European Commission

ISSN 2443-8014 (online)

Fiscal Sustainability Report 2021

Volume 2 – Country Analysis

INSTITUTIONAL PAPER 171 | APRIL 2022

EUROPEAN ECONOMY

Economic and Financial Affairs

European Economy Institutional Papers are important reports analysing the economic situation and economic developments prepared by the European Commission's Directorate-General for Economic and Financial Affairs, which serve to underpin economic policy-making by the European Commission, the Council of the European Union and the European Parliament.

This paper exists in English only and can be downloaded from
https://ec.europa.eu/info/publications/economic-and-financial-affairs-publications_en.

Luxembourg: Publications Office of the European Union, 2022

PDF ISBN 978-92-76-52098-6 ISSN 2443-8014 doi:10.2765/12529 KC-BC-22-108-EN-N

European Commission
Directorate-General for Economic and Financial Affairs

Fiscal Sustainability Report 2021

Volume 2 – Country Analysis

EUROPEAN ECONOMY

Institutional Paper 171

ACKNOWLEDGEMENTS

This report was prepared in the Directorate-General for Economic and Financial Affairs under the direction of Maarten Verwey (Director-General), Declan Costello (Deputy Director-General) and the supervision of Lucio Pench (Director for Fiscal Policy), Giuseppe Carone (Head of Unit until December 2021) and Stéphanie Pamies (Head of Unit).

Stéphanie Pamies was the coordinator of the report. Main contributors to this volume of the report were Pedro Arevalo, Ben Deboeck, Nicola Gagliardi, Fabrice Orlandi, Eloïse Orseau, and Anda Patarau. Country fiches benefitted from comments by DG ECFIN geographical desks. Statistical support was provided by Pedro Arevalo and Nicola Gagliardi. Secretarial support and layout was provided by Laura Crapanzano.

Comments on the report would be gratefully received and may be sent to:

DG ECFIN – Unit C2

European Commission, Directorate-General for Economic and Financial Affairs,

Directorate C: Macroeconomic policies, Unit C2: Sustainability of public finances and public expenditure trends

Office CHAR 12/053 B-1049 Brussels

E-mail: ECFIN-Secretariat-C2@ec.europa.eu

or

Stéphanie Pamies

European Commission, Directorate-General for Economic and Financial Affairs

Directorate C: Macroeconomic policies, Unit C2: Sustainability of public finances and public expenditure trends

Office CHAR 12/048

B-1049 Brussels

E-mail: Stephanie.Pamies@ec.europa.eu

CONTENTS

BELGIUM

Short-term risks: low. *Overall, the S0 indicator does not signal major short-term fiscal risks. Gross financing needs are high in the short term, though financing conditions should remain favourable, notably supported by the Eurosystem's interventions.*

Medium-term risks: high. *Over the medium term, fiscal sustainability risks are high overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, currently at 113% of GDP, is projected to continue rising, reaching 134% of GDP in 2032 in the baseline. The sensitivity to possible macro-fiscal shocks confirms this assessment.*

Long-term risks: high. *Over the long term, both the sustainability gap indicator S2 and the DSA point to high risks. The S2 indicator mainly captures vulnerabilities linked to the high debt burden and to budgetary pressures stemming from population ageing.*

Short-term fiscal sustainability risks: low

The S0 indicator, the early-detection indicator of fiscal stress, does not signal major short-term risks. Nevertheless, some relevant financial-competitiveness and fiscal indicators highlight vulnerabilities, for instance private indebtedness, net government debt and the current budgetary situation, which contributes to high gross financing needs.

At about 20% of GDP in 2022, financing needs are expected to remain high, though below levels seen in 2020-2021. Yet, financing conditions should stay favourable, in particular because of the Eurosystem's interventions. Financial markets perceive Belgian sovereign risks as low, as confirmed by the CDS spread and the 'AA' rating that the three major rating agencies assigned to Belgian government debt.

Medium-term fiscal sustainability risks: high

Debt Sustainability Analysis (DSA): high risk

The DSA, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to a high risk.

Baseline results: steady debt increase at unchanged policies

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with average real GDP growth of 1% in 2024-2032. Under a 'no-fiscal-policy-change' assumption, debt would rise by 19 pps. between 2023 and 2032, when it would reach 134% of GDP. Yet, these baseline projections assume that the structural primary balance (SPB) before future ageing costs remains constant at the forecast deficit for 2023, namely -3.6% of GDP. Bearing in mind past fiscal performance, with prolonged episodes of structural primary surpluses, the scope for fiscal consolidation appears substantial. ([1]) Gross financing needs are projected to rise steadily over the next 10 years, to nearly 25% of GDP in 2032, above both the peak in 2020 and the pre-pandemic level.

Stochastic simulations: high probability that debt will not stabilise by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the Belgian economy's historical volatility. These stochastic simulations point to a 66% probability that in 2026 the debt ratio will be higher than in 2021, signalling risks given the current level of 113% of GDP. In addition, such shocks point to significant uncertainty around the baseline projections, as shown by the wide debt distribution cone. ([2])

Alternative and stress-test scenarios: major vulnerabilities, though reducing the deficit to past levels would lower risks

([1]) Based on available historical data, Belgium recorded an SPB greater than -3.6% of GDP in 98% of the cases. Therefore, the country has room to improve its fiscal position and bring down the debt-to-GDP ratio.

([2]) The difference between the 10th and 90th percentile is 37 pps. of GDP in 2026.

If the SPB gradually converged to the average of the last 15 years – a surplus of 0.3% of GDP compared to -3.6% forecast for 2023 – the debt ratio would peak at 117% of GDP in 2026 and decrease to around 110% in 2032, 24 pps. below the baseline at unchanged policy.

At the same time, less favourable developments of the interest-growth rate differential would put Belgian government debt on a much steeper upward trajectory, because the high debt level exposes Belgium to substantial snowball effects. A 1 pp. permanently higher 'r-g' difference results in a projected debt-to-GDP ratio of 143% in 2032, 9 pps. higher than the baseline projection.

If a temporary (one-year) episode of financial stress pushed up market interest rates by 2.4 pps. in 2022, the 2032 debt projection would be 2 pps. of GDP higher than in the baseline. If only half of the projected improvement in the SPB in 2022-2023 were to occur, the 2032 projected debt would be 8 pps. of GDP higher than in the baseline.

S1 indicator: high risk

The S1 indicator shows that, to bring government debt down to the reference value of 60% of GDP by 2038, the SPB would need to improve by 8.4 pps. of GDP in cumulated terms over 5 years. This corresponds to an SPB of 4.8% of GDP, which appears ambitious by historical standards. ([3]) The high S1 value is due to the large distance of the debt ratio from the 60% reference value (contribution of 4.2 pps. of GDP), the unfavourable initial budgetary position (2 pps. of GDP) and the projected increase in ageing costs (1.2 pps. of GDP).

Long-term fiscal sustainability risks: high

S2 indicator: high risk

The S2 indicator shows that the SPB forecast for 2023 would need to improve by 7.8 pps. of GDP to stabilise the debt-to-GDP ratio over the long term. Such adjustment would bring the SPB to a surplus of 4.2% of GDP, ambitious by historical standards. ([4]) The sustainability gap is evenly generated by the initial budgetary position and the projected increase in ageing costs, both requiring a fiscal adjustment of 3.9 pps. of GDP to prevent debt from rising continuously over time. Ageing costs primarily concern higher spending on long-term care and public pensions, with respective contributions of 1.9 and 1.7 pps. of GDP to the sustainability gap. ([5])

In sum, based on the sustainability gap indicator S2 and the DSA risk assessment discussed higher, overall long-term fiscal sustainability risks are high.

Additional mitigating and aggravating risk factors

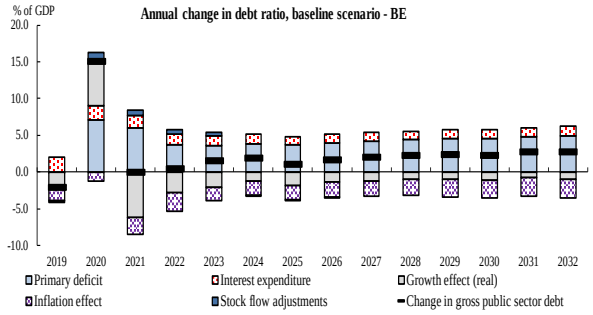
Risk mitigating factors include the lengthening of debt maturity in recent years, relatively stable financing sources (with a diversified and large investor base), debt fully denominated in euro and historically low borrowing costs. At the end of 2020, 18% of government debt was held by the Eurosystem. In addition, Belgium has a large positive net international investment position.

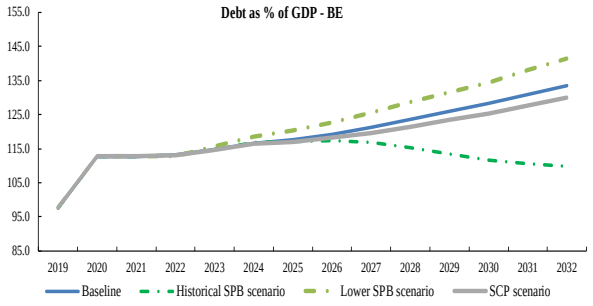
Risk-increasing factors are related to the share of short-term debt, the share of government debt held by non-residents and the lack of fiscal coordination among the different government levels, with several of the federated entities displaying specific vulnerabilities. Private sector contingent liabilities include the possible materialisation of state guarantees granted during the COVID-19 crisis. However, this risk seems limited due to relatively low take-up so far. State guarantees for the resolution of Dexia bank are the main source of contingent liabilities. Simulations based on SYMBOL under a stress test scenario also confirm fiscal risks stemming from the banking sector.

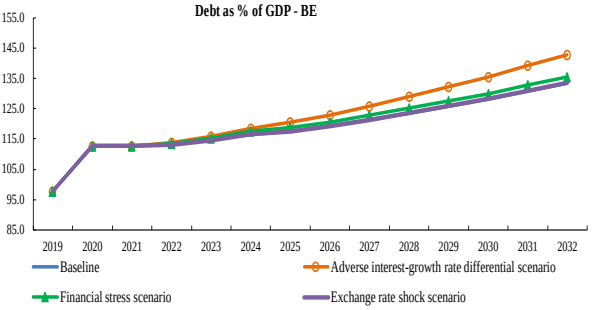
([3]) 22% of past Belgian SPBs were greater.
([4]) 25% of past Belgian SPBs were greater.
([5]) Ageing costs are estimated at 5.4 pps. of GDP between 2019 and 2070, of which 3 pps. is due to public pensions and 2.1 pps to long-term care – see 2021 Ageing Report.

