debt (debt issued with an *original* maturity of more than one year). Furthermore, government debt can be decomposed between new debt (debt issued to cover new financing requirements), ([246]) maturing debt (i.e. existing debt that is maturing within the year ([247]) and that needs to be repaid), rolled-over (i.e. whose repayment is covered by newly issued debt) or not, and outstanding debt (i.e. existing debt that has not reached maturity). Combining these different aspects, α_{t-1} (and $(1-\alpha_{t-1})$) used in (3) can be described as follows:

$$\alpha_{t-1} = \frac{D_{t-1}^{STN} + D_{t-1}^{STR}}{D_{t-1}} \qquad (4)$$

$$1-\alpha_{t-1} = \frac{D_{t-1}^{O} + D_{t-1}^{LTN} + D_{t-1}^{LTR}}{D_{t-1}} \qquad (5)$$

where D_{t-1}^{STN} is the new short-term government debt in year $t-1$

D_{t-1}^{STR} is the maturing and rolled-over short-term government debt (i.e. the existing short-term debt that has reached maturity, and whose repayment is covered by newly issued short-term debt)

D_{t-1}^{LTN} is the new long-term government debt

D_{t-1}^{LTR} is the maturing and rolled-over long-term government debt (i.e. the existing long-term debt that has reached maturity, and whose repayment is covered by newly issued long-term debt)

D_{t-1}^{O} is the outstanding (non-maturing) long-term government debt.

Moreover, the implicit long-term interest rate used in (3) can be further decomposed:

$$iir_t^{LT} = \beta_{t-1}.i_t^{LT} + (1-\beta_{t-1}).iir_{t-1}^{LT} \qquad (6)$$

where β_{t-1} is the share of newly issued long-term debt (corresponding to both new debt and maturing and rolled-over debt) in total long-term government debt in year $t-1$ (and $(1-\beta_{t-1})$ is the share of outstanding long-term debt in total long-term government debt)

i_t^{LT} is the *market* long-term interest rate in year t.

The share of newly issued long-term debt (respectively outstanding debt) in total long-term government debt, used in expression (6), is described as follows:

$$\beta_{t-1} = \frac{D_{t-1}^{LTN} + D_{t-1}^{LTR}}{D_{t-1}^{O} + D_{t-1}^{LTN} + D_{t-1}^{LTR}} \qquad (7)$$

$$(1-\beta_{t-1}) = \frac{D_{t-1}^{O}}{D_{t-1}^{O} + D_{t-1}^{LTN} + D_{t-1}^{LTR}} \qquad (8)$$

Hence, replacing iir_t^{LT} in (3) by its expression in (6) gives:

$$iir_t = \alpha_{t-1}.i_t^{ST} + (1-\alpha_{t-1}).\beta_{t-1}.i_t^{LT} + (1-\alpha_{t-1}).(1-\beta_{t-1}).iir_{t-1}^{LT} \qquad (3)'$$

From equation (3)', we can see that the implicit interest rate on government debt at year t is a weighted average of market short-term and long-term interest rates and of the implicit interest rate on outstanding (i.e. non-maturing) long-term debt in year $t-1$. Hence, depending on the weight of outstanding debt in total government debt, an increase of market interest rates will transmit more or less quickly to the implicit interest rate on government debt.

In the projections, the following assumptions are made:

- i_t^{LT} and i_t^{ST} are supposed to converge linearly by T+10 to the short term and 10 year long term forward rates.

([245]) Hence, as indicated by the *t* index, these shares may vary through time depending on the debt dynamic.

([246]) This amount also corresponds to the yearly budgetary deficit.

([247]) Another way to describe it is that this existing debt has a *residual* maturity of less than one year.

- After T+10, i_t^{LT} is supposed to converge linearly to 4% in nominal terms ([248]) (2% in real terms) for all countries by the T+30 horizon;

- i_t^{ST} is supposed to converge linearly to i_t^{LT} time a coefficient corresponding to the historical (pre-crisis) EA yield curve (currently 0.5) for all countries by the T+30 horizon;

- new debt (D_{t-1}^{STN} and D_{t-1}^{LTN}) is assumed to be issued in the projections, as a proportion of the variation of government debt, based on the shares given by Estat (of short-term and long-term government debt), ([249]) whenever government debt is projected to increase; ([250])

- short-term debt issued in year $t-1$ is assumed to entirely mature within the year, and to be rolled-over (D_{t-1}^{STR}) as a proportion of past government debt, based on the share of short-term government debt given by Estat, whenever government debt is projected to increase; ([251])

- a fraction of long-term debt issued in the past is assumed to mature every year, and to be rolled-over (D_{t-1}^{LTR}), whenever government debt is projected to increase. ([252]) This fraction is estimated based on Estat data on the share of long-term government debt and on ECB data on the share of existing long-term debt maturing within the year. ([253])

Finally, the values of the different variables *over the forecast horizon* (especially i_t^{LT}, i_t^{ST} and iir_{t-1}^{LT}) are set consistently with the available forecast values of the implicit interest rate (iir_t) and information on the maturity structure of debt.

A3.3. PROJECTING POTENTIAL GROWTH

The following model is solved from T+3 up to T+10 (note that as of T+6, for the EU-15 without Germany, the model for the capital and investment module deviates from the general framework below and is governed by the rules described further down in the text) ([254]):

$$YPOT_{it} = LS_{it}^{\alpha} K_{it}^{(1-\alpha)} TFPS_{it}$$

$$TFP_{it} = \frac{Y_{it}}{H_{it}^{\alpha} K_{it}^{(1-\alpha)}}$$

$$K_{it} = I_{it} + (1-\delta) K_{it-1}$$

$$I_{it} = \frac{I_{it}}{YPOT_{it}} YPOT_{it}$$

$$Y_{it} = YPOT_{it}(1 + YGAP_{it}) * 100$$

([248]) For some non-euro countries, the convergence value is higher: PL, RO: 4.5%; HU: 5%, reflecting higher inflation targets by the national central banks.

([249]) More precisely, we use the average shares over the last 3 years available.

([250]) Otherwise, in the cases where government debt is projected to decrease, for instance, in case of a budgetary surplus, no new debt needs to be issued.

([251]) Otherwise, in the cases where government debt is projected to decrease, for instance, in case of a budgetary surplus, only part of this maturing debt needs to be rolled-over (none when government debt is assumed to strongly decrease, for example, when a large budgetary surplus allows repaying past maturing debt).

([252]) See previous footnote.

([253]) More precisely, the starting point (currently 2024) is calculated based on the 2023 ECB data on the share of long-term debt that is maturing within the year. Beyond this year, it is assumed that the share of maturing long-term debt linearly converges from the value taken in the last available year (2024) to the country-specific historical average by the end of the T+10 projection horizon. Additionally, for post-program countries, IE, CY and PT, the redemption profile of official loans has been taken into account for the calculation of the long-term debt maturing within the year.

([254]) See Blondeau F., Planas C. and Rossi A. (2021), Output gap estimation using the European Union's commonly agreed methodology, *European Economy Discussion Paper*, No. 148. and Havik K., McMorrow K., Orlandi F., Planas C., Raciborski R., Roeger W., Rossi A., Thum-Thyssen A., Vandermeulen V. (2014), The Production Function Methodology for Calculating Potential Growth Rates and Output Gaps, *European Economy Economic Paper*, No. 535.

1. TFP trend: Kalman-filter extension. T+10 TFP is capped (i.e. a ceiling is imposed) for old member states (EU15) on the basis of US TFP growth.

2. Capital:

a) Investment to potential GDP ratio: ARIMA process to produce extended series (extension to avoid end-point bias for HP filter)

b) Depreciation rate: fixed T+2 rate which is calculated on the basis of the capital law of motion

c) Investment rule: (K_{it} and I_{it} as defined in the equation system above) up to T+5; after T+5: a mix between a capital rule (K_{it} defined as $K_{it-1}\frac{YPOT_{it}}{YPOT_{it-1}}$) and I_{it} defined by capital law of motion) and the investment rule for old EU-15 Member States (except DE); investment rule for all other member states. The weight of the capital-rule based investment is gradually increasing.

3. Trend labour: $LS_{it} = \left(POPW_{it}PARTS_{it}(1 - NAWRU_{it})\right)HPERES_{it}$

a) Working age population: use Eurostat projections on population growth ("proj_np")

b) Participation rate: up to T+5: HP-smoothed ARIMA process to produce extended series (extension beyond T+5 to avoid end-point bias for HP filter); for projection up to T+10 we use Ageing Working Group (AWG's) Cohort Simulation Model with a technical transition rule smoothing the break in T+6.

c) Average hours worked: ARIMA process to produce extended series up to T+5 (extension to avoid end-point bias for HP filter) and HP smoothed. From t+6 to t+10 we forecast hours using a stabilisation rule: hours(t) = hours(t-1)*1.5 – hours(t-2)*.5. Results are comparable with those from the AWG.

d) NAWRU (T+2 = last year of the ECFIN forecast):

Between T+2 and T+5:

$$NAWRU_{iT+1} = NAWRU_{iT} + \frac{NAWRU_{iT} - NAWRU_{iT-1}}{2}$$

$$NAWRU_{iT+2} = NAWRU_{iT+1}$$

$$NAWRU_{iT+3} = NAWRU_{iT+2}$$

Between T+6 and T+10: convergence rule and prudent rule

T+10 anchor based on panel regression (union density, tax wedge, almp, unemployment benefits replacement rate, demographics/education and a set of macro control variables i.e. TFP, real interest rate, construction)

4. Output gap: closure of the output gap by T+5; each year as of T+3, YGAP decreases by 1/3 of the T+2 YGAP. The gap closure rule states that the gap should be mechanically closed by year T+5.

A3.4. PROPERTY INCOME

The evolution of property income over time has been taken into account in the assessment of the medium and long-term sustainability of public finances since the 2007/08 round of assessments.

In the context of this report, property income received by Member States is considered to be the sum of returns from three categories of general government financial and non-financial assets: i) interest from debt securities – bonds, ii) dividends from equity securities – shares and iii) rents from tangible non-produced non-financial assets such as land and subsoil assets (i.e. natural resources water, mineral and fossil fuels). ([255])

([255]) This definition is somewhat narrower than the one used in national accounts, where property income (D.4) is as well the income from financial assets and non-produced non-financial assets, but sub-categories considered for these assets are more comprehensive. In national accounts the financial instruments giving rise to interest are, in addition to debt securities, monetary gold / SDRs, deposits, loans and other accounts. The use of produced non-financial assets such as buildings is a fee (P.11 / P.131).

Property income is projected up to 2070, affecting both the medium- and long-term fiscal sustainability assessment. ([256]) Property income projections are separate from and additional to present property income accounted for in the actual balances reported every year by Member States under the SCP scenario, as well as to property income reflected in the two-year forecast horizon.

In calculating the sustainability gaps, property income received by governments is explicitly modelled in a way that is different from government revenues in general. Government revenues in general are a function of the tax bases and the rates chosen by the government. Property income differs from this generalised assumption in that it is determined by market conditions rather than policy settings.

However, since the future stocks of assets and the expected rate of return on these assets that generate income for Member States' governments in the future are not always known, to render projections manageable, a number of simplifying assumptions are made.

In order to model the evolution of property income, the key assumption is that, except in the case of the building-up of pension funds, ([257]) there is no net sale or purchase of assets in the future. As such, projections for the three categories of property income rely on the general assumption that the stock of financial and non-financial assets generating this income remains constant over time ([258]) at the level of latest available data, i.e. at the values posted in T-1. This assumption implies that there is no future sale or redemption of government assets, that when short-term assets (such as bonds) mature, they are implicitly assumed to be replaced with other bonds of the same nominal value, and that property income flows received by a government from the current stock of assets are used to reimburse debt through its contribution to the general government balance, rather than to purchase other assets.

Consequently, future property income is assumed to be generated only from the upcoming returns on the assets stock and property income projections are modelled by just using further assumptions on the future evolution of the rate of return on assets.

In this sense, returns for equity and non-financial assets (rents) are generally considered to occur in line with GDP projections, whereas returns on bonds are underpinned by the additional assumptions described below.

All data for property income projections comes from Eurostat (general government property income subcategories bonds D41, equity D42 and rents D45).

Bond returns projection

These projections are based on an agreement reached in 2009 by the Economic Policy Committee's Working Group on Ageing Populations and Sustainability (AWG) and later supported in the context of the preparation of subsequent Ageing Reports, as well as on some additional assumptions.

Returns on bonds (D.41) have been considered to be as follows:

In the medium run (between T and T+30): country-specific yields on 10y government bonds apply as starting point in present year T to gradually converge to a 4% yield applied in T+30.

In the medium to long run (as of T+30): a constant 4% yield applies; this horizon and value are in line with the horizon used for government debt projections.

Equity returns projection

These projections are based on a method agreed by the AWG since 2007.

([256]) In the calculation of long-term sustainability indicators (S1 and S2), the projected path of property income is conventionally included in the sub-indicator "initial budgetary position" (IBP).

([257]) In Finland and Luxembourg, the public pension system currently registers surpluses, recorded as part of the general government headline balance. These surpluses are then used for the building-up of pension funds – and not to reduce debt -, materialising through the acquisition of financial assets (See Part II.2). In this section, we focus on the projections of government financial assets position, *abstracting from* the change in the pension fund position.

([258]) Exception are natural resources for Denmark and the Netherlands, see below.

Using income from equity - D.42 which reports distributed returns - country-specific shares of paid dividends in GDP are calculated for the last year of available data, T-1; for each country it is considered this share remains constant over the projection horizon, thereby implicitly assuming continuing valuation effects in line with nominal GDP growth.

Rents projection

These projections are based on a method agreed by the AWG since 2007.