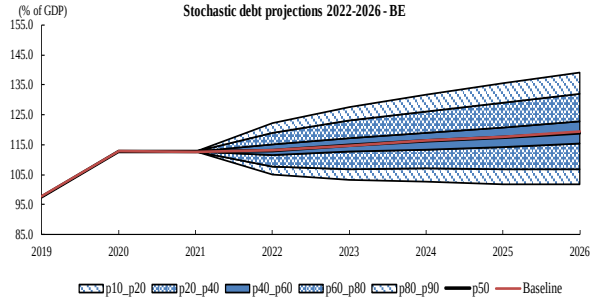
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

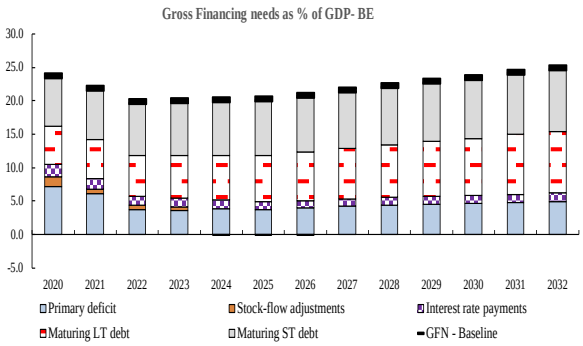
BE - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	**97.7**	**112.8**	**112.7**	**113.1**	**114.6**	**116.5**	**117.6**	**119.3**	**121.3**	**123.6**	**125.9**	**128.2**	**130.9**	**133.6**
Changes in the ratio (-1+2+3)	*-2.1*	*15.1*	*0.0*	*0.4*	*1.5*	*1.9*	*1.1*	*1.7*	*2.0*	*2.3*	*2.3*	*2.2*	*2.7*	*2.7*
of which														
(1) Primary balance (1.1+1.2+1.3)	**0.1**	**-7.1**	**-6.1**	**-3.7**	**-3.6**	**-3.9**	**-3.7**	**-3.9**	**-4.2**	**-4.4**	**-4.6**	**-4.6**	**-4.8**	**-4.9**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-1.1***	***-3.9***	***-5.2***	***-3.5***	***-3.6***	***-3.8***	***-3.8***	***-4.1***	***-4.2***	***-4.4***	***-4.6***	***-4.6***	***-4.8***	***-4.9***
(1.1.1) Structural primary balance (bef. CoA)	*-1.1*	*-3.9*	*-5.2*	*-3.5*	*-3.6*	*-3.6*	*-3.6*	*-3.6*	*-3.6*	*-3.6*	*-3.6*	*-3.6*	*-3.6*	*-3.6*
(1.1.2) Cost of ageing						*0.2*	*0.2*	*0.5*	*0.7*	*0.9*	*1.1*	*1.1*	*1.3*	*1.5*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.2*	*0.2*
(1.2) Cyclical component	***0.9***	***-3.3***	***-0.7***	***-0.1***	***0.0***	***-0.1***	***0.1***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.2***	***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***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-1.8**	**6.5**	**-6.7**	**-3.9**	**-2.6**	**-2.0**	**-2.6**	**-2.3**	**-2.2**	**-2.1**	**-2.2**	**-2.3**	**-2.0**	**-2.2**
(2.1) Interest expenditure	*2.0*	*1.9*	*1.7*	*1.4*	*1.3*	*1.3*	*1.2*	*1.2*	*1.1*	*1.1*	*1.2*	*1.2*	*1.3*	*1.3*
(2.2) Growth effect	*-2.1*	*5.8*	*-6.2*	*-2.8*	*-2.1*	*-1.3*	*-1.8*	*-1.4*	*-1.2*	*-1.0*	*-1.1*	*-1.1*	*-0.8*	*-1.0*
(2.3) Inflation effect	*-1.7*	*-1.2*	*-2.2*	*-2.5*	*-1.8*	*-1.9*	*-2.0*	*-2.1*	*-2.1*	*-2.2*	*-2.3*	*-2.4*	*-2.5*	*-2.6*
(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	**-0.3**	**1.4**	**0.6**	**0.6**	**0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.3*	*1.4*	*0.6*	*0.6*	*0.5*	*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	-3.0	-5.8	-6.9	-4.9	-4.9	-5.0	-5.0	-5.2	-5.4	-5.5	-5.7	-5.8	-6.0	-6.2
Gross financing needs	15.6	23.7	21.9	19.8	19.9	20.1	20.2	20.8	21.5	22.2	22.9	23.4	24.2	24.8

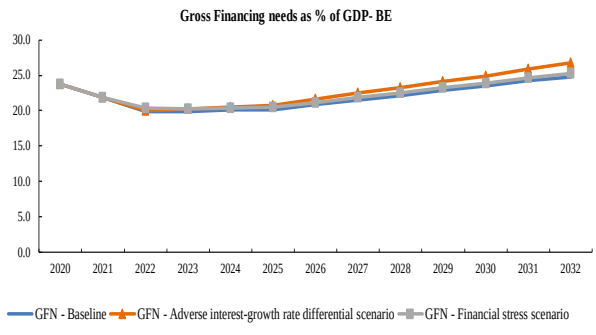












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)							DSA	S2	Long term
				Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
LOW (S0 = 0.3)	HIGH	HIGH (S1 = 8.4)	Risk category	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH (S2 = 7.8)	HIGH
			Debt level (2032)	133.6	109.7	143.0	135.6	141.3				
			Debt peak year	2032	2026	2032	2032	2032				
			Percentile rank	98.3%	86.0%	86.0%	98.3%	100.0%				
			Probability debt higher						66.3%			
			Dif. between percentiles						37.4			

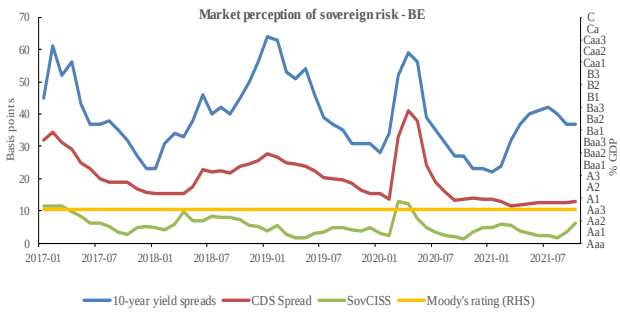
2.2. Sustainability indicators

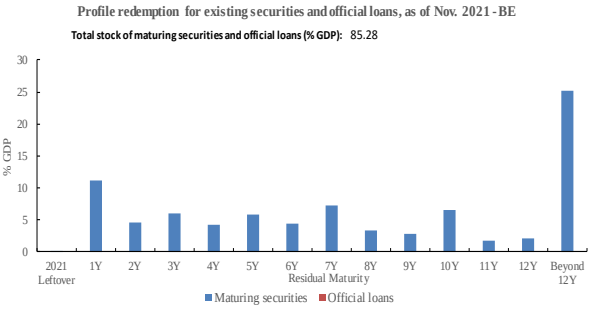
S0 indicator	2009	2021	Critical threshold
Overall index	**0.48**	**0.31**	**0.46**
Fiscal sub-index	0.88	0.57	0.36
Financial competitiveness sub-index	0.27	0.18	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**4.3**	**8.4**	**8.5**	**8.7**
of which *Initial budgetary position*	*-1.7*	*2.0*	*2.1*	*2.0*
Cost of delaying adjustment	*0.5*	*1.0*	*1.0*	*1.0*
Debt requirement	*4.6*	*4.2*	*4.1*	*4.2*
Ageing costs	*0.9*	*1.2*	*1.2*	*1.5*
Required structural primary balance related to S1	**3.8**	**4.8**	**4.9**	**5.1**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**3.7**	**7.8**	**8.6**	**9.6**
of which Initial Budgetary position	1.0	3.9	4.1	4.0
Ageing costs	2.7	3.9	4.5	5.5
of which Pensions	*0.9*	*1.7*	*2.4*	*1.7*
Health care	*0.3*	*0.5*	*0.5*	*1.1*
Long-term care	*1.4*	*1.9*	*1.8*	*3.0*
Others	*0.0*	*-0.3*	*-0.3*	*-0.3*
Required structural primary balance related to S2	**3.1**	**4.2**	**5.0**	**6.0**

3. Financial information





Sovereign Ratings as of Nov. 2021, BE	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Aa3	P-1	Aa3	
S&P	AAu	A-1+u	AAu	A-1+u
Fitch	AA-		AA-	F1+

Sovereign yield spreads (bp)* - as of October 2021		
	10-year	37.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - BE (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	8.0	0.0	55.9

Net International Investment Position (IIP) - BE (2020)	Net IIP (% GDP):
	44.4

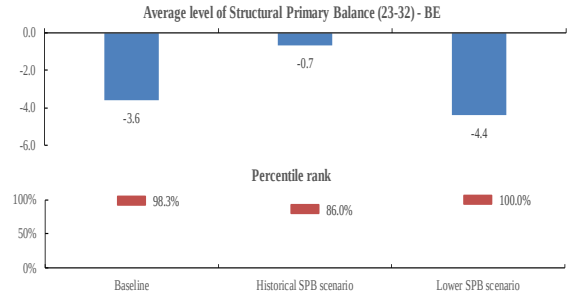
5. Risks related to government's contingent liabilities

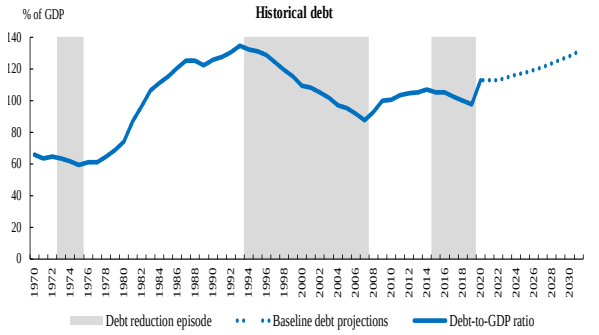
General government contingent liabilities		BE					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		10.7	9.9	9.4	8.5	9.6	8.1
of which	*One-off guarantees*	*10.1*	*9.3*	*8.8*	*7.9*	*9.0*	*7.1*
	Standardised guarantees	*0.6*	*0.6*	*0.6*	*0.6*	*0.6*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.3*	*0.3*	*0.3*	*0.4*	*0.4*	*0.3*

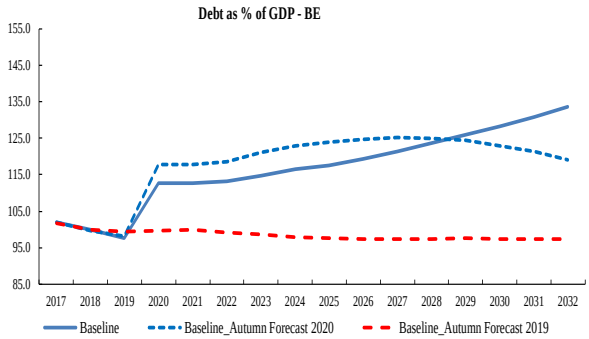
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	8.5	7.8	7.3	6.5	6.2	0.9
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0
	Total	8.5	7.8	7.3	6.5	6.2	0.9