The share of rents (D45) to GDP is calculated for the last year of available data for each country, T-1. ([259]) This share is assumed to remain constant over the projection horizon for all countries except Denmark and the Netherlands. For these two countries rich in fossil fuels the stock of subsoil assets is assumed to deplete by 2050, so that the share of rents to GDP in these countries would decline linearly to reach the EU average ([260]) by 2050.

Returns on real estate (rentals on buildings etc.) are not included in property income in the National Accounts since they are produced and often consumed by the general government.

In sum, considering these hypotheses, the projected path of property income ultimately depends on the stock of bonds held at the start of the projection period (the higher the bonds stock, the steeper the decline in property income over time) given that the return on these bonds is assumed to converge to a 4% yield in the medium-long term.

Since both elements can affect property income projections markedly, mitigating assumptions on the starting point and length of bond returns convergence aim to avoid unrealistic boosts to property income projections (and thereby too large of a required SPB adjustment), in particular in countries with significant property income shares.

([259]) This is a simplification. Rents projections should combine the size of reserves, the timing of exploitation and the euro value of the commodity (assumption).

([260]) This average excludes excluding Denmark and the Netherlands.

ANNEX A4

Stochastic debt projections: data and methodology

Stochastic debt projections are essential for understanding uncertainties in debt dynamics and ensuring robust debt sustainability analyses. Unlike deterministic projections, which provide a single outcome based on a specific scenario, stochastic projections simulate a range of possible debt trajectories, capturing risks that deterministic projections cannot. By modelling shocks to key variables such as government budgetary positions, economic growth, interest rates, and exchange rates (for non-EA countries), stochastic projections provide a comprehensive view of how uncertainties can influence debt outcomes.

The Commission's methodology for stochastic debt projections is based on a variance-covariance matrix approach and is calibrated to country-specific conditions. ([261]) This methodology, developed in 2013, incorporates historical country-specific volatility and correlations between variables to simulate potential shocks. It has been a key part of the Debt Sustainability Analysis (DSA) framework, particularly in supporting the risk classification approach introduced in 2016. Minor technical improvements were made in the 2015 Fiscal Sustainability Report and the 2023 Debt Sustainability Monitor. ([262])

This annex describes the methodology and data used for the Commission's stochastic debt projections. It is divided into four sections. Section A4.1 lists the variables subject to the stochastic shocks. Section A4.2 presents the quarterly data used to generate the stochastic shocks. Section A4.3 explains the methodology for deriving the annual stochastic shocks. Section A4.4 shows how these shocks are used to obtain the debt dynamics.

A4.1. SELECTING VARIABLES FOR STOCHASTIC SHOCKS

The key drivers of debt dynamics can be captured by the debt accumulation equation:

$$d_t = \alpha^n d_{t-1} \frac{1+i_t}{1+g_t} + \alpha^f d_{t-1} \frac{1+i_t}{1+g_t} \frac{e_t}{e_{t-1}} - b_t + c_t + f_t$$

where d_t is the components of the equation are the total government debt-to-GDP ratio in year t, α^n and α^f represent the shares of total debt denominated in national currency and foreign currency, i_t stands for the implicit interest rate, g_t for the nominal GDP growth rate, e_t is the nominal exchange rate expressed in national currency per unit of foreign currency, b_t represents the primary balance over GDP (before ageing costs) (b_t), c_t is the change in age-related costs over GDP in year t relative to the starting year ([263]) and f_t stands for the stock-flow-adjustments (SFA) over GDP.

Stochastic shocks are simulated around the baseline for five variables of the debt accumulation equation, namely: the primary balance, the nominal short- and long-term interest rates, the nominal GDP growth rate and the exchange rate (for non-EA countries). ([264])

A4.2. DATA

To ensure sufficiently long time series for the stochastic projections, quarterly data are used to compute the historical variance-covariance matrix. Eurostat is the primary source for

([261]) The approach is based on Berti, K. (2013), Stochastic public debt projections using the historical variance-covariance matrix approach for EU countries, *European Economy. Economic Papers*, No. 480. and on Beynet and Paviot (2012), Assessing the sensitivity of Hungarian debt sustainability to macroeconomic shocks under two fiscal policy reactions, *OECD Economics Department Working Paper*, No. 946.

([262]) Direct shocks to the primary balance were added in Fiscal Sustainability Report 2015 (see European Commission (2016), Fiscal Sustainability Report 2015, *European Commission Institutional Paper*, No. 18). Improvements in the data collection and the data treatment were implemented in the Debt Sustainability Monitor 2023 (see European Commission (2024), Debt Sustainability Monitor 2023, *European Commission Institutional Paper*, No. 271, March, Annex A4.5).

([263]) The latter are net of taxes on pension. Property income are also included in this variable.

([264]) In the simulations, SFA are not subject to stochastic shocks.

the quarterly data, with missing observations filled in using data from two additional sources: the European Central Bank (ECB) and the Organisation for Economic Co-operation and Development (OECD). Specifically, data for the government primary balance, nominal GDP growth rate and nominal exchange rate are taken from Eurostat (see Table A4.1 for an overview). Data for nominal short-term interest rates come from Eurostat and the Organisation for OECD. Nominal long-term interest rates are taken from Eurostat and the ECB.

The definitions of the variables generally follow the ones used for the Commission's deterministic projections. As a rule, these align with the definitions used for the Commission's annual projections. The (quarterly) primary balance series is calculated as the sum of headline balance and interest payments and it is seasonally adjusted using the Census X-12-ARIMA approach. Small differences in the definitions of the interest rate series exist for Bulgaria and Estonia due to data availability issues. ([265])

The sample period ranges from Q1 2000 to Q3 2024 for most countries. The sample period ranges from Q1 2000 to Q3 2024 for most countries. By starting the sample in 2000, the analysis excludes the years of significant structural adjustments that occurred during the run-up to the creation of European Monetary Union (EMU). The uniform starting point in Q1 2000 ensures consistency across countries and is based on two key considerations: (i) it maintains a sufficiently long time series for countries that joined the EU after 2000 and (ii) it ensures an almost balanced panel. Table A4.1provides details on missing observations.

Outliers are identified and addressed using a winsorising approach. For each variable and country within the sample period, the 5th and 95th percentiles are determined based on the sample period. Observations falling outside these thresholds are considered outliers and replaced by the closest percentile value. The winsorising approach ensures the consistent treatment of outliers across countries, using a state-of-the-art methodology.

A4.3. METHODOLOGY FOR DETERMINING STOCHASTIC SHOCKS

The annual stochastic shocks are determined in four steps:

1. ***Transformation of (quarterly) variables into historical shocks***: Each macroeconomic variable x is transformed into a series of historical quarterly shocks (δ_q^x), defined as the first difference of the quarterly time series of the five macroeconomic variables:

$$\delta_q^x = x_q - x_{q-1}$$

with x equal to pb, i^{ST}, i^{LT}, g and e (for non-EA countries).

2. ***Calculation of the variance-covariance matrix***: The variance-covariance matrix for the historical quarterly shocks of the five variables is calculated. The variance-covariance matrix captures country-specific conditions, namely the observed volatility in the past and the correlation between the different variables and provides the basis for simulations over the 5-year projection period.

3. ***Run Monte Carlo simulations***: 10 000 random vectors of quarterly shocks are generated over the 5-year projection period, assuming a joint normal distribution with zero mean and variance-covariance matrix identical to that of historical quarterly shock. Although the assumption of a joint normal distribution may not perfectly match the empirical distributions observed in the data, it is strategically chosen for two main reasons. First, it simplifies the computational processes involved in the simulations, making the analysis more manageable. Second, it reduces the likelihood of drawing extreme outliers that could significantly distort the projections and lead to less reliable scenarios.

([265]) Nominal short-term interest rates, as measured by the three-month money market rates, are not available in Eurostat for Bulgaria after 1 July 2018 and were replaced by OECD data. Nominal long-term interest rates, as measured by the long-term government interest rates (EMU convergence criterion), are not available for Estonia between January 2000 and May 2020 and were replaced by ECB data on bank interest rates. For more details see Table A.4.1.

4. ***Aggregation into annual shocks***: The quarterly shocks (ε_q) are then aggregated into annual shocks of the five variables as described below.

4.1. It is assumed that the shocks to the GDP growth rate, the primary balance, the exchange rate and the short-term interest rate only affect the year t in which they occur but are not persistent. The annual shock to these variables (z) in year t (ε_t^z) is then determined by the sum of the quarterly shocks, i.e.:

$$\varepsilon_t^z = \sum_{q=1}^{4} \varepsilon_q^z$$

4.2. It is assumed that the shock on the long-term interest rate (i^{LT}) is persistent. The reason is that the long-term debt issued/rolled over at the time of the shock remains in the debt stock at the market rate prevailing at the time of issue for all years until maturity. ([266]) A shock to the long-term interest rate in year t is therefore carried over to the following projection years in proportion to the share of maturing debt that is progressively rolled over. ([267]) The definition of the annual shock to the long-term interest rate depends on the average weighted maturity of debt. ([268])

4.2.1. For countries where the *average weighted maturity of debt* is equal to or greater than the number of projection years (T = 5 years), the annual shock ($\varepsilon_t^{i^{LT}}$) in the first projection year (t = 1) is calculated by the sum of the quarterly shocks, i.e.:

$$\varepsilon_t^{i^{LT}} = \frac{1}{T} \sum_{q=1}^{4} \varepsilon_q^{i^{LT}}$$

In the following four projection years (t = 2, …, 5), the annual shocks are calculated by averaging the effect of the current year and those of the previous year(s), i.e.:

$$\varepsilon_t^{i^{LT}} = \frac{\mathrm{t}}{T} \sum_{q=-(\mathrm{n}-1)*4}^{4} \varepsilon_q^{i^{LT}}$$

where in each year q = -4, -8, -12, -16 points to the first quarter of the previous one to four years, respectively, indicating that the calculation considers the impact of interest rate changes from those quarters on the current year's long-term interest rate shock.

4.2.2. For countries where the *average weighted maturity of debt is less than the number of projection years (T < 5)*, the above equations are adjusted accordingly to reflect a shorter carry-over of past shocks. For example, for countries with an average weighted maturity of three years (T = 3), the annual shock to the long-term interest rate is defined in the first and second projection year (t = 1) is defined as:

$$\varepsilon_t^{i^{LT}} = \frac{t}{3} \sum_{q=1}^{4} \varepsilon_q^{i^{LT}}$$

In the second projection year (t = 2) the shock is:

$$\varepsilon_t^{i^{LT}} = \frac{t}{3} \sum_{q=-4}^{4} \varepsilon_q^{i^{LT}}$$

In the third, fourth and fifth projection year (t = 3, …, 5), the shock is calculated as follows:

([266]) The implicit assumption made here is that long-term government bonds are issued at fixed interest rates only.

([267]) Country-specific data on the share of short- and long-term debt are provided by Eurostat and are updated each autumn.

([268]) Data for the average weighted maturity of debt by country come from the ECB and national sources if needed and are updated each autumn.

$$\varepsilon_t^{i^{LT}} = \sum_{q=-8}^{4} \varepsilon_q^{i^{LT}}$$

Finally, the shock to the implicit interest rate *i* $\left(\varepsilon_t^i\right)$ is calculated as the weighted average of the annual shocks to the short- and long-term interest rates, i.e.:

$$\varepsilon_t^i = \alpha^{ST} \varepsilon^{i^{ST}} + \alpha^{LT} \varepsilon^{i^{LT}}$$

where α^{ST} is the share of short-term debt in total government debt and $\alpha^{LT} = (1 - \alpha^{ST})$ reflect the share of long-term debt in total government debt. These shares are taken from Eurostat. ([269])

A4.4. APPLYING STOCHASTIC SHOCKS TO THE BASELINE

The stochastic debt projections assume that the shocks to the baseline are temporary. The annual shocks are applied to the baseline value of the variables as follows:

$b_t = \bar{b}_t + \varepsilon_t^b$ with $\bar{b}_t$ = baseline (from standard deterministic projections) primary balance at year *t*

$g_t = \bar{g}_t + \varepsilon_t^g$ with $\bar{g}_t$ = baseline (from standard deterministic projections) nominal GDP growth at year *t*

$i_t = \bar{\imath}_t + \varepsilon_t^i$ with $\bar{\imath}_t$ = baseline (from standard deterministic projections) implicit interest rate at year *t*

$e_t = \bar{e}_t + \varepsilon_t^e$ with $\bar{e}_t$ = baseline (from standard deterministic projections) nominal exchange rate at year *t*

In other words, if the shock in year *t* were equal to zero, the value of the variable would be the same as in the standard deterministic baseline projections.

The shocks are then entered into the debt accumulation equation to calculate debt ratios over a five-year horizon. All the steps described in Section A4.4 are repeated 10 000 times. This provides annual distributions of the debt ratio over the five projection years, from which we extract the percentiles to construct the fan charts.

([269]) More precisely, we use the average shares over the last three years available.