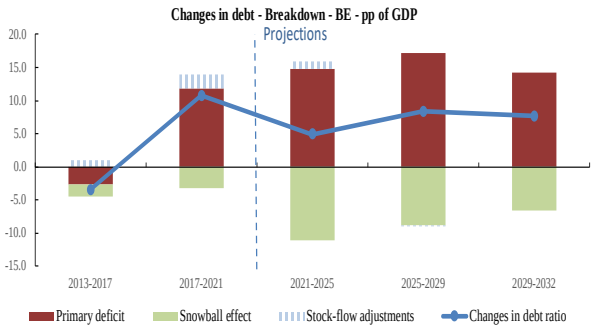
Government's contingent liability risks from banking sector - BE (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	1.1	4.2	97.5	1.7	-0.3	40.5	0.05%	0.54%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Belgium	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	112.7	113.1	114.6	123.6	128.2	133.6	113.5	124.1	121.5
Primary balance	-6.1	-3.7	-3.6	-4.4	-4.6	-4.9	-4.5	-4.3	-4.4
Structural primary balance (before CoA)	-5.2	-3.5	-3.6	-3.6	-3.6	-3.6	-4.1	-3.6	-3.7
Real GDP growth	6.0	2.6	1.9	0.9	0.9	0.8	3.5	1.0	1.6
Potential GDP growth	1.4	1.6	1.8	0.9	0.9	0.8	1.6	1.0	1.2
Inflation rate	2.0	2.3	1.6	1.9	2.0	2.0	2.0	1.9	1.9
Implicit interest rate (nominal)	1.6	1.3	1.2	1.0	1.0	1.0	1.4	1.0	1.1
Gross financing needs	21.9	19.8	19.9	22.2	23.4	24.8	20.5	22.2	21.8
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	112.7	113.1	114.7	121.5	125.3	129.9	113.5	122.1	119.9
Primary balance	-6.1	-3.7	-3.4	-3.9	-4.1	-4.4	-4.4	-3.9	-4.0
Structural primary balance (before CoA)	-5.2	-3.5	-3.3	-3.1	-3.1	-3.1	-4.0	-3.1	-3.4
Real GDP growth	6.0	2.6	1.7	0.9	0.9	0.8	3.4	1.0	1.6
Gross financing needs	21.9	19.8	19.8	21.5	22.6	23.8	20.5	21.6	21.3
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	112.7	113.1	114.6	115.3	111.5	109.7	113.5	114.3	114.1
Primary balance	-6.1	-3.7	-3.6	-1.2	-0.7	-1.0	-4.5	-1.5	-2.3
Structural primary balance (before CoA)	-5.2	-3.5	-3.6	0.3	0.3	0.3	-4.1	-0.4	-1.3
Real GDP growth	6.0	2.6	1.9	1.4	1.5	0.8	3.5	1.0	1.6
Gross financing needs	21.9	19.8	19.9	18.2	17.6	17.8	20.5	18.4	18.9
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	112.7	113.6	115.4	125.2	130.0	135.6	113.9	125.7	122.7
Implicit interest rate (nominal)	1.6	1.8	1.5	1.1	1.1	1.1	1.6	1.2	1.3
Gross financing needs	21.9	20.3	20.3	22.6	23.8	25.2	20.8	22.6	22.2
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	112.7	112.8	115.8	128.6	134.5	141.3	113.8	129.0	125.2
Primary balance	-6.1	-4.4	-4.3	-5.2	-5.4	-5.7	-4.9	-5.1	-5.1
Structural primary balance (before CoA)	-5.2	-4.8	-4.4	-4.4	-4.4	-4.4	-4.8	-4.4	-4.5
Real GDP growth	6.0	3.7	1.2	0.9	0.9	0.8	3.6	1.0	1.6
Gross financing needs	21.9	21.0	20.6	23.6	25.1	26.7	21.2	23.6	23.0
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	112.7	113.1	114.6	123.6	128.2	133.6	113.5	124.1	121.5
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	21.9	19.8	19.9	22.2	23.4	24.8	20.5	22.2	21.8
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	112.7	113.8	116.0	129.0	135.5	143.0	114.2	129.6	125.8
Implicit interest rate (nominal)	1.6	1.4	1.4	1.3	1.3	1.4	1.5	1.3	1.3
Real GDP growth	6.0	2.1	1.4	0.4	0.4	0.3	3.2	0.5	1.2
Gross financing needs	21.9	20.0	20.3	23.3	24.9	26.7	20.7	23.4	22.7

BULGARIA

Short-term risks: low. *Overall, the S0 indicator does not signal major short-term fiscal risks. Gross financing needs should still be contained in the short term. Yet, sovereign financing conditions are expected to remain favourable.*

Medium-term risks: medium. *Over the medium term, fiscal sustainability risks appear to be medium overall, based on low risks from the sustainability gap indicator S1 and medium risks from a debt sustainability analysis (DSA) perspective. Government debt, currently at 27% of GDP, is projected to continue rising, reaching around 36% of GDP in 2032 in the baseline. The sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

Long-term risks: medium. *Over the long term, medium risk from the sustainability gap indicator S2, combined with medium vulnerabilities from the DSA contribute to the overall assessment. The S2 indicator mainly captures risks linked to the unfavourable initial budgetary position and costs of ageing.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling no overall short-term vulnerabilities. The fiscal and financial competitiveness sub-indexes both have values below the critical thresholds.

Government financing needs are expected to remain contained in the short term (about 4.5% and 3% of GDP in 2021-2022, respectively), and declining compared with 2020. Financing conditions should remain favourable. Financial markets' perceptions of sovereign risk are stable, as confirmed by the CDS spread and the ratings that the three major rating agencies assigned to Bulgarian government debt.

Medium-term fiscal sustainability risks: medium

Debt Sustainability Analysis (DSA): medium risk

The DSA, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to a medium risk.

Baseline results: steady debt increase at unchanged policies

The baseline projections up to 2032 assume a favourable interest-growth rate differential over the projection period, with real GDP growth hovering around 1.5% over 2024-2032. Under a 'no-fiscal policy change' assumption, debt would steadily increase, rising by 9.6 pps. between 2023 and 2032, when it would reach around 36% of GDP. Yet, these baseline projections assume a structural primary balance (SPB) of -1.9% of GDP before ageing costs, leaving substantial scope for fiscal consolidation. ([6]) Government gross financing needs are projected to rise steadily over the next 10 years, reaching still a modest 4% of GDP in 2032.

Stochastic simulations: limited probability that debt will not stabilise by 2026, but uncertainty is important

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the Bulgarian economy. These stochastic simulations point to a 54% probability of the debt ratio in 2026 being greater than in 2021, entailing low risk given the current level of 27% of GDP. In addition, such shocks point to significant uncertainty surrounding the baseline projections, as can be seen from the wide debt distribution cone. ([7])

([6]) Based on available historical data, Bulgaria recorded an SPB greater than -1.9% of GDP in 94% of the cases. Therefore, the country has room to improve its fiscal position and lower its debt-to-GDP ratio.

([7]) The difference between the 10th and 90th percentile in 2026 is around 51 pps. of GDP.

Alternative and stress-test scenarios: limited vulnerabilities

Fiscal policy reverting to historical behaviour would bring the debt ratio towards a stable path. Indeed, the SPB gradually converged to its historical average of the last 15 years (a *surplus* of 0.1% of GDP), the debt ratio would be about 12.7 pps. of GDP lower than in the baseline.

On the other hand, more adverse developments of the interest-growth rate differential than assumed under the baseline would have a sizable impact on the debt-GDP ratio, given its current high value. A permanently higher 'r-g' differential (by 1 pp.) than in the baseline would entail a debt ratio in 2032 about 2.2 pps. of GDP higher than in the baseline.

If a temporary (one-year) episode of financial stress pushed up interest rates by 1 pp. in 2022, the 2032 debt projection would be some 0.3 pps. of GDP higher than in the baseline. If only half of the projected improvement in the SPB in 2022-2023 were to occur, the 2032 projected debt would be higher by around 3 pps. of GDP relative to the baseline.

S1 indicator: low risk

The S1 indicator shows that, compared to the baseline, no additional fiscal effort would be needed in the structural primary balance (SPB) to bring the debt-to-GDP ratio to the reference value of 60% by 2038. On the contrary, the indicator's negative value of -1.4 pps. of GDP suggests that the country has significant room to reduce its primary surplus, while still not breaching the 60% of GDP reference target. The S1 value is mainly related to the distance of the debt ratio from the 60% reference value (contribution of -2.5 pps. of GDP), which more than compensates the unfavourable initial budgetary position (contribution of 1.3 pps. of GDP).

Long-term fiscal sustainability risks: medium

S2 indicator: medium risk

The S2 indicator shows that, relative to the baseline, the SPB would need to improve by 3.4 pps. of GDP to stabilise the debt-to-GDP ratio over the long term. Such adjustment would bring the SPB to 1.6% of GDP, which is plausible by Bulgarian standards. ([8]) This sustainability gap is driven by the initial budgetary position (2.1 pps. of GDP) and projected increase of ageing costs (contribution of 1.3 pps. of GDP). Ageing costs are primarily related to the projected increase of public pension expenditure (contribution of 0.7 pps. of GDP). ([9])

In sum, over the long term fiscal sustainability risks appear to be medium overall, based on the sustainability gap indicator S2 combined with the DSA risk assessment (see previous section).

Additional mitigating and aggravating risk factors

Several factors mitigate risks. These include the lengthening of debt maturity in recent years, the short-term public debt, and historically low borrowing costs.

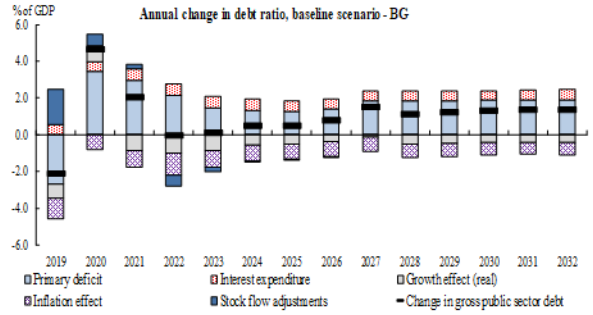
Nevertheless, other factors contribute to aggravate risks. Bulgaria's negative net international investment position and the share of public debt in foreign currency appear non-negligible.

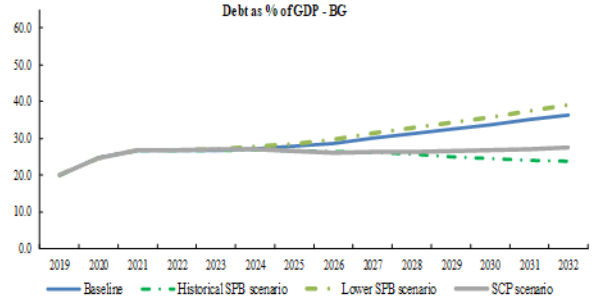
Risk-increasing factors are also related to contingent liability risks stemming from the poor financial performance of some state-owned enterprises. However, overall contingent liabilities risks stemming from the banking sector appear to be limited (based on the SYMBOL simulations).

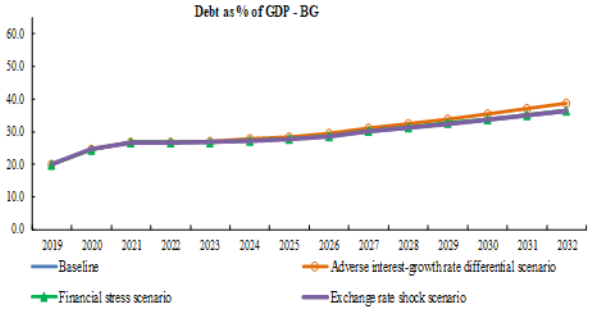
([8]) 55% of the SPBs recorded for the country over the past were greater than this value.
([9]) Between 2019 and 2070 total ageing costs are estimated to increase by 2.1 pps. of GDP (among which public pensions by 1.4 pps. of GDP) – see 2021 Ageing Report.