Table A4.1: **Overview of data sources to compute the historical variance-covariance matrix for the stochastic debt projections**

Variable	Frequency	Definition	Source
Exchange rate	Quarterly	Nominal exchange rate, average in national currency (= national currency for 1 euro). *Note:* Exchange rate shocks are only considered for the following six countries: CZ, DK, HU, PL, RO and SE. Since BG pegged its exchange rate to the Euro in 2005, no exchange rate volatility is expected in the future and hence no exchange rate shock is considered.	Eurostat (AVG-NAC in database ERT-BIL-EUR-Q)
Nominal GDP growth	Quarterly	Gross domestic product at current prices, million units of national currency, percentage change compared to corresponding period of previous year, seasonally and calendar adjusted data *Note:* Missing values for MT (Q1 2000 to Q4 2000)	Eurostat (national account indicator: B1GQ, unit of measure: CP_MNAC, dataset: NAMQ_10_GDP)
Short-term interest rate	Quarterly (derived from monthly averages)	Three-month money market rates, in percent per annum *Note:* • The short-term interest rate for euro area countries is identical and measured by the Euribor. For countries that joined the euro area during the sample period (EE in 2011, LV in 2014, LT in 2015 and HR in 2023), the Euribor is used between 2000 and euro area entry. • BG: Production of SOFIBOR reference rate was discontinued by the national central bank as of 1 July 2018; data filled with OECD data (see source on the right column)	Eurostat (interest rate: IRT_M3, time frequency: M, dataset: IRT_H_MR3_M OECD - Monthly Monetary and Financial Statistics (MEI)
Long-term interest rate	Quarterly (derived from monthly averages)	Government long-term interest rates (EMU convergence criterion), in percent per annum *Note*: Missing values: • CZ (Q1 2000) • CY, HU, LT, LV, MT, PL, SK (Q1 2000 to Q4 2000) • SI (Q1 2000 to Q4 2001) • BG (Q1 2000 to Q4 2002) • RO (Q1 2000 to Q1 2005) • HR (Q1 2000 to Q3 2005) • EE (Jan 2000 - May 2020) missing values are filled with ECB bank interest rate data (see source on the right column)	Eurostat (interest rate: MCBY, time frequency: M, dataset: IRT_LT_MCBY_M) ECB – MIR - MFI Interes Rate Statistics (MIR.M.EE.B.A2C.I.R.A.2 250.EUR.N; MIR.M.EE.B.A2L.A.R.A.2 230.EEK.N)
Primary balance - Net lending/ borrowing	Quarterly	Net lending/borrowing as percentage of GDP	Eurostat (national account indicator: B9, sector: S13, seasonal adjustment: NSA, unit c

(Continued on the next page)

Table (continued)

			measure: PC_GDP, time frequency: Q, dataset: GOV_10Q_GGNFA)
- Interest payable	Quarterly	Interest expenditure as a percentage of GDP, unadjusted data *Note:* Missing values: • AT (Q1 2000 to Q4 2000) • DE, EE, IE, LU (Q1 2000 to Q4 2001) • All countries (Q3 2023)	Eurostat (national account indicator: D41PAY, sector: S13, seasonal adjustment: NSA, unit c measure: PC_GDP, time frequency: Q, dataset: GOV_10Q_GGNFA)

Source: Commission services.

ANNEX A5

The long-term fiscal sustainability indicators (S1, S2)

This annex explains the methodology behind the Commission's long-term fiscal sustainability analysis. Long-term fiscal sustainability relates to the achievement of governments' intertemporal budget constraints. This constraint, also known as the solvency condition, refers to a country's capacity to meet its net debt obligations through future primary surpluses. Other things being equal, the higher the projected cost of ageing, the more difficult it is to fulfil the intertemporal budget constraint as higher revenues – in present terms – are required to cover these costs, in addition to the other non-interest expenditure and debt service.

A5.1. METHODOLOGY OF THE S1 AND S2 INDICATORS

Notations

t: time index. Each period is one year.

t_0: last year before the fiscal adjustment (2025 in this report).

$t_0 + 1$: first year of the long-term projection period (i.e. year of the fiscal adjustment).

t_1: final year of the long-term projection period (2070), which also corresponds to the target year for the debt ratio (relevant for S1).

Notice that $t_0 < t_1$.

D_t: debt-to-GDP ratio (at the end of year t).

PB_t: ratio of primary balance to GDP.

$\Delta PB_t \equiv PB_t - PB_{t_0}$: change in the primary balance relative to the base year t_0. In the absence of fiscal adjustment, it equals the change in age-related expenditure.

$\Delta A_t \equiv A_t - A_{t_0}$: change in age-related costs relative to the base year t_0.

ΔPI_t: change in property income relative to the base year t_0.

CC_t: cyclical component of the general government balance (only relevant in the first years, by definition, it is zero over the long term as it vanishes with the closure of the output gap).

$SPB_t = PB_t - CC_t + one\text{-}offs_t$: ratio of structural primary balance to GDP, i.e. cyclically adjusted primary balance net of one-off and other temporary measures.

r: differential between the nominal interest rate and the nominal GDP growth rate i.e. $1 + r \equiv \frac{1+R}{1+G}$, where R and G are, respectively, the nominal interest rate and the nominal growth rate.

If the interest-growth rate differential is time-varying, we define:

$$\alpha_{s;v} \equiv (1 + r_{s+1})(1 + r_{s+2}) \dots (1 + r_v)$$

$$\alpha_{v;v} \equiv 1$$

as the accumulation factor that transforms 1 nominal unit in period s to its period v value.

Debt dynamics

By definition, the debt-to-GDP ratio evolves according to:

$$D_t = (1 + r_t)D_{t-1} - \mathrm{PB}_t. \qquad (1)$$

That is, the debt ratio at the end of year t, D_t, is the sum of three components: the debt ratio at the end of the previous year (D_{t-1}), interest accrued on existing debt during year t ($r \times D_{t-1}$) and the negative of the primary balance ($-\mathrm{PB}_t$).

Repeatedly substituting for D_t, the debt ratio at the end of some future year $T > t$ can be expressed similarly, as:

$$D_T = D_{t-1}\alpha_{t-1;T} - \sum_{i=t}^{T}(\mathrm{PB}_i\alpha_{i;T}). \tag{2}$$

The path of the debt ratio is thus determined by the initial debt ratio, accrued interest (net of growth) and the path of primary balances from t through T.

Derivation of the S1 indicator

The S1 indicator is defined as the immediate and permanent one-off improvement in the structural primary balance that is required to bring the debt ratio to 60% of GDP by year t_1 (2070).

In addition to accounting for the need to adjust the initial intertemporal budgetary position and the debt level, it incorporates financing for any additional expenditure arising from an ageing population until the target date.

Under the assumed immediate and permanent one-off consolidation, the change in the primary balance is thus given by

$$\mathrm{PB}_i = \mathrm{SPB}_{t_0} + S_1 - \Delta A_i + \Delta PI_i + CC_i \tag{3}$$

$$\text{for } i > t_0$$

Using (2), the debt ratio target D_{t_1} can then be written as:

$$D_{t_1} = D_{t_0}\alpha_{t_0;t_1} - \sum_{i=t_0+1}^{t_1}\left(\mathrm{PB}_i\alpha_{i;t_1}\right) \tag{4}$$

Replacing (3) into (4) yields:

$$D_{t_1} = D_{t_0}\alpha_{t_0;t_1} - \sum_{i=t_0+1}^{t_1}\left(\mathrm{SPB}_{t_0} + S_1\right)\alpha_{i;t_2} + \sum_{i=t_0+1}^{t_1}\left((\Delta A_i - \Delta PI_i - CC_i)\,\alpha_{i;t_1}\right) \tag{5}$$

After some straightforward manipulations ([270]), we can decompose the S1 into the following main components:

$$S_1 = \underbrace{\frac{D_{t_0}(\alpha_{t_0;t_1}-1)}{\sum_{i=t_0+1}^{t_1}(\alpha_{i;t_1})} - \mathrm{SPB}_{t_0} - \frac{\sum_{i=t_0+1}^{t_1}(\Delta PI_i\alpha_{i;t_1})}{\sum_{i=t_0+1}^{t_1}(\alpha_{i;t_1})} - \frac{\sum_{i=t_0+1}^{t_1}(CC_i\alpha_{i;t_1})}{\sum_{i=t_0+1}^{t_1}(\alpha_{i;t_1})}}_{A} + \underbrace{\frac{D_{t_0}-D_{t_1}}{\sum_{i=t_0+1}^{t_1}(\alpha_{i;t_1})}}_{B} + \underbrace{\frac{\sum_{i=t_0+1}^{t_1}(\Delta A_i\alpha_{i;t_1})}{\sum_{i=t_0+1}^{t_1}(\alpha_{i;t_1})}}_{C} \tag{6}$$

where (A) is the initial budgetary position (IBP, i.e. the gap to the debt-stabilising primary balance); (B) the required additional adjustment due to the debt target; and (C) the additional required adjustment due to the cost of ageing.

Derivation of the S2 indicator

The intertemporal budget constraint and the S2 indicator

According to a generally invoked definition, fiscal policy is sustainable in the long term if the present value of future primary balances is equal to the current level of debt, that is, if the intertemporal government budget constraint (IBC) is met. Let us define the S2 as the immediate and permanent one-

([270]) Add and subtract D_{t_0} on the LHS of (5), divide on both sides by $\sum_{i=t_0+1}^{t_1}(\alpha_{i;t_1})$ and group the terms as in (6).

off fiscal adjustment that would ensure that the IBC is met. This indicator is appropriate for assessing long-term fiscal sustainability in the face of ageing costs ([271]).

Since the S2 indicator is defined with reference to the intertemporal government budget constraint (IBC), we first discuss which conditions are required for the IBC to hold in a standard model of debt dynamics. From (2), the debt-to-GDP ratio at the end of any year $t > t_0$ is given by:

$$D_t = D_{t_0}\alpha_{t_0;t} - \sum_{i=t_0+1}^{t}\left(PB_i\alpha_{i;t}\right). \tag{7}$$

Rearranging the above and discounting both sides to their time t_0 values, we obtain the debt ratio on the initial period:

$$D_{t_0} = \left(\frac{D_t}{\alpha_{t_0;t}}\right) + \sum_{i=t_0+1}^{t}\left(\frac{PB_i}{\alpha_{t_0;i}}\right). \tag{8i}$$

Assuming an infinite time horizon ($t \to \infty$) we get:

$$D_{t_0} = \lim_{t\to\infty}\left(\frac{D_t}{\alpha_{t_0;t}}\right) + \lim_{t\to\infty}\sum_{i=t_0+1}^{t}\left(\frac{PB_i}{\alpha_{t_0;i}}\right) = \lim_{t\to\infty}\left(\frac{D_t}{\alpha_{t_0;t}}\right) + \sum_{i=t_0+1}^{\infty}\left(\frac{PB_i}{\alpha_{t_0;i}}\right) \tag{8ii}$$

Either both of the limits on the right-hand side of equation (8ii) fail to exist or, if one of them exists, so does the other.

Let us define the *no-Ponzi game condition* (also called the *transversality condition*) for debt sustainability, namely that the discounted present value of debt (in the very long term or at the infinite horizon) will tend to zero:

$$\lim_{t\to\infty}\left(\frac{D_t}{\alpha_{t_0;t}}\right) = 0 \tag{9i}$$

Condition (9i) means that asymptotically, the debt ratio cannot grow at a rate equal or higher than the (growth-adjusted) interest rate, which is what would happen if debt and interest were systematically paid by issuing new debt (i.e. a Ponzi game).

Combining the no-Ponzi game condition (9i) with (8ii), one obtains the intertemporal budget constraint, stating that a fiscal policy is sustainable if the present discounted value of future primary balances is equal to the initial value of the debt ratio.

$$D_{t_0} = \sum_{i=t_0+1}^{\infty}\left(\frac{PB_i}{\alpha_{t_0;i}}\right) \tag{9ii}$$

On the other hand, substituting the intertemporal budget constraint (9ii) into (8ii) implies the no-Ponzi game condition. This shows that the no-Ponzi game condition (9i) and the IBC (9ii) are, in fact, equivalent.

Assuming that the intertemporal budget constraint is satisfied through a permanent, one-off fiscal adjustment whose size is given by the S2, from $t_0 + 1$ onwards we can write:

$$PB_i = SPB_{t_0} + S_2 - \Delta A_i + \Delta PI_i + CC_i \quad \text{for} \quad i > t_0. \tag{10}$$

Then the intertemporal budget constraint (9ii) becomes

([271]) Note that the derivation of S2 does not assume that either the initial sequence of primary balances or the fixed annual increase (S2) are optimal according to some criterion. S2 should be considered as a benchmark and not as a policy recommendation or as a measure of the actual adjustment needed in any particular year.

$$D_{t_0} = \sum_{i=t_0+1}^{\infty} \left(\frac{SPB_{t_0} + S_2 - \Delta A_i + \Delta PI_i + CC_i}{\alpha_{t_0;i}} \right). \quad (9iii)$$

Here the ratio of primary balance to GDP, PB_t, is re-expressed in terms of the required annual additional effort, S2, and the change in age-related costs relative to the base year t_0 (as well as the change in property income and the cyclical component), combining equation (10) with equation (9ii).

According to the theory on the convergence of series, necessary conditions for the series in equation (9ii)-(9iii) to converge are for the initial path of primary balances to be bounded and the interest rate differential at the infinite horizon to be positive ([272]). The latter is equivalent to the modified golden rule, stating that the nominal interest rate exceeds the real growth rate (i.e. $\lim_{t\to\infty} r_t > 0$) ([273]).

After some rearranging ([274]), we can disaggregate the S2 into the following two components:

$$S_2 = \underbrace{\frac{D_{t_0}}{\sum_{i=t_0+1}^{\infty}\left(\frac{1}{\alpha_{t_0;i}}\right)} - \mathrm{SPB}_{t_0} - \frac{\sum_{i=t_0+1}^{\infty}\left(\frac{\Delta PI_i + CC_i}{\alpha_{t_0;i}}\right)}{\sum_{i=t_0+1}^{\infty}\left(\frac{1}{\alpha_{t_0;i}}\right)}}_{A} + \underbrace{\frac{\sum_{i=t_0+1}^{\infty}\left(\frac{\Delta A_i}{\alpha_{t_0;i}}\right)}{\sum_{i=t_0+1}^{\infty}\left(\frac{1}{\alpha_{t_0;i}}\right)}}_{B} \quad (11)$$

where (A) is the initial budgetary position, i.e. the gap to the debt-stabilising primary balance ([275]); and (B) the additional required adjustment due to the cost of ageing.