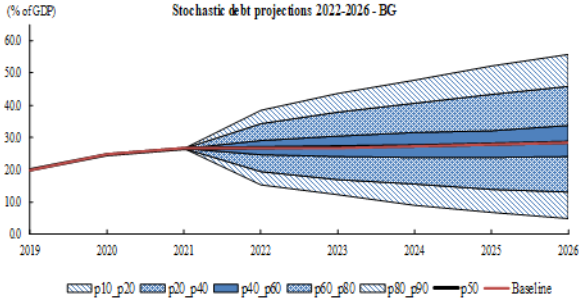
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

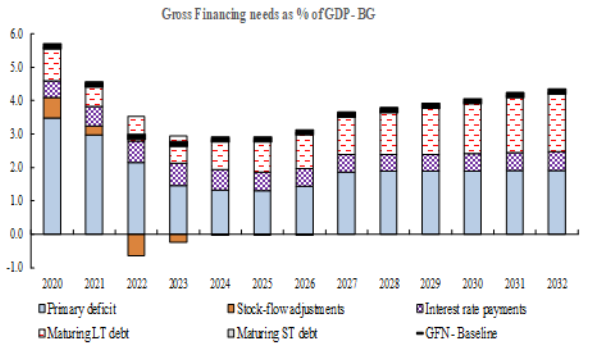
BG - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	20.0	24.7	26.7	26.7	26.8	27.3	27.8	28.5	30.0	31.2	32.4	33.7	35.0	36.4
Changes in the ratio (-1+2+3)	*-2.1*	*4.7*	*2.0*	*0.0*	*0.1*	*0.5*	*0.5*	*0.8*	*1.5*	*1.1*	*1.2*	*1.3*	*1.4*	*1.3*
of which														
(1) Primary balance (1.1+1.2+1.3)	2.7	-3.5	-3.0	-2.2	-1.5	-1.3	-1.3	-1.4	-1.9	-1.9	-1.9	-1.9	-1.9	-1.9
(1.1) Structural primary balance (1.1.1-1.1.2+1.1.3)	*1.9*	*-2.4*	*-2.5*	*-2.2*	*-1.9*	*-1.8*	*-1.8*	*-1.8*	*-1.9*	*-1.9*	*-1.9*	*-1.9*	*-1.9*	*-1.9*
(1.1.1) Structural primary balance (bef. CoA)	*1.9*	*-2.4*	*-2.5*	*-2.2*	*-1.9*	*-1.9*	*-1.9*	*-1.9*	*-1.9*	*-1.9*	*-1.9*	*-1.9*	*-1.9*	*-1.9*
(1.1.2) Cost of ageing						*0.0*	*-0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(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*
(1.2) Cyclical component	*0.8*	*-1.0*	*-0.5*	*0.1*	*0.4*	*0.5*	*0.5*	*0.4*	*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)	-1.4	0.6	-1.2	-1.5	-1.1	-0.8	-0.8	-0.6	-0.4	-0.7	-0.7	-0.6	-0.5	-0.6
(2.1) Interest expenditure	*0.6*	*0.5*	*0.6*	*0.6*	*0.6*	*0.6*	*0.6*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*	*0.5*
(2.2) Growth effect	*-0.8*	*0.9*	*-0.9*	*-1.0*	*-0.9*	*-0.6*	*-0.5*	*-0.4*	*-0.1*	*-0.5*	*-0.5*	*-0.4*	*-0.4*	*-0.4*
(2.3) Inflation effect	*-1.1*	*-0.8*	*-0.9*	*-1.2*	*-0.9*	*-0.9*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-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	1.9	0.6	0.2	-0.6	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(3.1) Base	*1.9*	*0.6*	*0.2*	*-0.6*	*-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	1.3	-2.9	-3.1	-2.8	-2.5	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.4	-2.5
Gross financing needs	1.0	5.6	4.5	2.9	2.7	2.8	2.8	3.0	3.6	3.7	3.8	4.0	4.2	4.3

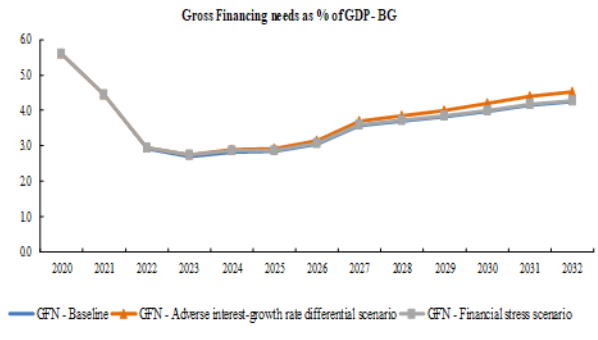












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
				Baseline	Historical SPB	Adverse r-g scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	LOW	LOW	LOW	LOW	LOW	MEDIUM			
			Debt level (2032)	36.4	23.7	38.6	36.7	39.1				
			Debt peak year	2032	2024	2032	2032	2032				
			Percentile rank	93.8%	78.5%	93.8%	93.8%	95.3%				
			Probability debt higher						54.0%			
			Dif. between percentiles						50.7			
LOW (S0 = 0.3)	MEDIUM	LOW (S1 = -1.4)							MEDIUM	MEDIUM (S2 = 3.4)	MEDIUM	

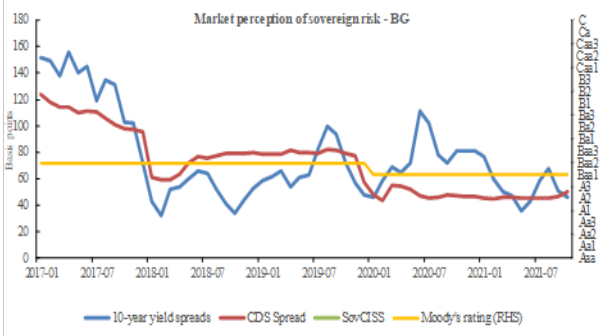
2.2. Sustainability indicators

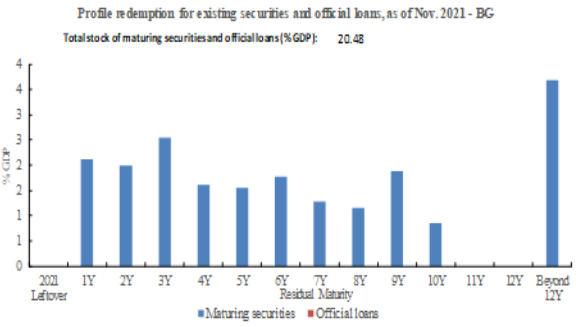
S0 indicator	2009	2021	Critical threshold
Overall index	0.65	0.32	0.46
Fiscal sub-index	0.33	0.22	0.36
Financial competitiveness sub-index	0.82	0.38	0.49

S1 indicator	2020 DSM	2021 FSR		
		Baseline	Lower TFP growth	AWG risk scenario
Overall index	-3.1	-1.4	-1.4	-1.0
of which *Initial budgetary position*	*-0.8*	*1.3*	*1.3*	*1.3*
Cost of delaying adjustment	*-0.4*	*-0.2*	*-0.2*	*-0.1*
Debt requirement	*-2.5*	*-2.5*	*-2.5*	*-2.5*
Ageing costs	*0.7*	*0.0*	*0.0*	*0.4*
Required structural primary balance related to S1	-2.7	-3.3	-3.3	-2.9

S2 indicator	2020 DSM	2021 FSR		
		Baseline	Lower TFP growth	AWG risk scenario
Overall index	2.5	3.4	4.2	5.1
of which Initial Budgetary position	-0.1	2.1	2.2	2.1
Ageing costs	2.5	1.3	2.0	3.0
of which Pensions	*1.9*	*0.7*	*1.5*	*0.7*
Health care	*0.1*	*0.2*	*0.2*	*0.9*
Long-term care	*0.1*	*0.1*	*0.1*	*1.0*
Others	*0.5*	*0.3*	*0.3*	*0.3*
Required structural primary balance related to S2	2.9	1.6	2.3	3.3

3. Financial information





Sovereign Ratings as of Nov. 2021, BG	Local currency		Foreign currency	
	long term	short term	long term	short term
Moody's	Baa1		Baa1	
S&P	BBB	A-2	BBB	A-2
Fitch	BBB		BBB	F2

Sovereign yield spreads (bp)* - as of October 2021	10-year	46.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - BG (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	0.1	82.5	48.8

Net International Investment Position (IIP) BG (2020)	Net IIP (% GDP):
	-26.3

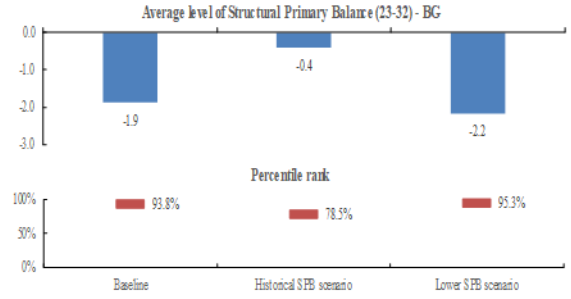
5. Risks related to government's contingent liabilities

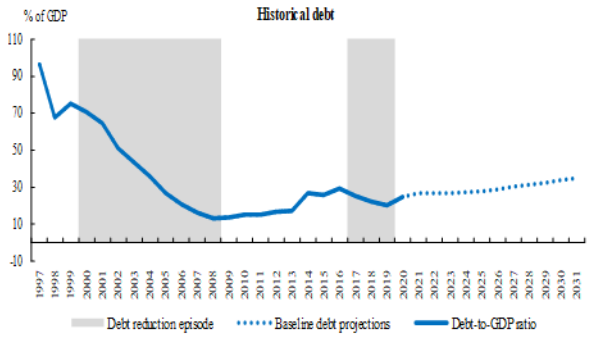
General government contingent liabilities		BG					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		0.4	0.3	0.2	0.1	0.2	8.1
of which	*One-off guarantees*	*0.3*	*0.2*	*0.1*	*0.1*	*0.2*	*7.1*
	Standardised guarantees	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*

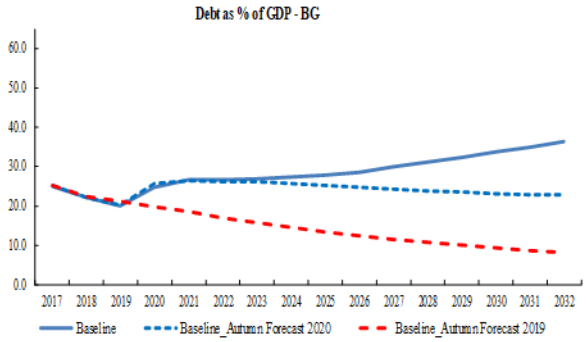
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.0	0.0	0.0	0.0	0.0	0.9
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0
	Total	0.0	0.0	0.0	0.0	0.0	0.9

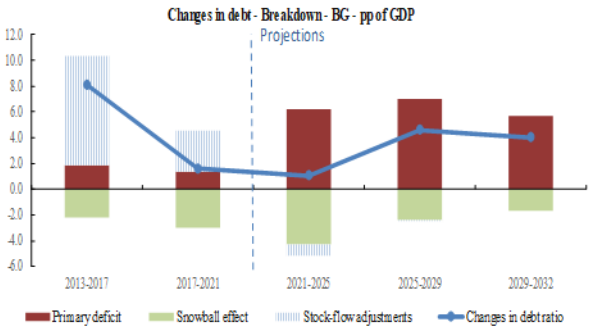
Government's contingent liability risks from banking sector - BG (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p.):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	4.2	4.6	66.9	6.4	-1.2	51.2	0.00%	0.17%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Bulgaria	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	26.7	26.7	26.8	31.2	33.7	36.4	26.7	31.4	30.2
Primary balance	-3.0	-2.2	-1.5	-1.9	-1.9	-1.9	-2.2	-1.7	-1.8
Structural primary balance (before CoA)	-2.5	-2.2	-1.9	-1.9	-1.9	-1.9	-2.2	-1.9	-2.0
Real GDP growth	3.8	4.1	3.5	1.7	1.3	1.2	3.8	1.5	2.1
Potential GDP growth	1.9	2.2	2.3	1.7	1.3	1.2	2.1	1.6	1.7
Inflation rate	3.9	4.6	3.5	2.6	2.2	2.0	4.0	2.6	3.0
Implicit interest rate (nominal)	2.6	2.6	2.6	1.8	1.7	1.6	2.6	1.9	2.1
Gross financing needs	4.5	2.9	2.7	3.7	4.0	4.3	3.4	3.6	3.5
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	26.7	26.7	27.1	26.4	26.8	27.4	26.8	26.7	26.7
Primary balance	-3.0	-2.2	-1.9	-0.7	-0.7	-0.7	-2.3	-0.6	-1.0
Structural primary balance (before CoA)	-2.5	-2.2	-2.4	-0.7	-0.7	-0.7	-2.4	-0.7	-1.1
Real GDP growth	3.8	4.1	3.9	1.7	1.3	1.2	3.9	1.4	2.1
Gross financing needs	4.5	2.9	3.1	2.3	2.4	2.6	3.5	2.2	2.5
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	26.7	26.7	26.8	25.6	24.5	23.7	26.7	25.5	25.8
Primary balance	-3.0	-2.2	-1.5	-0.1	0.1	0.0	-2.2	-0.2	-0.7
Structural primary balance (before CoA)	-2.5	-2.2	-1.9	0.1	0.1	0.1	-2.2	-0.2	-0.7
Real GDP growth	3.8	4.1	3.5	2.1	1.6	1.2	3.8	1.5	2.1
Gross financing needs	4.5	2.9	2.7	1.7	1.6	1.6	3.4	1.8	2.2
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	26.7	26.7	26.9	31.4	33.9	36.7	26.8	31.6	30.4
Implicit interest rate (nominal)	2.6	2.8	2.8	1.9	1.7	1.6	2.7	2.0	2.2
Gross financing needs	4.5	3.0	2.7	3.7	4.0	4.3	3.4	3.6	3.6
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	26.7	26.8	27.1	32.8	35.8	39.1	26.8	33.0	31.5
Primary balance	-3.0	-2.3	-1.7	-2.2	-2.2	-2.2	-2.3	-2.0	-2.1
Structural primary balance (before CoA)	-2.5	-2.3	-2.2	-2.2	-2.2	-2.2	-2.3	-2.2	-2.2
Real GDP growth	3.8	4.2	3.6	1.7	1.3	1.2	3.9	1.4	2.1
Gross financing needs	4.5	3.0	2.9	4.1	4.4	4.7	3.5	3.9	3.8
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	26.7	26.7	26.8	31.2	33.7	36.4	26.7	31.4	30.2
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	4.5	2.9	2.7	3.7	4.0	4.3	3.4	3.6	3.5
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	26.7	26.8	27.1	32.4	35.4	38.6	26.9	32.6	31.2
Implicit interest rate (nominal)	2.6	2.7	2.7	2.1	2.0	2.0	2.7	2.2	2.3
Real GDP growth	3.8	3.6	3.0	1.2	0.8	0.7	3.5	1.0	1.6
Gross financing needs	4.5	2.9	2.7	3.9	4.2	4.5	3.4	3.7	3.6

CZECHIA

Short-term risks: low. *No overall short-term vulnerabilities are identified for Czechia, according to the S0 indicator. However, gross financing needs have significantly increased compared with the pre-crisis situation. Sovereign financing conditions are expected to remain favourable.*

Medium-term risks: medium. *Medium-term fiscal sustainability risks appear medium overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, currently at 42% of GDP, is projected to rise, reaching around 67% of GDP in 2032 in the baseline. The sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

Long-term risks: high. *Long-term fiscal sustainability risks appear high overall, combining the high risk according to the sustainability gap indicator S2 and the medium risk from a DSA perspective. The S2 long-term sustainability gap indicator points to risk linked to budgetary pressures stemming from population ageing and the initial budgetary position.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling no overall short-term vulnerabilities. Both the fiscal and the financial competitiveness sub-indexes are also below their critical thresholds.

Government financing needs are expected to remain larger in the short term than prior to the COVID-19 crisis (about 10% of GDP in 2021-2022), close to the 2020 level. Financing conditions appear moderately less favourable than other EU countries, although 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.

Medium-term fiscal sustainability risks: medium

Debt Sustainability Analysis (DSA): medium risk

The debt sustainability analysis, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to a medium risk.

Baseline results: debt increase at unchanged policies

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with real GDP growth hovering around 2% in 2024-2032). Under a 'no-fiscal policy change' assumption, the debt-to-GDP ratio is projected to rise by close to 21 pps. of GDP between 2023 and 2032, when it would reach 67% of GDP. . These baseline projections assume that the structural primary balance (SPB) before future ageing costs remains constant at the forecast deficit for 2023, namely -3.1% of GDP. This level appears low by historical standards, indicating the presence of significant consolidation space for the country ([10]). Government gross financing needs are projected to increase over the next 10 years, reaching close to 14% of GDP in 2032.

Stochastic simulations: significant probability that debt will not to stabilise by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the Czech economy. These stochastic simulations point to a 79% probability of the debt ratio in 2026 being greater than in 2021, entailing medium risk given the current limited level of 42% of GDP. Moreover, such shocks point to significant uncertainty surrounding

([10]) Based on available historical data, CZ recorded a SPB greater than -3.1% of GDP in 81% of the cases. Therefore, the country has room to improve its fiscal position and lower its debt-to-GDP ratio.

the baseline projections, as can be seen from the relatively wide debt distribution cone ([11]).

Alternative and stress-test scenarios: medium vulnerabilities, while reverting to historical behaviour would substantially curb the debt trajectory

Fiscal policy reverting to historical behaviour would substantially curb the debt trajectory. Indeed, if the SPB gradually converged to its historical average of the last 15 years (a deficit of 0.8% of GDP), the debt ratio would reach around 52% of GDP in 2032, being about 15 pps. of GDP lower than in the baseline.

More adverse developments of the interest-growth rate differential than assumed under the baseline would have a contained impact on the debt-GDP ratio, given its current moderate value. In particular, a permanently higher 'r-g' differential (by 1 pp.) than in the baseline would entail a debt ratio in 2032 about 5 pps. of GDP higher than in the baseline.

If a temporary (one year) episode of financial stress pushed up market interest rates by 1 pps. in 2022, the debt projections would not change significantly by 2032. However, if only half of the projected improvement in the SPB in 2022-2023 were to occur, the projected debt ratio in 2032 would be close to 10 pps. of GDP higher than in the baseline.

S1 indicator: medium risk

The S1 indicator shows that, compared to the baseline, the structural primary balance (SPB) would need to improve by 2.5 pp. of GDP, in cumulated terms over 5 years, to bring the debt-to-GDP ratio to the reference value of 60% by 2038. This corresponds to an SPB of -0.6% of GDP, which is fairly ambitious by Czech standards ([12]). This significant value of S1 is mainly due to the unfavourable initial budgetary position (contribution of 2.5 pps. of GDP) and to the projected age-related public spending (contribution by 0.7 pp. of GDP).

([11]) The difference between the 10th and 90th percentile in 2026 is around 29 pps. of GDP.
([12]) Only 27% of the SPBs recorded for the country over the past decades were greater than this value.

Long-term fiscal sustainability risks: high

S2 indicator: high risk

The S2 indicator shows that, relative to the baseline, the SPB would need to improve by 7.7 pps. of GDP to stabilise the debt-to-GDP ratio over the long term. Such adjustment would bring the SPB to 4.6% of GDP, which is very ambitious by Czech standards ([13]). This sustainability gap is driven by the projected increase of ageing costs (contribution of 4.4 pps. of GDP) and the unfavourable initial budgetary position (3.3 pp. of GDP). Ageing costs are primarily related to the projected increase of public pension expenditure (contribution of 1.7 pps. of GDP) and long-term care spending (contribution of 1.4 pps. of GDP) ([14]).

In sum, based on the sustainability gap indicator S2 and the DSA risk assessment discussed higher, overall long-term fiscal sustainability risks are high.

Additional mitigating and aggravating risk factors

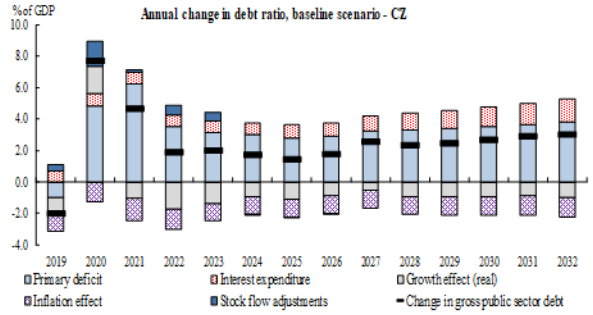
Several factors mitigate the risks. These include the lengthening of debt maturity in recent years, relatively stable financing sources (with a diversified and large investor base), the currency denomination of debt. In addition, Czechia's negative net international investment position is contained, and this position is even positive when excluding non-defaultable instruments.

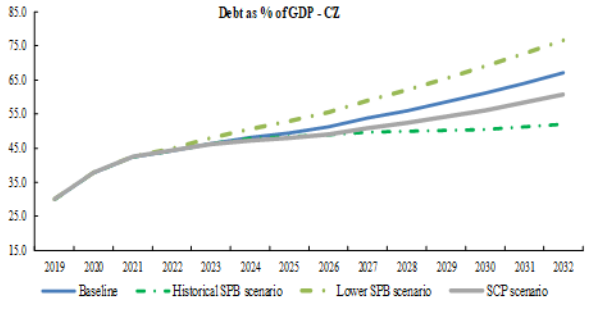
Risk-increasing factors are related to contingent liability risks stemming from the private sector, including via the possible materialisation of state guarantees granted to firms and self-employed during the COVID-19 crisis. However, this risk remains currently limited due to its relatively low level and the low take-up so far. Contingent liability risks stemming from the banking sector are also low (based on the SYMBOL simulations).

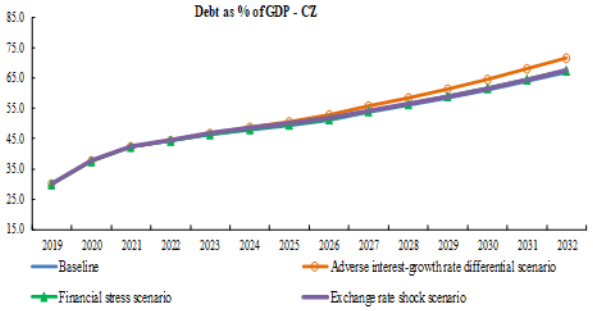
([13]) Over the past decades, such an SPB was never reached.
([14]) Between 2019 and 2070 total ageing costs are estimated to increase by 6.1 pps. of GDP (among which public pensions by 2.9 pps. of GDP) – see 2021 Ageing Report.