If the interest-growth rate differential r is constant, the accumulation factor simplifies to $\alpha_{s;v} = (1+r_{s+1})(1+r_{s+2})\dots(1+r_v) = (1+r)^{v-s}$. Then equation (10) can be simplified further by noting that:

$$\sum_{i=t_0+1}^{\infty}\left(\frac{1}{\alpha_{t_0;i}}\right) = \sum_{i=t_0+1}^{\infty}\left(\frac{1}{(1+r)^{i-t_0}}\right) = \frac{1}{r} \quad (12)$$

Thus, for a constant discounting factor, (11) can be rewritten as:

$$S_2 = \underbrace{rD_{t_0} - \mathrm{SPB}_{t_0} - r\sum_{i=t_0+1}^{\infty}\left(\frac{\Delta PI_i + CC_i}{\alpha_{t_0;i}}\right)}_{A} + \underbrace{r\sum_{i=t_0+1}^{\infty}\left(\frac{\Delta A_i}{\alpha_{t_0;i}}\right)}_{B} \quad (13i)$$

If the interest-growth rate differential and the structural primary balance are constant after a certain date (here $t_1 = 2070$), equation (11) can be rewritten as:

$$S_2 = \frac{D_{t_0}}{\sum_{i=t_0+1}^{2069}\left(\frac{1}{\alpha_{t_0;i}}\right) + \frac{1}{r\,\alpha_{t_0;2069}}} - \mathrm{SPB}_{t_0} - \frac{\sum_{i=t_0+1}^{2069}\left(\frac{\Delta PI_i + CC_i}{\alpha_{t_0;i}}\right) + \frac{\Delta PI_{2070} + CC_{2070}}{r\,\alpha_{t_0;2069}}}{\sum_{i=t_0+1}^{2069}\left(\frac{1}{\alpha_{t_0;i}}\right) + \frac{1}{r\,\alpha_{t_0;2069}}} + \frac{\sum_{i=t_0+1}^{2069}\left(\frac{\Delta A_i}{\alpha_{t_0;i}}\right) + \frac{\Delta A_{2070}}{r\,\alpha_{t_0;2069}}}{\sum_{i=t_0+1}^{2069}\left(\frac{1}{\alpha_{t_0;i}}\right) + \frac{1}{r\,\alpha_{t_0;2069}}} \quad (13ii)$$

where $r_t = r$ and $\Delta A_t = \Delta A_{2070}$ for $t \geq t_1 = 2070$.

([272]) The latter is an application of the ratio test for convergence.

([273]) See Escolano (2010) for further details on the relationships among the stability of the debt ratio, the IBC and the no-Ponzi game condition.

([274]) In addition, constant multiplicative terms are systematically taken out of summation signs.

([275]) In practical calculations, the present value of property income is also accounted for in the initial budgetary position. Property income enters the equation in an identical manner as age-related costs ΔA_t (i.e. term (B)), but with an opposite sign.

Derivation of the steady state debt level (at the end of the projection period) corresponding to S2

Assuming that the intertemporal budget constraint is satisfied and that the primary balance and the interest-growth rate differential are constant at their long-run levels after the end of the projection period, the debt ratio remains constant at the value attained at the end point of the projection period (i.e. at $t_1 = 2070$). To see this, rewrite (9ii) as:

$$D_{t_0} = \sum_{i=t_0+1}^{\infty} \left(\frac{PB_i}{\alpha_{t_0;i}}\right) = \sum_{i=t_0+1}^{t_1} \left(\frac{PB_i}{\alpha_{t_0;i}}\right) + \sum_{i=t_1+1}^{\infty} \left(\frac{PB_i}{\alpha_{t_0;i}}\right) \tag{14i}$$

Using (7) and the fact that for $t \geq t_1$ the primary balance and interest-growth rate differential stay constant at $\mathrm{PB}_t = \mathrm{PB}_{t_1}$, (14i) can be rearranged to obtain the debt ratio at t_1:

$$D_{t_1} = D_{t_0}\alpha_{t_0;t_1} - \sum_{i=t_0+1}^{t_1} \left(PB_i \alpha_{i;t_1}\right) = \sum_{i=t_1+1}^{\infty} \left(\frac{PB_i}{\alpha_{t_1;i}}\right) = \sum_{i=1}^{\infty} \left(\frac{PB_{t_1}}{(1+r_{t_1})^i}\right) = \frac{PB_{t_1}}{r_{t_1}} \tag{14ii}$$

Generalising the above to each $t \geq t_1$ by using (7) with the initial year changed to t_1 instead of t_0, (15) shows that for each year after t_1, the debt ratio remains unchanged at this value:

$$\begin{aligned} D_t = D_{t_1}\alpha_{t_1;t} - \sum_{i=t_1+1}^{t} \left(PB_i \alpha_{i;t}\right) = \frac{PB_{t_1}}{r_{t_1}}(1+r_{t_1})^{t-t_1} - PB_{t_1} \sum_{i=t_1+1}^{t} (1+r_{t_1})^{t-i} = \\ = \underbrace{\left[(1+r_{t_1})^{t-t_1} - r_{t_1}\left(\frac{1-(1+r_{t_1})^{t-t_1}}{1-(1+r_{t_1})}\right)\right]}_{=1} \frac{PB_{t_1}}{r_{t_1}} = \frac{PB_{t_1}}{r_{t_1}} \equiv \overline{\overline{D}} \quad \text{for} \quad t \geq t_1 \end{aligned} \tag{15}$$

where $\overline{\overline{D}}$ is the constant debt ratio reached after the end of the projection period.

Using (4), the primary balance at the end of the projection period can be calculated as:

$$PB_{t_1} = SPB_{t_0} + \Delta PI_{t_1} + CC_{t_1} + S_2 - \Delta A_{t_1} \tag{16}$$

Replacing (16) into (15), the constant (steady-state) debt ratio ($\overline{\overline{D}}$) is given by:

$$\overline{\overline{D}} = \frac{PB_{t_1}}{r_{t_1}} = \frac{SPB_{t_0} + \Delta PI_{t_1} + CC_{t_1} + S_2 - \Delta A_{t_1}}{r_{t_1}} \tag{17}$$

$$\text{for} \quad t \geq t_1$$

The S2 adjustment implies that the sum of debt and the discounted present value of future changes in age-related expenditure is (approximately) constant over time.

Replacing equations (16) and (13i) into (15), and assuming a constant interest rate differential, the following equation is obtained:

$$D_t + \sum_{i=t+1}^{\infty} \left(\frac{\Delta A_i}{(1+r)^{i-t}}\right) - \sum_{i=t+1}^{\infty} \left(\frac{\Delta PI_i + CC_i}{(1+r)^{i-t}}\right) = D_{t_0} + \sum_{i=t_0+1}^{\infty} \left(\frac{\Delta A_i}{(1+r)^{i-t_0}}\right) - \sum_{i=t_0+1}^{\infty} \left(\frac{\Delta PI_i + CC_i}{(1+r)^{i-t_0}}\right) \tag{18}$$

Equation (18) can be interpreted as follows. Implementing a permanent annual improvement in the structural primary balance amounting to S2, which is both necessary and sufficient to secure intertemporal solvency, implies that the sum of explicit debt (the first term on both sides) and the variation in age-related expenditure or implicit debt (the second terms on both sides) is (approximately) constant over time. Equation (17) is exact in the steady state (e.g. after 2070), holding only as an approximation during transitory phases (i.e. for time-varying interest rate differentials) ([276]).

([276]) Moreover, equations (17) and (18) imply that both the debt and the variation in age-related expenditure are constant over time in the steady state.

A5.2. INTERPRETATION OF THE S1 AND S2 INDICATORS

S2 indicator

The S2 indicator is the central element of the long-term sustainability analysis. It is based on the infinite version of the government budget constraint. More specifically,

this fiscal sustainability gap indicator shows the *permanent* adjustment in the structural primary balance in 2026 that is required to stabilise the debt-to-GDP ratio over the infinite horizon ([277]);

- the upfront adjustment is assumed to take place in 2026, with the structural primary balance kept constant at the adjusted value beyond 2026;
- the 2025 structural primary balance – the primary balance adjusted for the cycle and one-off fiscal measures – as provided by the Commission 2024 autumn forecast serves as the starting point, providing a proxy for the 'no-fiscal policy change' assumption;
- over the T+10 horizon, GDP projections are based on the EU Commonly Agreed Methodology (EUCAM) updated with the Commission 2024 autumn forecast;
- ageing costs as projected in the 2024 Ageing Report are accounted for as from 2026 onwards, as this change in expenditure affects the structural primary balance ([278]);
- beyond the T+10 horizon, long-term interest rate assumptions and GDP projections are from the 2024 Ageing Report. Over the long term, a progressive normalisation of financing conditions is assumed, with the 'r-g' differential stabilising at around 1 pp. for the EU.
- the following thresholds are used to assess the scale of the sustainability challenge: if the S2 value is lower than 2 pps. of GDP, the country is assigned 'low risk'; if the S2 is between 2 and 6 pps. of GDP, the country is assigned 'medium risk'; and if the S2 is above 6 pps. of GDP, the country is assigned 'high risk'. These threshold values are identical to those applied in earlier reports.

S2's focus on the intertemporal budget constraint is relevant. It is a well-established element of long-term fiscal sustainability assessments relevant to cater for numerous factors, such as changes in the interest rate-growth differential that have been putting upward pressure on public finances in recent years; or ageing costs that are projected to increase in many countries, putting permanent pressure on the primary balance. Historically high debt levels in several Member States, a succession of crises and rising structural headwinds underscore the relevance of assessing fiscal sustainability challenges also over the long term.

S2 measures the size of long-term fiscal imbalances without relying on a specific debt target. The intertemporal budget constraint implies that public debt stabilises in the long term, in the sense that future structural primary balances cover future debt servicing and ageing costs. It does not consider the level at which debt stabilises and thus it does not reflect risks linked to high debt levels. The adjustment implied by the S2 indicator might in fact lead to debt stabilising at (very) high levels. As a result, based solely on S2, some countries might be deemed on a sustainable fiscal path despite the fact that their debt ratios stabilise at high levels ([279]).

To address this shortcoming, the S1 indicator is used to complement the S2 indicator for the long-term fiscal risk assessment ([280]). As described above, the S2 indicator provides an

([277]) See Annex A5 for the precise calculation of the S indicators.

([278]) The S indicators include pension expenditure net of taxes on pensions and compulsory social security contributions paid by pensioners, as well as healthcare, long-term care and education expenditure.

([279]) For a detailed discussion of the strengths and shortcomings of the S2 indicator, see Box 3.2 in the Debt Sustainability Monitor 2017.

([280]) Until the Debt Sustainability Monitor 2022, the long-term fiscal risk assessment was based on the S2 indicator and the DSA. For a detailed description of the change from the DSA to a revised S1 indicator as a complement to the S2 indicator, see Box 3.1 of the Debt Sustainability Monitor 2022.

important but incomplete signal for the assessment of long-term fiscal risks. The S1 indicator is thus used as a complementary indicator that imposes a restriction on the level at which debt stabilises.

S1 indicator

S1 is a fiscal gap indicator that relies on a finite version of the budget constraint, imposing convergence to a debt target of 60% of GDP. More specifically,

- S1 measures the upfront fiscal adjustment in the structural primary balance required to reach a government debt-to-GDP ratio of 60% in 2070, the endpoint of the 2024 Ageing Report projections;
- this upfront adjustment is assumed to take place in 2026, i.e. the first projection year;
- as done for the S2 indicator, the 2025 structural primary balance as provided by the Commission 2024 autumn forecast provides the starting point;
- as done for the S2 indicator, ageing costs are explicitly accounted for as of 2026;

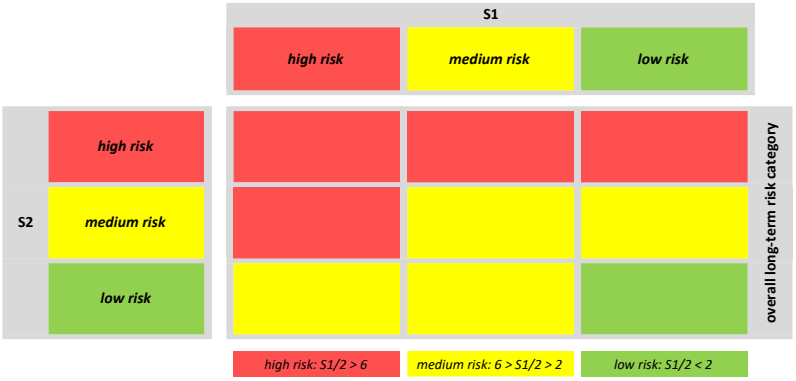
in terms of risk signal, the S1 thresholds are aligned with the S2 thresholds, i.e. if the S1 value is lower than 2 pps. of GDP, the country is assigned 'low risk'; if S1 is between 2 and 6 pps. of GDP, the country is assigned 'medium risk'; and if S1 is above 6 pps. of GDP, the country is assigned 'high risk'.

While S1 and S2 are both fiscal gap indicators that measure the required fiscal effort to achieve long-term fiscal goals, two differences exist. *First*, the components of S1 and S2 differ. They have two components in common, namely the initial budgetary position – the required adjustment to stabilise government debt – and the future cost of ageing. However, in the case of S1, there is also the 'debt requirement' component: the required adjustment to arrive at a debt-to-GDP ratio of 60% in 2070. For a high-debt country, everything else unchanged, this third component will be positive and implies that S1 > S2. *Second*, S1 and S2 depend on present values that are calculated over different periods. Anything that weighs on public finances over an infinite horizon, rather than only until 2070, will imply a larger present value. In the case of Belgium, for instance, the cost of ageing is projected to be higher in 2070 than it is now. If one assumes that this high level does not stop in 2070 but continues over an infinite horizon (as is done when calculating S2), the present value of this 'eternal' high cost is larger. The same holds for interest expenditure, implying that stabilising a high debt ratio over an infinite horizon is more demanding than over around 50 years, resulting in a higher initial budgetary position.