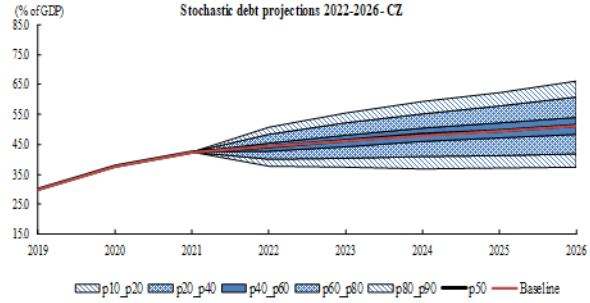
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

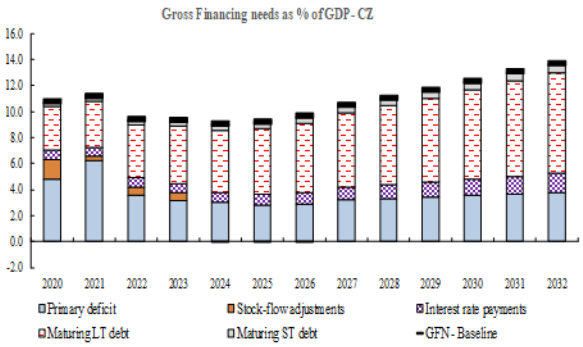
CZ - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	30.0	37.7	42.4	44.3	46.3	48.0	49.4	51.2	53.8	56.1	58.5	61.2	64.1	67.1
Changes in the ratio (-1+2+3)	-2.0	7.7	4.7	1.9	2.0	1.7	1.4	1.8	2.6	2.3	2.4	2.7	2.9	3.0
of which														
(1) Primary balance (1.1+1.2+1.3)	1.0	-4.8	-6.2	-3.5	-3.1	-3.0	-2.8	-2.9	-3.2	-3.3	-3.4	-3.5	-3.7	-3.8
(1.1) Structural primary balance (1.1.1-1.1.2+1.1.3)	*-0.1*	*-3.1*	*-5.0*	*-3.1*	*-3.1*	*-3.0*	*-3.1*	*-3.2*	*-3.2*	*-3.3*	*-3.4*	*-3.5*	*-3.7*	*-3.8*
(1.1.1) Structural primary balance (bef. CoA)	-0.1	-3.1	-5.0	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1	-3.1
(1.1.2) Cost of ageing						-0.1	0.0	0.1	0.2	0.2	0.3	0.5	0.6	0.7
(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
(1.2) Cyclical component	*1.2*	*-1.7*	*-1.2*	*-0.4*	*-0.1*	*0.0*	*0.3*	*0.3*	*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)	-1.4	1.3	-1.7	-2.3	-1.7	-1.3	-1.4	-1.1	-0.7	-1.0	-1.0	-0.9	-0.7	-0.8
(2.1) Interest expenditure	0.7	0.8	0.7	0.7	0.7	0.8	0.8	0.9	1.0	1.0	1.1	1.2	1.4	1.5
(2.2) Growth effect	-0.9	1.8	-1.1	-1.7	-1.4	-0.9	-1.1	-0.9	-0.5	-0.9	-1.0	-0.9	-0.9	-1.0
(2.3) Inflation effect	-1.2	-1.3	-1.4	-1.3	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.2	-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	0.4	1.6	0.2	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(3.1) Base	0.4	1.5	0.3	0.6	0.6	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	0.0	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	-0.8	-3.8	-5.7	-3.8	-3.8	-3.8	-3.9	-4.0	-4.2	-4.4	-4.6	-4.8	-5.0	-5.3
Gross financing needs	5.3	10.8	11.2	9.4	9.3	9.0	9.2	9.7	10.5	11.0	11.7	12.3	13.1	13.7

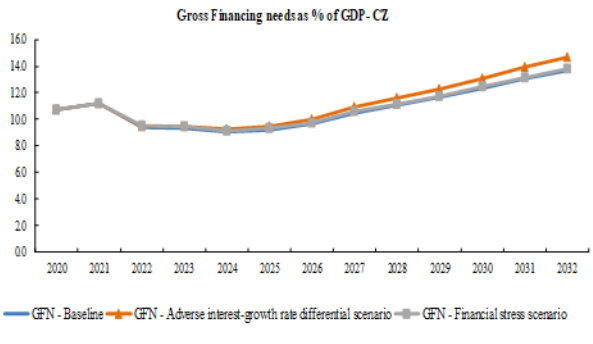












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)							DSA	S2	Long term
				Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM			
			Debt level (2032)	67.1	52.1	71.6	67.6	76.6				
			Debt peak year	2032	2032	2032	2032	2032				
			Percentile rank	81.0%	33.0%	81.0%	81.0%	90.9%				
			Probability debt higher						79.0%			
			Dif. between percentiles						28.8			
LOW (S0 = 0.2)	MEDIUM	MEDIUM (S1 = 2.5)								MEDIUM	HIGH (S2 = 7.7)	HIGH

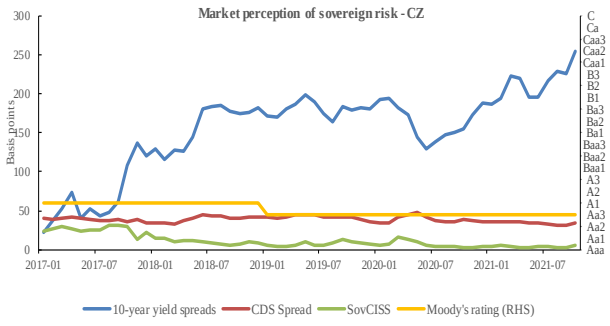
2.2. Sustainability indicators

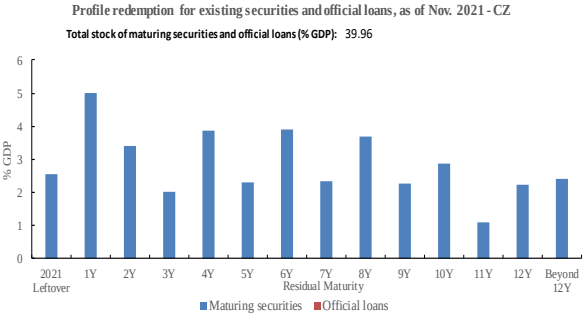
S0 indicator	2009	2021	Critical threshold
Overall index	**0.34**	**0.24**	**0.46**
Fiscal sub-index	0.42	0.22	0.36
Financial competitiveness sub-index	0.31	0.25	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**-0.9**	**2.5**	**2.6**	**3.0**
of which *Initial budgetary position*	*-0.6*	*2.5*	*2.5*	*2.5*
Cost of delaying adjustment	*-0.1*	*0.3*	*0.3*	*0.4*
Debt requirement	*-1.2*	*-1.0*	*-1.0*	*-1.0*
Ageing costs	*1.1*	*0.7*	*0.7*	*1.1*
Required structural primary balance related to S1	**-0.7**	**-0.6**	**-0.5**	**-0.1**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**4.8**	**7.7**	**7.8**	**9.3**
of which Initial Budgetary position	0.2	3.3	3.4	3.3
Ageing costs	4.6	4.4	4.4	6.0
of which Pensions	*2.6*	*1.7*	*1.9*	*1.7*
Health care	*0.6*	*0.8*	*0.7*	*1.8*
Long-term care	*1.1*	*1.4*	*1.3*	*2.1*
Others	*0.3*	*0.4*	*0.4*	*0.4*
Required structural primary balance related to S2	**4.9**	**4.6**	**4.7**	**6.3**

3. Financial information





Sovereign Ratings as of Nov. 2021, CZ	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Aa3		Aa3	P-1
S&P	AA	A-1+	AA-	A-1+
Fitch	AA-		AA-	F1+

Sovereign yield spreads (bp)* - as of October 2021	10-year	255.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - CZ (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	1.7	8.6	32.7

Net International Investment Position (IIP) CZ (2020)	Net IIP (% GDP):
	-12.5

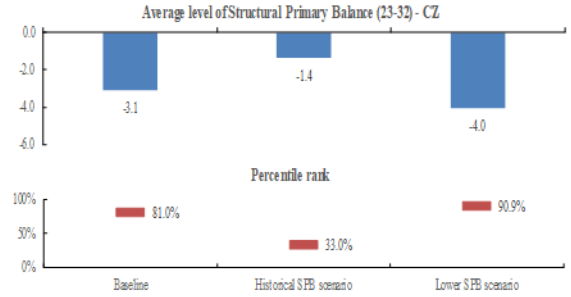
5. Risks related to government's contingent liabilities

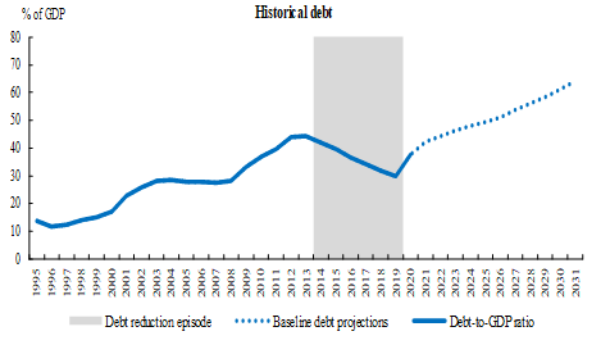
General government contingent liabilities		CZ					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		0.3	0.2	0.2	0.2	0.6	8.1
of which	*One-off guarantees*	*0.3*	*0.2*	*0.2*	*0.2*	*0.6*	*7.1*
	Standardised guarantees	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*

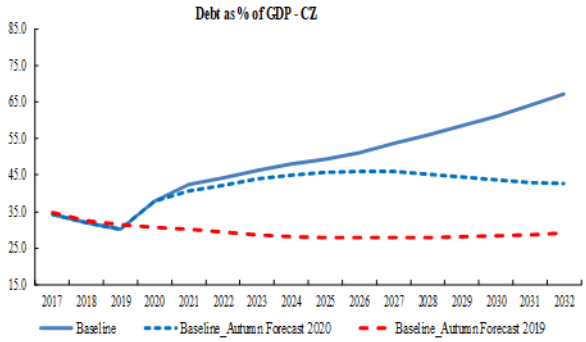
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.0	0.0	0.0	0.0	0.0	0.9
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0
	Total	0.0	0.0	0.0	0.0	0.0	0.9