A5.3. AGGREGATING S1 AND S2 INTO THE OVERALL LONG-TERM RISK CLASSIFICATION

The overall long-term risk classification is based on the S2 indicator, complemented by the S1 indicator. Table 1 shows how S2 and S1 indicators combine into the overall long-term risk classification. The S1 signal can downgrade the outcome based on S2 by one notch, but it can never upgrade the S2 signal.

Table A5.1:**Determination of overall long-term risk classification**



Source: Commission services.

ANNEX A6

Additional risk factors: Estimating the fiscal impact of simulated bank losses with the SYMBOL model

SYMBOL approximates the probability distributions of individual bank's losses using publicly available information from banks' financial statements. In particular, the model estimates an average implied default probability of the individual banks' asset/loan portfolios by inverting the Basel FIRB formula for capital requirements ([281]).

The analysis relies on the latest available unconsolidated banks' balance sheet data (as of end-2023), covering commercial, saving, and cooperative banks. The sample includes 2635 EU banks and accounts for around 75% of the total assets of the EU banking system. The sample ratio changes for each Member States ranging from 31% in Ireland to higher than 100% in Finland and Estonia. ([282]) This variability calls for a cautious reading of the results, notably for Member States with a low coverage ratio (i.e., low share of total assets) and small number of banks as any change in the data could have large effects on results.

The main data source on banks' financial statements is Orbis Bank Focus, a commercial database of the private company Bureau van Dijk (part of Moody's analytics). For the reference year 2023, unconsolidated data for commercial, saving and cooperatives banks are included. The data as provided by Orbis Bank Focus occasionally lacks information on specific variables for some banks in the sample (e.g., capital, risk weighted assets, provisions, gross non-performing loans). In those cases, capital is imputed via a robust regression by using common equity, while risk weighted assets are approximated using the total regulatory capital ratio (at bank or country level). While gross loans are available for all banks, values for provisions and non-performing loans are available only for two thirds of the sample. Missing values for provisions have thus been estimated by country aggregates coming from the EBA dashboard ([283]), while missing values for non-performing loans have been imputed by applying a robust regression using provisions as explanatory variable. Recovery rates (country aggregates) are taken from the World Bank (2020 Doing Business report).

Information on the sample is presented in Table A6.1 reports statistics at aggregated Member State level. The sample covers approximately 75% of all EU banking assets. When the sample, as illustrated in Table A6.1, either includes a small number of banks or covers a low share of total assets, results should be interpreted with caution, since a minor change to any bank's data or the addition of a new bank could have significant effects on results.

([281]) European Commission (2016) Section 5.2.2 and Annex A7 for more detail on the SYMBOL model.

([282]) The sample ratio refers to ratio between the sample total assets (source: Orbis Bank Focus) and the population total assets (source: ECB), and it is used to adjust (by upscaling or downscaling) the amount of SYMBOL potential losses. The sample ratio changes per Member States. Usually, when this ratio is above 100%, this reflects discrepancy issues due to different accounting principles between the ECB data and the balance sheet from the Orbis Bank Focus database. In the case of Finland and Estonia, the final balance sheets include higher Total Assets than the value collected and reported by the ECB (December 2023).

([283]) EBA Risk Dashboard - data as of Q4 2023.

Table A6.1:**Descriptive statistics of samples used for SYMBOL simulations**

	Sample ratio *(Sample TA/ Population TA)*	Nbr.of banks	Total assets (TA)	Capital	Risk weighted assets (RWA)	NPL	Reserve	Covered deposits	GDP
	%		EUR bn	EUR bn	EUR bn	EUR bn	EUR bn	EUR bn	EUR bn
BE	73.55%	23	961	63	325	8	4	343	585
BG	93.22%	17	83	9	41	2	1	40	94
CZ	78.63%	17	294	23	100	3	2	138	306
DK	44.06%	46	528	52	198	4	4	113	374
DE	67.71%	1052	6644	502	277	52	20	2173	4121
EE	97.31%	3	39	4	19	0	0	20	38
IE	29.69%	23	448	56	266	4	3	136	505
EL	94.38%	6	296	29	147	8	4	134	220
ES	93.41%	95	2662	213	1238	38	24	885	1462
FR	75.27%	140	8702	445	2289	62	29	1467	2803
HR	96.92%	19	78	8	34	2	2	261	76
IT	75.69%	293	2676	228	1058	46	33	868	2085
CY	90.45%	21	60	5	22	1	0	27	30
LV	101.42%	9	23	3	11	0	0	11	40
LT	71.32%	4	37	3	15	0	0	26	72
LU	34.94%	35	368	36	152	4	2	38	79
HU	61.65%	8	117	14	57	1	2	40	196
MT	67.96%	8	29	3	11	0	0	16	19
NL	66.89%	15	1758	129	605	13	3	586	1034
AT	89.08%	391	892	91	400	12	6	260	477
PL	70.05%	128	488	42	205	11	10	237	751
PT	92.06%	90	360	33	154	5	6	178	266
RO	86.33%	15	132	12	55	2	3	55	325
SI	77.37%	8	42	5	21	0	0	25	63
SK	95.57%	8	99	8	51	1	1	41	123
FI	93.48%	103	590	45	199	5	2	153	278
SE	47.95%	77	760	56	205	4	3	200	548
EU27	70.55%	2654	29166	2117	8155	288	164	8471	16970

(1) 2023 unconsolidated data.

Source: Commission services.

1. The systemic model of banking-originated losses (SYMBOL)

1.2. The SYMBOL model at glance: A modelling framework for assessing public finances risks

The systemic model of banking-originated losses (SYMBOL) is a micro simulation model developed jointly by the European Commission's JRC and DG FISMA to simulate banking crises and estimate the distribution of banking sector losses at country level, accounting for all the cushioning layers of the legal safety net available to absorb shocks (capital, bail-in, resolution funds). SYMBOL can be used to assess how losses originating in banks' balance sheets potentially affect public finances due to government interventions to recapitalise banks.([284]) As input, it considers a rich dataset covering unconsolidated balance sheet data of banks in EU Member states.([285]) Assessing risks for public finances with SYMBOL involves the following steps:

Overall, the SYMBOL results are estimated by calculating the *Expected Shortfall* of the more extreme realisations of the common factor, which might be considered as the general economic cycle. In

([284]) The analysis does not include all second-round effects, which could also result from the fiscal impact of possible bank failures. According to the European Commission (2016 and 2019), the relationship between the government's budget and the balance sheets of banks is not uni-directional, but rather circular and dynamic. However, the analysis presented here does not consider all dynamic effects, which are deemed beyond the scope. For example, it does not account for the fact that a downgrade of sovereign bonds can decrease the value of bank assets, leading to increased funding costs and further downgrades for banks.

([285]) SYMBOL provides the important advantage of allowing incorporating features of the national banking systems, while remaining within a unified conceptual framework across EU Member States. In particular, in a DSA context, it takes into account the distribution of the size (total assets), the asset quality (risk-weighted assets or RWA), and the capitalisation (regulatory and total capital) of each Member State's banking sector. All these elements can lead to important cross-country differences in terms of simulated losses and recapitalisation needs pointing to heterogeneous level of fiscal risks stemming from the banking sector.

practice, we select the simulations where the factor is above a threshold (three standard deviations) to compute the *Expected Shortfall* of the portfolio, namely the average value in the tail of the distribution, which represents the expected value of the portfolio losses in a crisis event. This calibration of the *Expected Shortfall* computation is in line with the crisis event defined in previous reports using the SYMBOL model.

1.3. Simulating banks' losses

Starting from the estimated average probability of default of the asset portfolio of each bank, SYMBOL generates realisations for each individual bank's credit losses using the Basel Foundation Internal Rating Based (FIRB) loss distribution function and assuming a correlation between simulated shocks hitting different banks in the system. ([286]) More formally, the output of the model is a matrix of losses, $L_{n,i}$:

$$L_{n,i} = LGD \cdot N\left[\sqrt{\frac{1}{1-R}}N^{-1}(IOPD_i) + \sqrt{\frac{R}{1-R}}N^{-1}(\alpha_{n,i})\right]$$

where *n* denotes a simulation run, *i* indicates the bank, *LGD* is the Loss Given Default, $IOPD_i$ is the average implied obligors' probability of default, R_i is the coefficient of correlation among different obligators of $Bank_i$, and *N* is the normal distribution function, $N^{-1}(a_{n,i})$ are correlated normal random shocks with correlation ρ.

The correlation structure among the simulated shocks across different financial institutions assumes that the different banks are hit in the national system, due to their common exposure to a common factor, i.e., the business cycle.([287]) That correlation is reinforced by including a '*fire sales* mechanism', which intensity is linked to size of the common shock underpinning the degree of asset correlation and eventually the asset value. This reflects that during a major crisis, many banks will be jointly engaged in asset selling activity to keep their liquidity positions, resulting in an overall deterioration of the asset values in all banks, that in turn would generate further losses and liquidity needs. Specifically, the correlated normal random shocks $\alpha_{n,i}$ includes a bank-specific element and a common factor across financial institutions, as follows:

$$N^{-1}(\alpha_{n,i}) = l \times Z_n + \sqrt{1-l^2} \times W_{n,i}$$

1.4. Determining banks' insolvency event and obtaining the aggregated distribution of losses

Based on the matrix of correlated losses, the failure of a bank is determined by comparing the size of simulated losses L_i and the regulatory capital available to absorb the shocks. A $bank_i$ is assumed insolvent and has excess losses $ExL_{n,i}$, when simulated losses ($L_{n,i}$) exhaust the sum of expected losses (EL_i) and total actual capital K_i, as follows:

Failure ≡ $L_{n,i} - EL_{n,i} - K_i > 0$

$$ExL_{n,i} = max(L_{n,i} - EL_{n,i} - K_i, 0)$$

In line with the Basel rules, recapitalisation needs([288]) (i.e. funds necessary to restore the bank's minimum level of capitalisation) up to a given level (i.e. 4.5%, 8% or 10.5%) of risk weighted assets (RWA) are also factored in the losses in excess of capital. EU27 aggregate losses and recapitalisation needs are obtained by summing the individual losses in excess of capital plus recapitalisation needs of all distressed banks at country level (both failed and undercapitalised banks) in each simulation *j*:

([286]) The correlation is assumed to be 0.5 for all banks in the current simulation. All EU banks are simulated together.

([287]) By the impact on individual banks (e.g., on CET1) following an economic financial stress on the economy, the SYMBOL modelling framework looks at the consequences in terms of systemic losses when bank losses are correlated.

([288]) The recapitalisation needs are considered recoverable, as the capital injection is exchanged for shares (resulting in partial government ownership of the bank), which is recorded as a financial transaction affecting neither the deficit nor the net debt, but only the gross debt through the stock-flow adjustment. This is valid under the assumption that such recapitalisations meet the following criteria of the Eurostat's decisions on the statistical recording of public interventions to support financial institutions and markets: the financial instrument used ensures a sufficient non-contingent rate of return and the State Aid rules are complied with (see March 2013 Decision and the earlier July 2009 Decision).

$$ExLR_{n,i} = max(L_{n,i} - EL_{n,i} - K_i + 10.5\%\ RWA_i, 0)$$

1.5. Accounting for asset quality and non-performing loans

Since NPLs have been a significant concern for banks and supervisors, the SYMBOL model includes specific adjustments in the reference stress scenario (based on the current situation) only, reflecting the potential insufficient provisioning for NPLs in a severe banking crisis. The model reflects risks that banks face in relation to asset quality in case of a banking crisis, taking into account how current stocks of non-performing loans (NPLs) would contribute to losses in national banking systems in each country. Namely, it assumed that non-collateralised NPLs would turn into loan losses for a Member States in case of systemic banking event, while the collateralised NPL are redeemable subject to a recovery rate. This mechanism generates extra losses, which might materialise even for banks not yet failed, and are added to those coming from the SYMBOL simulations before the intervention of any safety net tools. For the simulations based on the current situation, i.e., with impacts within a year time, extra loan losses from NPLs ($NPLLosses_i$) are added to those obtained from the SYMBOL simulation before the intervention of any safety net tools. Specifically, for each $bank_i$ and each $country_j$ potential loans losses from NPLs are as follows:

$$NPLLosses_i = (1 - CollShares_i) \times NPL_i + Collshares_i \times NPL_i \times (1 - RR_i) - Provisions_i$$

where RR_j is the recovery rate, *Collshares* ([289]) represents the proportion of total loans covered by collateral in country *j*. *Provisions* and *NPL* are respectively, the amount of provisions and gross non-performing loans declared by bank *i* in its balance sheet. We consider two different modelling assumption for the recovery rates. The first method uses a constant recovery rate per Member States calibrated on data provided by the World Bank. ([290])A second more sophisticated attempt builds on a result by Jarrow and Turnbull (2000), showing that the recovery rate is related to the state of economy. As many other authors (see Schlafer and Uhrig-Homburg 2014, Madan and Unal 1998, Gaspar and Slinko 2008), we therefore assume that the recovery rate distribution follows a beta distribution with two parameters. We calibrate the parameters so that the mean of the distribution equals the country recovery rate reported by the Word Bank and the standard deviation is equal to 10%. This second approach is used as a stress testing device, in conjunction with the introduction of a common factor to mimic a fire sale mechanism. ([291])

1.6. A "fire sale" mechanism for the severe stress scenario

Building on the reference stress scenario, the severe stress scenario is introduced as a robustness check to test the impact of an extreme hypothetical situation with a partial failure of the assumption that the safety nets can completely prevent contagion. To this end, a 'fire sales' mechanism is formally included, which assumes that, during a systemic financial crisis, banks that are exposed to the same shock would have a common negative impact on the value of the assets and would be forced to liquidate assets to keep their liquidity position. This generates a fire-sales environment that is included by increasing the asset correlation among banks.

During a crisis, banks will sell assets to keep their liquidity positions. In this case, as many banks jointly engage in such selling activity, asset value in all banks tends to deteriorate, generating further losses and liquidity needs. This increases the correlation among realised losses across different financial institutions in the presence of a bigger downturn, and severity of the crisis, compared to the *reference stress* scenario.

([289]) Based on ECB available here: www.sdw.ecb.europa.eu/browse.do?node=9689685.

([290]) Based on country data provided by the World Banks in its Flagship Report "Doing Business 2020" available here: https://www.doingbusiness.org/en/doingbusiness

([291]) From the beta distribution, we generate the recovery rate corresponding to the common factor, after mapping the values for the common factor from a normal into those of a uniform distribution.

In addition, NPL losses are modelled by linking the level of recovery rates to the size of the common shock. Hence, a larger common shock implies a more intense severe fire sales' mechanism and a larger correlation between realised gross losses This reflects the markets' pressure to clean up their balance sheets during a financial crisis, and to what extent the dynamics are correlated across countries.

To mimic such mechanism, we make specific assumptions on the correlation of our normal random shocks. These shocks $\alpha_{n,i}$ can be decomposed into a bank-specific element and a factor that is common across institutions and represents the status of the economy (this can be seen as the first principal component of the economic cycle). ([292]) Formally, these shocks are defined as follows:

$$N^{-1}(\alpha_{n,i}) = l \times Z_n + \sqrt{1 - l^2} \times W_{n,i}$$

where $W_{n,i}$ are the idiosyncratic (bank-specific) shocks, Z_n is the common factor and l refers to the correlation with the common factor (factor loadings). Depending on the intensity of Z_n, which represents the size of the economic crisis, we set the factor loading l, which is in turn equal to the correlation ρ in the original model, between 0.5 and 0.9: the worst the status of economy, the higher the correlation between assets in bank's portfolios is. Notably, we set the following:

$$Z_n \begin{cases} \leq 1.00 \rightarrow \rho = 0.50 \\ \leq 1.25 \rightarrow \rho = 0.58 \\ \leq 1.50 \rightarrow \rho = 0.62 \\ \leq 1.75 \rightarrow \rho = 0.66 \\ \leq 2.00 \rightarrow \rho = 0.70 \\ \leq 2.25 \rightarrow \rho = 0.74 \\ \leq 2.50 \rightarrow \rho = 0.78 \\ \leq 2.75 \rightarrow \rho = 0.82 \\ \leq 3.00 \rightarrow \rho = 0.86 \\ > 3.00 \rightarrow \rho = 0.90 \end{cases}$$

Despite the fact that the standard version of the model has been using a fixed value for the correlation (namely equal to 0.5), there have been other analyses where the (fixed) correlation value has been allowed to vary and its impact on resulting losses has been assessed. For example, Benczur et al. (2017) allows for different degrees of commonality by different shock correlation structure and Di Girolamo et al. (2017) describe an attempt to capture the correlation structure existing across banks using balance sheet data.

2. Regulatory framework and scenarios assumptions

Three pieces of legislation are considered: the Capital Requirement Regulation and Directive IV (CRR, CRDIV) ([293]), which improved the definitions of regulatory capital and risk-weighted assets, increased the level of regulatory capital by introducing the capital buffers, including extra capital buffers for European Global Systematically Important Institutions (G-SIIs) and Other Systemically Important Institutions (O-SII) ([294]); the Bank Recovery and Resolution Directive (BRRD) ([295]), which introduced bail-in ([296]) and national resolution funds ([297]), and the Single Resolution Mechanism Regulation (SRMR), ([298]) which established the Single Resolution Board and the Single Resolution Fund (SRF).

The (2025 short-term) reference stress scenario with safety net in progress comprises:

([292]) The methodology is based on Andersen (2003).

([293]) See European Parliament and Council (2013).

([294]) Very few banks which are OSII are affected by extra buffer (not considered).

([295]) See European Parliament and Council (2014a).

([296]) A legal framework ensuring that part of the distressed banks' losses are absorbed by unsecured creditors. The bail-in tool entered into force on 01/01/2016.

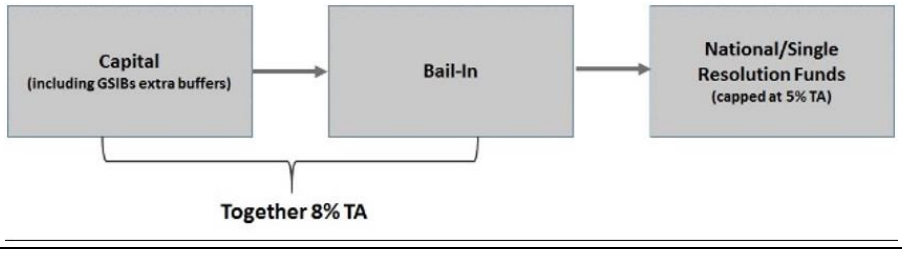
([297]) Funds financed by banks to orderly resolve failing banks, avoiding contagion and other spill-overs.

([298]) See European Parliament and Council (2014b).

- Asset correlation is fixed to 50% (traditional SYMBOL assumption, compatible with default regulatory parameter);
- Bank total capital and initial risk-weighted assets (RWAs) taken directly from the banks' balance sheets.
- Current stocks of non-performing loans contribute to losses in the banking system of each country and their magnitude has been estimated as explained in the main text.
- Extra capital buffers for European Global Systematically Important Institutions (G-SIIs) prescribed by the Financial Stability Board (FSB) are considered as well as Other Systemically Important Institutions (O-SII) buffers.
- Bail-in: modelled as a scenario whereby a Loss Absorbing Capacity (LAC) is built to represent, together with regulatory capital, 8% of total assets (TA). This assumption is necessary due to data restrictions on MREL at the necessary granularity level. ([299])
- Resolution Funds - national (NRFs, for Member States not part of the Banking Union) and single (SRF, for Banking Union members) – completely phased-in and contributing to resolution absorbing losses up to 5% of the TA of the insolvent bank, provided that at least 8% LAC has already been called in. No backstop (other than public finances) nor ex-post contributions ([300]) are considered.
- No deposit guarantee scheme contribution or intervention is modelled.

Graph A6.1 illustrates the order of intervention of different tools. The first cushion assumed to absorb simulated losses is capital, the second tool is bail-in, and the last are RFs, as legally foreseen ([301]) .

Graph A6.1: **Implemented order of intervention of the safety net tools**



Source: Commission services.

Leftover financial needs after the safety net cascade

SYMBOL also allows splitting final potential losses into excess losses (i.e., losses in excess of total capital) and recapitalisation needs (before and after the private safety nets). This provides differentiated impacts of these two types of funding needs that could be borne by public finances. Hence, potential bank losses in excess of capital, usually covered by capital injections (subsidies) in the banking sector, are considered to affect public deficit and debt. As for recapitalisation needs, they are

([299]) This would be close to reality for banks over 100bn in size where MREL is at least 8% TLOF. But for smaller banks, MREL can be below 8%. In addition, in the SYMBOL model, potential contagion across banks through bail-in is disregarded due to scarce data. Moreover, the model assumes that contagion across global systemically important banks (GSIBs) due to the bail-in has been already addressed by the EU banking reform package, where crossholdings of total loss-absorbing capacity (TLAC) instruments are to be deducted between GSIBs.

([300]) Given the aim to portray worst-case fiscal consequences, ex-post contributions to the NRFs/SRF are not modelled, but these can actually go up to 3 times the ex-ante contributions, further reducing the impact on public finances.

([301]) Additional tools are available to absorb residual losses and recapitalisation needs, including additional bail-in liabilities, leftover resolution funds and the deposit guarantee scheme. See Benczur et al. (2015) for a discussion. In addition, by 2024 at the latest a common backstop to the SRF will be introduced.

assumed be recouped (and thus "reintegrating" public finances at a later stage) as government receives shares in the bank in exchange. Consequently, recapitalisation needs are assumed to only affect gross debt (through stock-flow adjustments).

Hence, when estimating the impact of potential bank losses on public finances, SYMBOL implements the loss allocation cascade according to the legislation currently into force to partly cover excess losses and recapitalisation needs before any potential involvement of general government. Throughout the cascade of safety net interventions, it can then be traced how much of each of these two types of financing needs are picked up by the different tools. If after depletion of capital, a bank is failing or left undercapitalised with respect to the minimum level established in the scenarios, the bail-in tool is applied at individual bank level up to 8% of its total liabilities and own funds (TLOF) (or total assets, TA). ([302]) If this is not enough, and a Resolution Fund (RF) is available, it is then assumed to intervene up to 5% of the total assets of each bank.([303]) Given that the sample coverage in terms of the number and total assets of banks in the sample is not complete, the RF is assumed to have ex-ante funding equal to the appropriate percentage of covered deposits of the banks in the sample. Any leftover losses or recapitalisation needs not covered after all available tools have intervened are finally assumed to be covered by the government, after being scaled to take into account the ratio between the total assets (TA) in the sample and the population of all banks. The results of the different layers of the cascade of saftey nets both under the refernce stress and severe stress scenarios are shown in Tables A6.2 and A6.3 below).

Calibrating the heat map for *theoretical* probability of public finances being hit by more than 3% of GDP, in the event of a severe crisis

The model allows estimating the probability distribution of the amount of public funds needed to cover losses after exhausting the protection provided by the financial safety net. To obtain the input for the heat map on government's implicit contingent liability risks, a minimum size of government's contingent liabilities is fixed, and the theoretical probability of the materialisation of the event is assessed.

([302]) The Bank Recovery and Resolution Directive (BRRD) does not establish a harmonised level of liabilities eligible for bail-in, but Art. 44 sets out that the RF can kick in only after shareholders and holders of other eligible instruments have made a contribution to loss absorption and recapitalisation of at least 8% of total liabilities and own funds (TLOF). Since bank-level data on bail-inable liabilities is unavailable, the bail-in tool is modelled by imposing that individual banks hold a loss absorbing capacity of at least 8% of their TLOF. In practice banks with total capital under this threshold are assumed to meet the 8% minimum threshold via bail-inable liabilities. In the simulations, bail-in stops once the 8% of total assets limit has been reached. If a bank holds capital above 8% of TA, there would be no bail-in, but capital might be bearing losses above 8% of TLOF.

([303]) Art. 44 of the Bank Recovery and Resolution Directive (BRRD) sets out that the contribution of the resolution financing arrangement cannot exceed 5% of the total liabilities. (except in the case when as per Art. 44(7) BRRD all, unsecured, non-preferred liabilities, other than eligible deposits have been written down or converted in full, in such case the resolution financing arrangement can make an additional contribution from resources, which have been raised through ex-ante contributions) . In case of excess demand for Single Resolution funds (SRF) , funds are rationed in proportion to demand (i.e., proportionally to excess losses and recapitalisation needs after the minimum bail-in, capped at 5% of TA at bank level). Given that the coverage in terms of the number and total assets of banks in the sample is not complete, the RF is assumed to have ex-ante funding equal to the appropriate percentage of covered deposits of the banks in the sample.

Table A6.2:**Reference stress scenario: Leftover financial needs after safety nets tool (% of GDP, 2023)**

	Recapitalization at 4.5%			Recapitalization at 8%			Recapitalization at 10.5%		
	Excess losses plus recap	Excess losses plus recap after bail in	Excess losses plus recap after RFs	Excess losses plus recap	Excess losses plus recap after bail in	Excess losses plus recap after RFs	Excess losses plus recap	Excess losses plus recap after bail in	Excess losses plus recap after RFs
BE	0.2%	0.1%	0.0%	0.3%	0.2%	0.1%	0.4%	0.2%	0.1%
BG	0.1%	0.1%	0.0%	0.1%	0.1%	0.0%	0.1%	0.1%	0.1%
CZ	0.1%	0.0%	0.0%	0.1%	0.1%	0.0%	0.2%	0.1%	0.0%
DK	0.1%	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
DE	0.2%	0.1%	0.0%	0.3%	0.1%	0.0%	0.3%	0.1%	0.0%
EE	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.1%	0.1%
IE	0.2%	0.2%	0.1%	0.3%	0.3%	0.2%	0.5%	0.5%	0.4%
EL	0.1%	0.1%	0.1%	0.2%	0.2%	0.1%	0.3%	0.3%	0.2%
ES	0.2%	0.2%	0.1%	0.5%	0.4%	0.2%	0.7%	0.6%	0.3%
FR	0.3%	0.1%	0.0%	0.5%	0.2%	0.1%	0.7%	0.3%	0.1%
HR	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.1%	0.0%
IT	0.1%	0.1%	0.0%	0.2%	0.2%	0.1%	0.4%	0.3%	0.1%
CY	0.1%	0.1%	0.0%	0.1%	0.1%	0.0%	0.1%	0.1%	0.1%
LV	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%
LT	0.1%	0.1%	0.0%	0.1%	0.1%	0.0%	0.2%	0.1%	0.0%
LU	0.6%	0.5%	0.3%	1.8%	1.6%	1.1%	3.9%	3.6%	2.7%
HU	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.1%	0.0%
MT	0.1%	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
NL	0.2%	0.1%	0.1%	0.3%	0.2%	0.1%	0.3%	0.2%	0.1%
AT	0.1%	0.1%	0.0%	0.2%	0.1%	0.0%	0.2%	0.2%	0.1%
PL	0.1%	0.1%	0.0%	0.1%	0.1%	0.0%	0.2%	0.2%	0.0%
PT	0.1%	0.1%	0.0%	0.2%	0.1%	0.0%	0.2%	0.2%	0.1%
RO	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%
SI	0.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.1%	0.1%	0.0%
SK	0.4%	0.4%	0.2%	0.8%	0.8%	0.5%	0.9%	0.9%	0.6%
FI	0.2%	0.1%	0.1%	0.3%	0.2%	0.2%	0.4%	0.2%	0.2%
SE	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.2%	0.0%	0.0%

Source: Commission services.