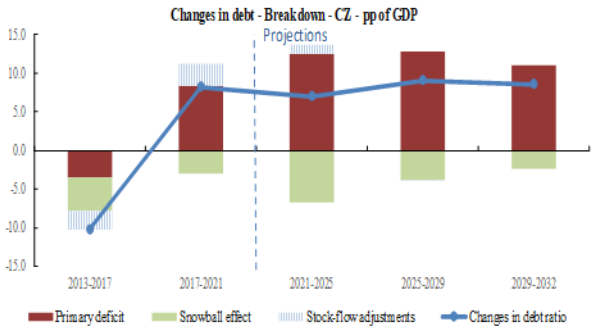
Government's contingent liability risks from banking sector - CZ (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	2.4	8.5	74.7	1.4	0.1	53.8	0.01%	0.17%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Czechia	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	42.4	44.3	46.3	56.1	61.2	67.1	44.3	56.6	53.5
Primary balance	-6.2	-3.5	-3.1	-3.3	-3.5	-3.8	-4.3	-3.3	-3.5
Structural primary balance (before CoA)	-5.0	-3.1	-3.1	-3.1	-3.1	-3.1	-3.7	-3.1	-3.2
Real GDP growth	3.0	4.4	3.2	1.8	1.7	1.6	3.5	1.8	2.2
Potential GDP growth	1.6	2.2	2.3	1.8	1.7	1.6	2.1	1.7	1.8
Inflation rate	3.9	3.1	2.5	2.2	2.1	2.0	3.2	2.2	2.4
Implicit interest rate (nominal)	2.1	1.8	1.7	2.0	2.2	2.4	1.9	2.0	2.0
Gross financing needs	11.2	9.4	9.3	11.0	12.3	13.7	10.0	11.1	10.8
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	42.4	44.3	46.1	52.4	56.2	60.7	44.3	53.0	50.8
Primary balance	-6.2	-3.5	-2.8	-2.6	-2.8	-3.0	-4.2	-2.6	-3.0
Structural primary balance (before CoA)	-5.0	-3.1	-2.6	-2.3	-2.3	-2.3	-3.6	-2.3	-2.6
Real GDP growth	3.0	4.4	2.9	1.8	1.7	1.6	3.4	1.8	2.2
Gross financing needs	11.2	9.4	9.0	9.9	10.9	12.0	9.9	10.0	10.0
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	42.4	44.3	46.3	50.0	50.5	52.1	44.3	49.9	48.5
Primary balance	-6.2	-3.5	-3.1	-1.3	-1.3	-1.5	-4.3	-1.6	-2.3
Structural primary balance (before CoA)	-5.0	-3.1	-3.1	-0.8	-0.8	-0.8	-3.7	-1.2	-1.8
Real GDP growth	3.0	4.4	3.2	2.1	2.0	1.6	3.5	1.8	2.2
Gross financing needs	11.2	9.4	9.3	8.4	8.8	9.4	10.0	8.6	9.0
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	42.4	44.4	46.5	56.5	61.6	67.6	44.4	57.0	53.9
Implicit interest rate (nominal)	2.1	2.1	1.9	2.1	2.2	2.4	2.0	2.1	2.1
Gross financing needs	11.2	9.5	9.4	11.1	12.4	13.8	10.0	11.2	10.9
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	42.4	44.9	48.0	62.2	69.0	76.6	45.1	62.7	58.3
Primary balance	-6.2	-4.5	-4.0	-4.3	-4.5	-4.7	-4.9	-4.2	-4.4
Structural primary balance (before CoA)	-5.0	-4.5	-4.0	-4.0	-4.0	-4.0	-4.5	-4.0	-4.1
Real GDP growth	3.0	5.4	2.6	1.8	1.7	1.6	3.7	1.7	2.2
Gross financing needs	11.2	10.7	10.3	12.8	14.3	16.0	10.7	12.8	12.3
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	42.4	44.6	46.9	56.6	61.7	67.6	44.6	57.1	54.0
Exchange rate depreciation	0.0%	6.0%	6.0%	0.0%	0.0%	0.0%	4.0%	0.0%	1.0%
Gross financing needs	11.2	9.4	9.4	11.1	12.4	13.8	10.0	11.2	10.9
7. Adverse interest-growth rate differential	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	42.4	44.5	46.8	58.5	64.6	71.6	44.6	59.1	55.5
Implicit interest rate (nominal)	2.1	1.9	1.9	2.4	2.6	2.8	2.0	2.4	2.3
Real GDP growth	3.0	3.9	2.7	1.3	1.2	1.1	3.2	1.3	1.7
Gross financing needs	11.2	9.5	9.5	11.6	13.1	14.7	10.1	11.7	11.3

DENMARK

Short-term risks: low. *Overall, no short-term vulnerabilities are identified for Denmark, according to the S0 indicator. Gross financing needs should be low in the short term. Sovereign financing conditions are expected to remain favourable.*

Medium-term risks: low. *Over the medium term, fiscal sustainability risks appear to be low overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, currently at 41% of GDP, is projected to decrease in the baseline, to reach less than 20% of GDP in 2032 under unchanged policies. The limited sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

Long-term risks: low*. Over the long term, low risks from the sustainability gap indicator S2 as well as from the DSA contribute to the overall assessment. The S2 indicator reflects the favourable initial budgetary position which more than covers projected increases in ageing costs.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling no overall short-term vulnerabilities.

Government financing needs are expected to remain low in the short term (less than 10% of GDP in 2021-2022), and declining compared with 2020. Financing conditions should remain favourable. Financial markets' perceptions of sovereign risk are positive, as confirmed by the CDS spread and the 'AAA' rating the three major rating agencies assigned to Danish government debt.

Medium-term fiscal sustainability risks: low

Debt Sustainability Analysis (DSA): low risk

The debt sustainability analysis, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to a low risk.

Baseline results: debt on a downward path

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with real GDP growth hovering around 1.6% in 2024-2032. Under a 'no-fiscal policy change' assumption, debt would continue to fall, by some 22 pps. between 2023 and 2032, when it would reach around 16% of GDP. These baseline projections assume a constant structural primary balance (SPB) before ageing costs at the forecast surplus for 2023, namely 2.5% of GDP. Moreover, this value appears plausible based on Denmark past fiscal performance ([15]). Government gross financing needs are projected to fall over the next 10 years, reaching less than 1% of GDP in 2032.

Stochastic simulations: low probability that debt will not stabilise by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the Danish economy. These stochastic simulations point to a 7% probability of the debt ratio in 2026 being greater than in 2021, signalling low risk also given the current level of 41% of GDP. In addition, such shocks point to reduced uncertainty surrounding the baseline projections, as can be seen from the relatively narrow debt distribution cone ([16]).

Alternative and stress-test scenarios: no significant vulnerabilities overall

Fiscal policy reverting to historical behaviour would bring a similar reduction of the debt ratio. Indeed, if the SPB gradually converged to its historical average of the last 15 years (a surplus of

([15]) Based on available historical data, Denmark recorded a SPB greater than 2.5% of GDP in 64% of the cases.

([16]) The difference between the 10th and 90th percentile in 2026 is around 20 pps. of GDP.

2.3% of GDP), the debt ratio would be at similar levels compared to the baseline in 2032.

More adverse developments of the interest-growth rate differential than assumed under the baseline would only have a marginally positive impact on the debt-GDP ratio. A permanently higher 'r-g' differential (by 1 pp.) than in the baseline would entail a debt ratio in 2032 about 2 pps. of GDP higher than in the baseline.

However, if only half of the projected improvement in the SPB in 2022-2023 were to occur, the 2032 debt projection would be some 19 pps. of GDP higher than in the baseline. If a temporary (one year) episode of financial stress pushed up market interest rates by 1 pp. in 2022, the 2032 debt projection would not change significantly.

S1 indicator: low risk

The S1 indicator shows that, compared to the baseline, no additional fiscal effort would be needed in the structural primary balance (SPB), in cumulated terms over 5 years, to bring the debt-to-GDP ratio to the reference value of 60% by 2038. On the contrary, the indicator's negative value of -5.3 pps. of GDP suggests that the country has significant room to reduce its primary surplus, while still not breaching the 60% of GDP reference target. The S1 value is mainly related to the favourable initial budgetary position (with a contribution of -3.8 pps. of GDP) and the distance of the initial debt ratio from the 60% reference value (contribution of -1.7 pps. of GDP), which more than compensate the projected ageing costs increase (contribution of 0.8 pps. of GDP).

Long-term fiscal sustainability risks: low

S2 indicator: low risk

The S2 indicator shows that, relative to the baseline, the SPB would not need to improve to stabilise the debt-to-GDP ratio over the long term (a negative fiscal gap of -0.5 pps. of GDP). This result is entirely drive by the favourable initial budgetary position (contribution of -2.3 pps. of GDP), which more than covers the projected ageing costs increase over the long term (contribution of 1.8 pps. of GDP). Ageing costs are primarily related to the projected increase of public long-term care and health care spending (contributions of 3.0 and 0.7 pps. of GDP, respectively) ([17]).

In sum, based on the sustainability gap indicator S2 and the DSA risk assessment discussed above, overall long-term fiscal sustainability risks are low.

Additional mitigating and aggravating risk factors

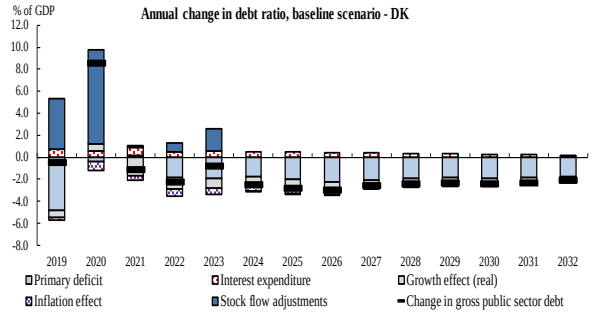
Several factors mitigate risks. These include the lengthening of debt maturity in recent years, relatively stable financing sources (with a diversified and large investor base), the currency denomination of debt, and historically low borrowing costs. In addition, Denmark's positive net international investment position helps mitigating vulnerabilities.

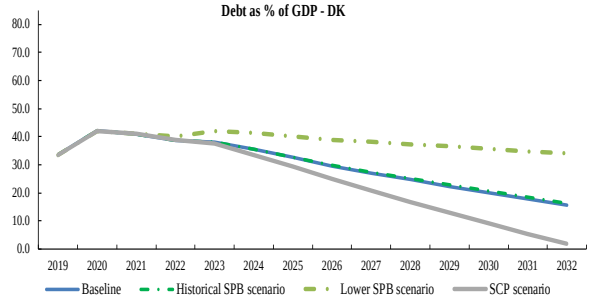
Risk-increasing factors are related to contingent liability risks stemming from the private sector, including via the possible materialisation of sizeable state guarantees granted to firms and self-employed during the COVID-19 crisis. However, this risk remains currently limited due to relatively low take-up so far. Contingent liability risks stemming from the banking sector point to low risks, both under the baseline and stress scenario (based on the SYMBOL simulations).

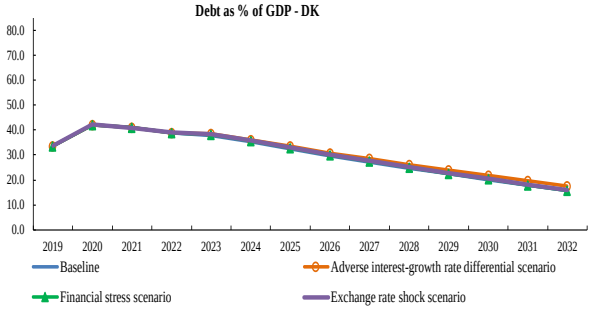
([17]) Between 2019 and 2070 total ageing costs are estimated to increase by 1.5 pps. of GDP (among which public long term care by 3.4 pps. of GDP) – see 2021 Ageing Report.