Table A6.3:**Severe stress scenario: Leftover financial needs after safety nets tool (% of GDP, 2023)**

	Recapitalization at 4.5%			Recapitalization at 8%			Recapitalization at 10.5%		
	Excess losses plus recap	Excess losses plus recap after bail in	Excess losses plus recap after RFs	Excess losses plus recap	Excess losses plus recap after bail in	Excess losses plus recap after RFs	Excess losses plus recap	Excess losses plus recap after bail in	Excess losses plus recap after RFs
BE	0.5%	0.2%	0.1%	0.9%	0.4%	0.3%	1.2%	0.6%	0.4%
BG	0.1%	0.1%	0.1%	0.3%	0.3%	0.1%	0.4%	0.4%	0.2%
CZ	0.2%	0.2%	0.1%	0.4%	0.3%	0.1%	0.5%	0.3%	0.2%
DK	0.2%	0.2%	0.1%	0.3%	0.3%	0.2%	0.3%	0.3%	0.2%
DE	0.4%	0.2%	0.1%	0.7%	0.3%	0.1%	0.8%	0.3%	0.2%
EE	0.1%	0.1%	0.1%	0.2%	0.2%	0.1%	0.3%	0.3%	0.2%
IE	0.4%	0.4%	0.3%	0.8%	0.8%	0.6%	1.3%	1.3%	1.0%
EL	0.3%	0.2%	0.2%	0.6%	0.5%	0.3%	0.9%	0.8%	0.6%
ES	0.6%	0.5%	0.3%	1.3%	1.0%	0.7%	1.9%	1.5%	1.1%
FR	0.8%	0.2%	0.1%	1.4%	0.4%	0.2%	1.9%	0.7%	0.4%
HR	0.1%	0.1%	0.0%	0.2%	0.2%	0.0%	0.3%	0.3%	0.0%
IT	0.3%	0.3%	0.1%	0.6%	0.5%	0.3%	1.0%	0.8%	0.5%
CY	0.3%	0.2%	0.2%	0.4%	0.4%	0.3%	0.5%	0.5%	0.3%
LV	0.1%	0.1%	0.0%	0.1%	0.1%	0.1%	0.2%	0.2%	0.1%
LT	0.2%	0.1%	0.1%	0.4%	0.3%	0.1%	0.5%	0.3%	0.2%
LU	1.7%	1.4%	1.0%	4.9%	4.4%	3.4%	9.1%	8.3%	7.0%
HU	0.1%	0.1%	0.0%	0.2%	0.2%	0.1%	0.2%	0.2%	0.1%
MT	0.2%	0.1%	0.1%	0.3%	0.2%	0.1%	0.3%	0.3%	0.2%
NL	0.5%	0.3%	0.2%	0.9%	0.6%	0.4%	1.0%	0.6%	0.4%
AT	0.3%	0.2%	0.1%	0.5%	0.4%	0.2%	0.6%	0.5%	0.2%
PL	0.2%	0.2%	0.1%	0.3%	0.3%	0.2%	0.5%	0.4%	0.2%
PT	0.2%	0.2%	0.1%	0.4%	0.4%	0.2%	0.6%	0.5%	0.3%
RO	0.1%	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
SI	0.1%	0.1%	0.1%	0.2%	0.2%	0.1%	0.4%	0.4%	0.2%
SK	0.7%	0.7%	0.4%	1.2%	1.2%	0.9%	1.4%	1.4%	1.1%
FI	0.4%	0.3%	0.2%	0.7%	0.4%	0.3%	0.8%	0.5%	0.4%
SE	0.2%	0.1%	0.1%	0.3%	0.1%	0.1%	0.4%	0.2%	0.1%

Source: Commission services.

Table A6.4: **Detailed SYMBOL scenarios description, 10.5% level of recapitalisation**

Components: / *Scenario:*	**Asset correlation**	**Total regulatory capital**	**RWAs**	**Bail-in**	**National/ Single RF**	**Recapitalization**	**Extra losses due to NPLs**	**Deposit Guarantee Scheme**	**Banks in resolution**
Reference stress scenario	50%	Total capital	RWA Adjusted	Yes Total capital plus bail-in 8% TA	Yes, 5% TA cap, after LAC of 8% has been called in full target No ex-post contributions	10.5% RWA Adjusted + Buffers	- Yes to all banks - NPL - Recovery rate as reported by World Bank	No	Random significant banks
Severe stress scenario	Depending on common factor	Total capital	RWA Adjusted	Yes Total capital plus bail-in 8% TA	Yes, 5% TA cap, after LAC of 8% has been called in full target No ex-post contributions	10.5% RWA Adjusted + Buffers	- Yes to all banks - NPL - Recovery rate follows a country specific	No	Random significant banks

(1) The size of the Single Resolution Fund was on Q2 2021 €52 billion (https://www.srb.europa.eu/en/content/single-resolution-fund#build-up) which is around 65% of its target size (i.e. 1% of deposits, around €80 billion)
Source: Commission services.

5. EBA stress test on banks vs. SYMBOL stress test on public finances

Although both exercises look at the European banking system during a potential crisis of similar overall magnitude in terms of aggregate losses (expressed as a percentage of banks' risk weighted assets (RWA), a brief comparison between the SYMBOL methodology and results with the European Banking Authority' (EBA) banking system stress test clarifies their different aims, assumptions and methodologies underlying the two approaches.

5.1 Objectives and Methodology

The aim of the EBA stress test ([304]) is to assess the resilience of EU banks to severe shocks, assess the sufficiency of bank capitalisation in a significantly adverse macro-economic and financial scenario, foster market discipline, and feed the Supervisory Regulatory and Evaluation Process. The stress test is conducted at highest possible **consolidated group level** and input data is gathered using a detailed template at bank level, further enriched by a centralised scenario and top-down model. As such, the framework is a bottom – up exercise where banks apply the relevant EBA methodology via their internal modelling tools. From a methodological point of view, the EBA stress test is a **deterministic model** with fixed adverse scenarios. The EBA prescribes a static balance sheet assumption to the banks, with a scenario that incorporates shock at sectoral level. This makes the final losses comparable across banks in the sample. Crucially, the exercise is only focusing on the potential impact on banks' capital, with no hurdle rate set. **Any potential subsequent recapitalisation need, safety net mechanisms intervention or second round effects are not part of the stress testing exercise and therefore not considered in the framework.**

The purpose of the SYMBOL exercise is to feed a stress test of public finances in case of systemic banking sector crisis. To this end, the model is used to obtain an estimate of the aggregate losses and recapitalisation needs which might not be covered by bank capital and existing financial safety net mechanisms in a very adverse scenario. Under certain conditions, these losses might remain as *implicit* contingent liabilities for public finances. In this context, SYMBOL simulations are conducted at **non-consolidated subsidiary level**. Inputs are gathered using highly aggregated publicly available balance sheet data gathered via ORBIS Bankfocus, supplemented with publicly available data from various sources including EBA, the ECB and AMECO. The SYMBOL model is a bottom-up **stochastic simulation model** with model parameters calibrated from these balance sheet data and past observed financial crises. Losses to all banks are simulated simultaneously for a variety of shock magnitudes that are at least as large as that estimated for past systemic crises, with a correlation structure imposed on the shocks across banks. In addition to calculating the losses, **the SYMBOL model goes a step further than EBA stress tests and consider potential recapitalisations as well as the use of bail-in tools and resolution schemes**. For further details regarding the framework, please refer previous section the present Annex 6.

5.2 Sample

The 2023 EBA stress test included 70 banks, representing about 75% of EU banks' total assets, with 16 EU / EEA countries represented. The exercise is conducted at the bank group level – the highest possible level of consolidation. Consequently, **evaluating the losses from a member state perspective is not feasible within the EBA framework**.

The SYMBOL model, on the other hand, uses unconsolidated bank data from 2654 EU-27 banks, representing approximately 75% of the total EU banks' assets. As such and unlike the EBA stress test, the aim of the framework is to **gauge the extent of potential bank losses on a member state level** (under the conservative assumption of limits to intra-group capital re-allocations during a systemic financial crisis).

([304]) For additional details see the EBA press release for the 2025 stress test: https://www.eba.europa.eu/publications-and-media/press-releases/eba-launches-its-2025-eu-wide-stress-test

6 Assumptions

The 2023 EBA stress test assumes a detailed adverse scenario including macro-economic, market development, and operational risk elements.

Instead, the SYMBOL model mimics the conditions during the 2008 financial crisis in terms of the magnitude of the aggregate losses. No explicit macroeconomic inputs are used in the simulations (i.e. the model includes a single, abstract, economic risk factor, which is the object of the simulations) and the losses to banks do not reflect their market and operational risks directly.

7 Results

While the aims, data, and methods of the two exercises are very different, from a statisitcal point of view, the overall magnitude of losses the obtained in the EBA adverse scenario and those simulated one in the SYMBOL model are broadly similar at around 500 Eur bn.

Table A6.5:**Comparison of the methodology used by the SYMBOL model and the EBA stress test**

	EBA stress test advderse scenario	SYMBOL model Reference scenario
Number of banks	70	2654
SYMBO total (estimated) losses (EUR bn)	-	532
EBA total losses (EUR bn)	496	-
Sample ratio	75%	75%
Consoldation level	Consolidated	Unconsolidated
Model type	deterministic	stochastic
Shock type	scenario	correlated random shocks

Source: Commission services, EBA.

ANNEX A7

Cross-country tables

Table A7.1:**Gross government debt projections (% of GDP) and underlying macro-fiscal assumptions (EU, baseline)**

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**82.4**	**83.0**	**83.5**	**83.8**	**84.3**	**84.9**	**85.8**	**86.9**	**88.1**	**89.6**	**91.2**	**92.9**
of which *Oustanding (non maturing) debt*	*64.8*	*65.2*	*65.7*	*66.4*	*66.7*	*67.1*	*67.7*	*68.4*	*69.3*	*70.3*	*71.4*	*72.7*
Rolled-over short-term debt	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	*7.5*	*7.6*	*7.7*	*7.7*	*7.8*
Rolled-over long-term debt	*6.4*	*6.5*	*6.6*	*6.7*	*6.7*	*6.8*	*6.9*	*7.0*	*7.1*	*7.3*	*7.4*	*7.5*
New short-term debt	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.4*	*0.4*	*0.4*
New long-term debt	*3.4*	*3.4*	*3.3*	*3.0*	*3.1*	*3.2*	*3.4*	*3.6*	*3.9*	*4.1*	*4.3*	*4.5*
Change in the debt ratio (-1+2+3)	**0.4**	**0.6**	**0.5**	**0.3**	**0.5**	**0.6**	**0.9**	**1.1**	**1.3**	**1.5**	**1.6**	**1.7**
of which (1) Overall primary balance (1.1+1.2+1.3)	**-1.2**	**-1.0**	**-0.9**	**-1.0**	**-1.0**	**-1.1**	**-1.2**	**-1.3**	**-1.4**	**-1.5**	**-1.6**	**-1.7**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-1.0***	***-0.7***	***-0.8***	***-0.9***	***-1.0***	***-1.1***	***-1.2***	***-1.3***	***-1.4***	***-1.5***	***-1.6***	***-1.7***
(1.1.1) Structural primary balance (before CoA)	*-1.0*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.7*	*-0.8*
(1.1.2) Cost of ageing			*0.1*	*0.2*	*0.3*	*0.4*	*0.4*	*0.6*	*0.7*	*0.8*	*0.9*	*1.0*
(1.1.3) Others (taxes and property incomes)			*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(1.2) Cyclical component	***-0.3***	***-0.3***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (interest-growth rate differential) (2.1+2.2+2.3)	**-1.3**	**-1.2**	**-1.1**	**-0.7**	**-0.6**	**-0.5**	**-0.4**	**-0.3**	**-0.3**	**-0.2**	**-0.2**	**-0.2**
(2.1) Interest expenditure	*1.9*	*1.9*	*2.0*	*2.1*	*2.2*	*2.3*	*2.4*	*2.5*	*2.6*	*2.7*	*2.8*	*2.9*
(2.2) Growth effect (real)	*-0.7*	*-1.2*	*-1.4*	*-1.0*	*-1.0*	*-1.0*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-0.9*	*-1.0*
(2.3) Inflation effect	*-2.4*	*-1.9*	*-1.7*	*-1.8*	*-1.8*	*-1.8*	*-1.9*	*-1.9*	*-2.0*	*-2.0*	*-2.1*	*-2.1*
(3) Stock-flow adjustment	**0.4**	**0.8**	**0.7**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.1**	**0.2**	**0.2**	**0.2**
PM : Structural balance	**-2.8**	**-2.6**	**-2.8**	**-3.0**	**-3.2**	**-3.3**	**-3.5**	**-3.8**	**-4.0**	**-4.2**	**-4.4**	**-4.6**
Key macroeconomic assumptions												
Actual GDP growth (real)	0.9	1.5	1.7	1.3	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.1
Potential GDP growth (real)	1.4	1.4	1.3	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0	1.1
Inflation (GDP deflator)	3.1	2.4	2.1	2.2	2.2	2.3	2.3	2.3	2.4	2.4	2.4	2.4
Implicit interest rate (nominal)	2.4	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.3

Note: Given that the drivers of the change in the government debt ratio for the EU as a whole are calculated as GDP-weighted averages of country-specific debt projections, small differences may exist between the total change in the government debt ratio and the sum of its drivers.

Source: Commission services.

Table A7.2:**Gross government debt projections (% of GDP) and underlying macro-fiscal assumptions (euro area, baseline)**

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Gross debt ratio	**89.1**	**89.6**	**90.1**	**90.3**	**90.7**	**91.2**	**91.9**	**92.8**	**94.0**	**95.3**	**96.8**	**98.4**
of which *Oustanding (non maturing) debt*	*70.3*	*70.6*	*71.0*	*71.6*	*71.8*	*72.1*	*72.5*	*73.0*	*73.8*	*74.6*	*75.7*	*76.8*
Rolled-over short-term debt	*8.3*	*8.3*	*8.3*	*8.3*	*8.3*	*8.3*	*8.3*	*8.4*	*8.5*	*8.6*	*8.7*	*8.8*
Rolled-over long-term debt	*7.1*	*7.1*	*7.2*	*7.3*	*7.3*	*7.4*	*7.4*	*7.6*	*7.7*	*7.8*	*7.9*	*8.0*
New short-term debt	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.4*	*0.4*	*0.4*	*0.4*
New long-term debt	*3.1*	*3.3*	*3.2*	*2.8*	*3.0*	*3.1*	*3.3*	*3.5*	*3.7*	*3.9*	*4.1*	*4.3*
Change in the debt ratio (-1+2+3)	**0.2**	**0.5**	**0.4**	**0.2**	**0.4**	**0.5**	**0.7**	**0.9**	**1.2**	**1.4**	**1.5**	**1.5**
of which (1) Overall primary balance (1.1+1.2+1.3)	**-1.1**	**-0.9**	**-0.7**	**-0.8**	**-0.9**	**-0.9**	**-1.0**	**-1.1**	**-1.3**	**-1.4**	**-1.5**	**-1.6**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-0.9***	***-0.6***	***-0.7***	***-0.8***	***-0.9***	***-0.9***	***-1.0***	***-1.1***	***-1.3***	***-1.4***	***-1.5***	***-1.6***
(1.1.1) Structural primary balance (before CoA)	*-0.9*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
(1.1.2) Cost of ageing			*0.1*	*0.2*	*0.3*	*0.4*	*0.5*	*0.6*	*0.7*	*0.9*	*1.0*	*1.1*
(1.1.3) Others (taxes and property incomes)			*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*
(1.2) Cyclical component	***-0.2***	***-0.2***	***-0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(2) Snowball effect (interest-growth rate differential) (2.1+2.2+2.3)	**-1.3**	**-1.2**	**-1.1**	**-0.7**	**-0.7**	**-0.6**	**-0.5**	**-0.4**	**-0.3**	**-0.2**	**-0.2**	**-0.2**
(2.1) Interest expenditure	*1.8*	*1.9*	*2.0*	*2.1*	*2.1*	*2.2*	*2.3*	*2.4*	*2.5*	*2.6*	*2.8*	*2.9*
(2.2) Growth effect (real)	*-0.7*	*-1.1*	*-1.3*	*-1.0*	*-1.0*	*-0.9*	*-0.9*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.9*
(2.3) Inflation effect	*-2.5*	*-1.9*	*-1.7*	*-1.8*	*-1.8*	*-1.9*	*-1.9*	*-2.0*	*-2.0*	*-2.1*	*-2.2*	*-2.2*
(3) Stock-flow adjustment	**0.5**	**0.8**	**0.8**	**0.1**	**0.1**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**	**0.2**
PM : Structural balance	**-2.7**	**-2.5**	**-2.6**	**-2.9**	**-3.0**	**-3.2**	**-3.4**	**-3.6**	**-3.8**	**-4.0**	**-4.3**	**-4.5**
Key macroeconomic assumptions												
Actual GDP growth (real)	0.8	1.3	1.5	1.2	1.1	1.1	1.0	0.9	0.9	0.8	0.8	1.0
Potential GDP growth (real)	1.3	1.2	1.2	1.1	1.1	1.0	1.0	0.9	0.9	0.8	0.8	1.0
Inflation (GDP deflator)	2.9	2.2	2.0	2.1	2.1	2.1	2.2	2.2	2.3	2.3	2.3	2.3
Implicit interest rate (nominal)	2.1	2.2	2.3	2.4	2.5	2.5	2.6	2.7	2.8	2.9	3.0	3.1

Note: Given that the drivers of the change in the government debt ratio for the euro area as a whole are calculated as GDP-weighted averages of country-specific debt projections, small differences may exist between the total change in the government debt ratio and the sum of its drivers.

Source: Commission services.

Table A7.3:**Gross government debt projections and underlying fiscal assumptions (% of GDP) under the baseline**

	Baseline				
	Debt			SPB	
	2025	2035	Peak year	Avg. 2025-35	Fiscal consolition space
BE	105.1	126.4	2035	-2.2	91%
BG	23.1	39.3	2035	-2.3	95%
CZ	44.4	53.3	2035	-0.4	42%
DK	29.3	16.6	2024	2.1	71%
DE	63.2	65.9	2035	-0.2	73%
EE	24.2	29.5	2035	-0.5	62%
IE	38.3	13.4	2024	2.7	44%
EL	146.8	119.1	2024	1.7	45%
ES	101.3	112.1	2035	-0.6	68%
FR	115.3	142.5	2035	-2.5	100%
HR	56.0	63.4	2035	-1.3	74%
IT	138.2	156.9	2035	0.1	66%
CY	61.4	33.6	2024	2.8	29%
LV	50.3	65.0	2035	-1.6	81%
LT	41.0	58.0	2035	-0.7	69%
LU	27.6	21.3	2025	1.1	73%
HU	74.5	85.4	2035	-0.1	70%
MT	50.4	46.4	2025	-1.8	90%
NL	44.3	50.1	2035	-0.1	75%
AT	80.8	97.7	2035	-1.6	96%
PL	58.9	94.6	2035	-2.8	96%
PT	92.9	74.5	2024	2.5	17%
RO	56.1	106.4	2035	-5.2	100%
SI	64.4	67.7	2035	-0.7	52%
SK	59.8	95.7	2035	-3.0	100%
FI	84.7	96.5	2035	-0.1	87%
SE	32.7	25.9	2024	0.2	81%
EU	83.0	92.9	2035	-0.7	86%
EA	89.6	98.4	2035	-0.6	86%

Source: Commission services.

Table A7.4:**Gross government debt projections and underlying fiscal assumptions (% of GDP) under the 'historical SPB' scenario**

	Historical SPB scenario						
	Debt			SPB			
	2025	2035	Peak year	Avg. 2025-35	Fiscal consolition space	Diff. with baseline	Avg. 2009-23
BE	105.1	115.7	2035	-1.0	89%	1.2	-0.7
BG	23.1	25.6	2030	-1.0	84%	1.3	-0.6
CZ	44.4	56.8	2035	-0.7	45%	-0.3	-0.8
DK	29.3	13.2	2024	2.5	68%	0.4	2.6
DE	63.2	57.7	2025	0.7	50%	0.9	0.9
EE	24.2	30.6	2035	-0.6	62%	0.0	-0.6
IE	38.3	44.1	2035	-0.6	79%	-3.3	-1.6
EL	146.8	99.5	2024	3.5	29%	1.9	4.1
ES	101.3	116.6	2035	-1.1	72%	-0.5	-1.3
FR	115.3	140.3	2035	-2.3	97%	0.2	-2.2
HR	56.0	54.5	2024	-0.5	57%	0.8	-0.2
IT	138.2	151.4	2035	0.6	60%	0.5	0.7
CY	61.4	46.6	2024	1.4	42%	-1.4	1.0
LV	50.3	63.6	2035	-1.4	79%	0.1	-1.4
LT	41.0	57.4	2035	-0.6	68%	0.1	-0.6
LU	27.6	17.8	2025	1.5	68%	0.5	1.7
HU	74.5	86.1	2035	-0.2	72%	-0.1	-0.2
MT	50.4	36.0	2025	-0.7	76%	1.2	-0.3
NL	44.3	50.2	2035	-0.1	73%	0.1	0.0
AT	80.8	86.6	2035	-0.4	86%	1.2	-0.1
PL	58.9	87.5	2035	-2.1	90%	0.7	-1.9
PT	92.9	88.6	2024	1.1	41%	-1.4	0.7
RO	56.1	85.2	2035	-3.2	100%	2.0	-2.6
SI	64.4	68.2	2035	-0.8	54%	-0.1	-0.8
SK	59.8	88.6	2035	-2.3	84%	0.7	-2.1
FI	84.7	97.5	2035	-0.1	88%	0.0	-0.2
SE	32.7	21.6	2024	0.7	77%	0.5	0.8
EU	83.0	89.5	2035	-0.4	83%	0.3	-0.3
EA	89.6	95.7	2035	-0.3	82%	0.3	-0.2

Source: Commission services.

Table A7.5: **Gross government debt projections and underlying fiscal assumptions (% of GDP) under the 'lower SPB' scenario**

Lower SPB scenario						
	Debt			SPB		
	2025	2035	Peak year	Avg. 2025-35	Fiscal consolition space	Diff. with baseline in 2026
BE	105.1	127.2	2035	-2.2	91%	-0.1
BG	23.1	40.5	2035	-2.4	95%	-0.1
CZ	44.4	53.9	2035	-0.5	43%	-0.1
DK	29.3	25.9	2024	1.1	90%	-1.0
DE	63.2	66.7	2035	-0.3	73%	-0.1
EE	24.2	32.0	2035	-0.8	63%	-0.2
IE	38.3	17.5	2024	2.3	48%	-0.4
EL	146.8	121.6	2024	1.4	46%	-0.3
ES	101.3	114.3	2035	-0.8	71%	-0.2
FR	115.3	150.0	2035	-3.2	100%	-0.7
HR	56.0	64.1	2035	-1.4	75%	-0.1
IT	138.2	159.5	2035	-0.1	67%	-0.2
CY	61.4	36.1	2024	2.6	33%	-0.3
LV	50.3	65.4	2035	-1.6	81%	0.0
LT	41.0	59.9	2035	-0.9	72%	-0.2
LU	27.6	23.3	2025	0.9	76%	-0.2
HU	74.5	86.9	2035	-0.2	73%	-0.1
MT	50.4	50.1	2026	-2.2	100%	-0.4
NL	44.3	55.4	2035	-0.7	82%	-0.5
AT	80.8	99.0	2035	-1.7	97%	-0.1
PL	58.9	95.7	2035	-2.9	100%	-0.1
PT	92.9	74.5	2024	2.5	18%	0.0
RO	56.1	107.2	2035	-5.3	100%	-0.1
SI	64.4	68.9	2035	-0.8	56%	-0.1
SK	59.8	101.6	2035	-3.6	100%	-0.6
FI	84.7	99.0	2035	-0.4	90%	-0.2
SE	32.7	26.9	2024	0.1	81%	-0.1
EU	83.0	95.7	2035	-1.0	88%	-0.3
EA	89.6	101.4	2035	-0.9	87%	-0.3

Source: Commission services.

Table A7.6: **Gross government debt projections (% of GDP) and underlying macro-financial assumptions under the 'adverse interest-growth rate differential (r-g)' scenario**

Adverse 'r-g' scenario					
	Debt			r-g in 2035	
	2025	2035	Peak year	Baseline	Adverse 'r-g' scenario
BE	105.1	135.8	2035	-0.4	0.5
BG	23.1	42.0	2035	0.3	1.2
CZ	44.4	57.3	2035	0.2	1.1
DK	29.3	18.4	2024	-1.5	-0.7
DE	63.2	71.5	2035	-0.8	0.2
EE	24.2	31.6	2035	-0.3	0.5
IE	38.3	15.0	2024	-2.4	-1.6
EL	146.8	128.4	2024	0.0	0.8
ES	101.3	121.0	2035	0.2	1.1
FR	115.3	153.8	2035	0.2	1.0
HR	56.0	68.4	2035	-0.3	0.6
IT	138.2	170.9	2035	1.3	2.2
CY	61.4	37.2	2024	-1.1	-0.3
LV	50.3	69.9	2035	-0.3	0.6
LT	41.0	62.2	2035	-0.4	0.5
LU	27.6	22.8	2025	-1.9	-1.2
HU	74.5	92.6	2035	1.6	2.5
MT	50.4	49.9	2026	-2.6	-1.7
NL	44.3	53.9	2035	-0.9	0.0
AT	80.8	105.2	2035	-0.6	0.3
PL	58.9	101.7	2035	0.7	1.6
PT	92.9	81.2	2024	0.0	0.8
RO	56.1	113.5	2035	0.7	1.6
SI	64.4	72.4	2035	-1.4	-0.6
SK	59.8	101.9	2035	-0.5	0.4
FI	84.7	103.5	2035	-0.9	-0.1
SE	32.7	27.9	2025	-2.0	-1.3
EU	83.0	100.4	2035	-0.2	0.7
EA	89.6	106.4	2035	-0.3	0.6

Source: Commission services.

Table A7.7: **Gross government debt projections (% of GDP) and underlying financial assumptions under the 'financial stress' scenario**

	Financial stress scenario			
	Debt			Market interest rates: diff. with baseline in 2025
	2025	2035	Peak year	
BE	105.1	127.7	2035	1.8
BG	23.1	39.6	2035	1.0
CZ	44.4	53.7	2035	1.0
DK	29.3	16.8	2024	1.0
DE	63.2	66.4	2035	1.0
EE	24.2	29.9	2035	1.0
IE	38.3	13.6	2024	1.0
EL	146.8	121.6	2024	4.8
ES	101.3	113.4	2035	1.7
FR	115.3	144.9	2035	2.4
HR	56.0	63.7	2035	1.0
IT	138.2	161.6	2035	3.8
CY	61.4	33.9	2024	1.0
LV	50.3	65.5	2035	1.0
LT	41.0	58.4	2035	1.0
LU	27.6	21.5	2025	1.0
HU	74.5	86.1	2035	1.0
MT	50.4	46.8	2025	1.0
NL	44.3	50.3	2035	1.0
AT	80.8	98.3	2035	1.0
PL	58.9	95.3	2035	1.0
PT	92.9	75.2	2024	1.3
RO	56.1	107.0	2035	1.0
SI	64.4	68.0	2035	1.0
SK	59.8	96.3	2035	1.0
FI	84.7	97.2	2035	1.0
SE	32.7	26.1	2025	1.0
EU	83.0	94.2	2035	1.7
EA	89.6	99.9	2035	1.8

Source: Commission services.

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