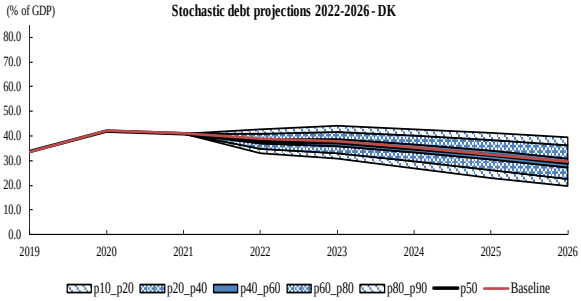
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

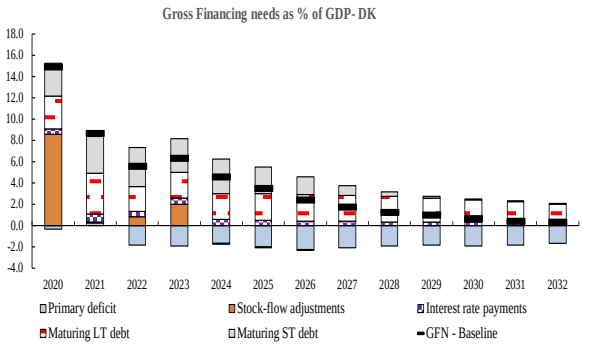
DK - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	**33.6**	**42.1**	**41.0**	**38.8**	**38.0**	**35.5**	**32.6**	**29.7**	**27.1**	**24.7**	**22.4**	**20.0**	**17.7**	**15.6**
Changes in the ratio (-1+2+3)	*-0.4*	*8.5*	*-1.1*	*-2.2*	*-0.8*	*-2.5*	*-2.8*	*-3.0*	*-2.5*	*-2.4*	*-2.3*	*-2.4*	*-2.3*	*-2.1*
of which														
(1) Primary balance (1.1+1.2+1.3)	**4.8**	**0.4**	**-0.2**	**1.8**	**1.9**	**1.7**	**2.0**	**2.3**	**2.1**	**1.9**	**1.9**	**1.9**	**1.9**	**1.7**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***4.9***	***3.3***	***-1.3***	***3.8***	***2.5***	***2.3***	***2.2***	***2.1***	***2.1***	***1.9***	***1.9***	***1.9***	***1.9***	***1.7***
(1.1.1) Structural primary balance (bef. CoA)	*4.9*	*3.3*	*-1.3*	*3.8*	*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						*0.2*	*0.3*	*0.4*	*0.4*	*0.5*	*0.6*	*0.6*	*0.7*	*0.8*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.0*
(1.2) Cyclical component	***-0.1***	***-2.4***	***-1.3***	***-1.0***	***-0.9***	***-0.6***	***-0.2***	***0.1***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***-0.5***	***2.4***	***-1.0***	***0.3***	***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)	**-0.2**	**0.4**	**-1.4**	**-1.2**	**-0.9**	**-0.8**	**-0.8**	**-0.7**	**-0.5**	**-0.5**	**-0.5**	**-0.5**	**-0.4**	**-0.4**
(2.1) Interest expenditure	*0.7*	*0.5*	*0.7*	*0.5*	*0.6*	*0.5*	*0.5*	*0.4*	*0.4*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*
(2.2) Growth effect	*-0.7*	*0.7*	*-1.7*	*-1.1*	*-0.9*	*-0.7*	*-0.7*	*-0.6*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.2*
(2.3) Inflation effect	*-0.3*	*-0.9*	*-0.4*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.5*	*-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	**4.6**	**8.5**	**0.1**	**0.8**	**2.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*4.6*	*8.6*	*0.2*	*0.8*	*2.0*	*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*	*-0.1*	*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	4.2	2.8	-2.0	3.3	1.9	1.8	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.5
Gross financing needs	6.7	14.8	8.6	5.5	6.2	4.5	3.4	2.3	1.7	1.2	0.9	0.6	0.4	0.3

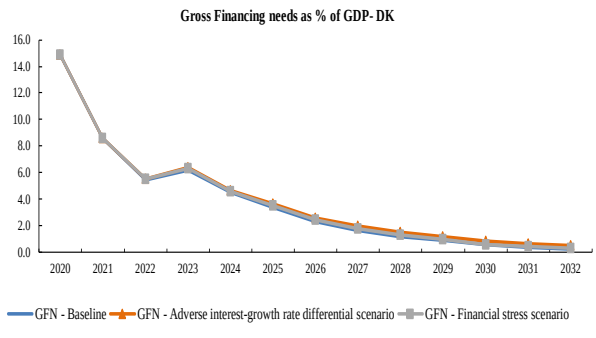












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
				Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2032)	15.6	16.4	17.5	15.9	34.2				
			Debt peak year	2021	2021	2021	2021	2023				
			Percentile rank	63.9%	65.1%	63.9%	63.9%	96.3%				
			Probability debt higher						7.1%			
			Dif. between percentiles						19.9			
LOW (S0 = 0.2)	LOW	LOW (S1 = -5.3)								LOW	LOW (S2 = -0.5)	LOW

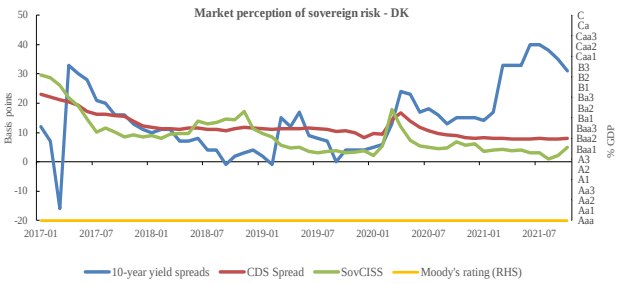
2.2. Sustainability indicators

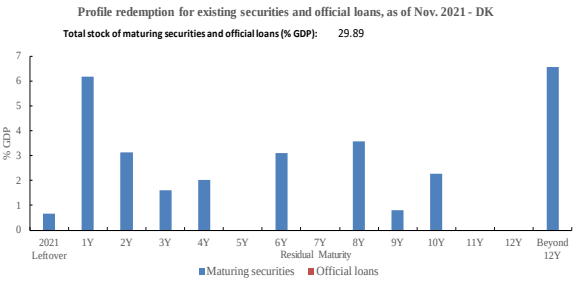
S0 indicator	2009	2021	Critical threshold
Overall index	**0.42**	**0.18**	**0.46**
Fiscal sub-index	0.28	0.08	0.36
Financial competitiveness sub-index	0.50	0.24	0.49

S1 indicator	2020 DSM	2021 FSR		
		Baseline	Lower TFP growth	AWG risk scenario
Overall index	**-4.2**	**-5.3**	**-5.2**	**-4.7**
of which *Initial budgetary position*	*-2.3*	*-3.8*	*-3.7*	*-3.7*
Cost of delaying adjustment	*-0.5*	*-0.6*	*-0.6*	*-0.6*
Debt requirement	*-1.5*	*-1.7*	*-1.7*	*-1.7*
Ageing costs	*0.1*	*0.8*	*0.8*	*1.2*
Required structural primary balance related to S1	**-3.5**	**-2.8**	**-2.8**	**-2.3**

S2 indicator	2020 DSM	2021 FSR		
		Baseline	Lower TFP growth	AWG risk scenario
Overall index	**1.0**	**-0.5**	**-0.9**	**1.2**
of which Initial Budgetary position	0.1	-2.3	-2.4	-2.3
Ageing costs	0.9	1.8	1.4	3.5
of which Pensions	*-1.3*	*-1.5*	*-2.0*	*-1.5*
Health care	*0.7*	*0.7*	*0.7*	*1.7*
Long-term care	*1.7*	*3.0*	*3.1*	*3.7*
Others	*-0.3*	*-0.4*	*-0.4*	*-0.4*
Required structural primary balance related to S2	**1.6**	**2.0**	**1.5**	**3.7**

3. Financial information





Sovereign Ratings as of Nov. 2021, DK	Local currency		Foreign currency	
	long term	short term	long term	short term
Moody's	Aaau		Aaau	
S&P	AAAu	A-1+u	AAAu	A-1+u
Fitch	AAA		AAA	F1+

Sovereign yield spreads (bp)* - as of October 2021	10-year	31.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - DK (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	21.6	8.4	33.0

Net International Investment Position (IIP) - DK (2020)	Net IIP (% GDP):
	68.8

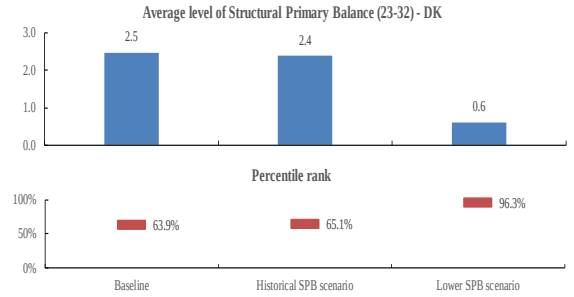
5. Risks related to government's contingent liabilities

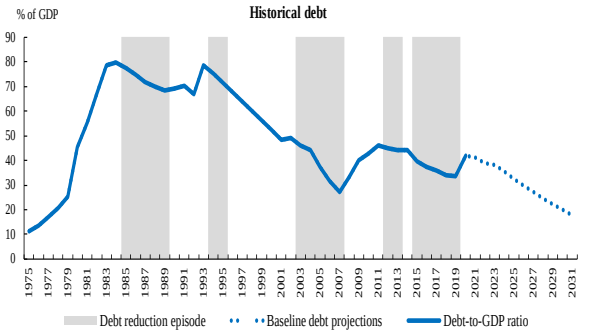
General government contingent liabilities	DK					EU
	2016	2017	2018	2019	2020	2020
State guarantees (% GDP)	12.2	11.6	14.5	18.4	19.8	8.1
of which One-off guarantees	*12.2*	*11.6*	*14.5*	*18.4*	*19.7*	*7.1*
Standardised guarantees	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*1.1*
Public-private partnerships (PPPs) (% GDP)	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.3*

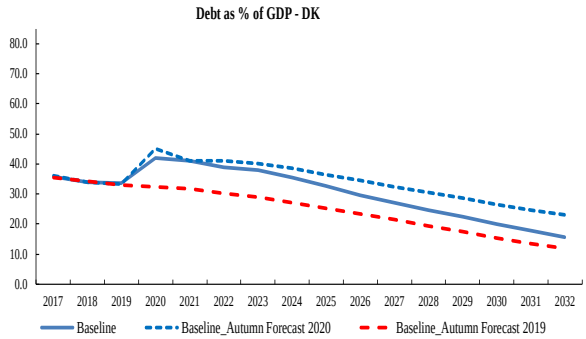
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.0	0.0	0.0	0.0	0.0	0.9
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0
	Total	0.0	0.0	0.0	0.0	0.0	0.9

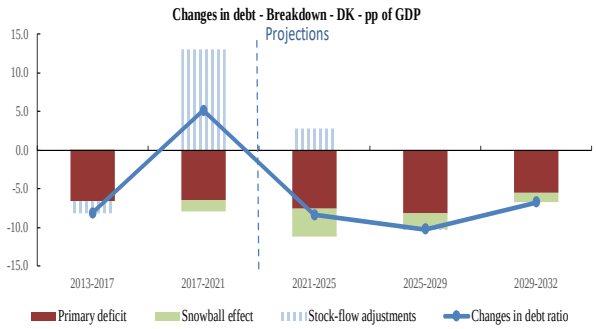
Government's contingent liability risks from banking sector - DK (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	4.8	5.1	288.9	2.0	0.2	27.2	0.07%	0.25%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Denmark	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	41.0	38.8	38.0	24.7	20.0	15.6	39.3	25.0	28.6
Primary balance	-0.2	1.8	1.9	1.9	1.9	1.7	1.2	1.9	1.7
Structural primary balance (before CoA)	-1.3	3.8	2.5	2.5	2.5	2.5	1.7	2.5	2.3
Real GDP growth	4.3	2.7	2.4	1.3	1.4	1.4	3.1	1.6	2.0
Potential GDP growth	2.3	2.2	2.2	1.3	1.4	1.4	2.2	1.4	1.6
Inflation rate	1.0	1.6	1.5	1.8	1.9	2.0	1.3	1.8	1.7
Implicit interest rate (nominal)	1.8	1.3	1.5	1.3	1.2	1.2	1.5	1.3	1.4
Gross financing needs	8.6	5.5	6.2	1.2	0.6	0.3	6.8	1.7	3.0
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	41.0	38.8	37.5	16.8	9.2	2.0	39.1	17.2	22.7
Primary balance	-0.2	1.8	2.9	3.6	3.6	3.4	1.5	3.5	3.0
Structural primary balance (before CoA)	-1.3	3.8	4.2	4.1	4.1	4.1	2.3	4.1	3.7
Real GDP growth	4.3	2.7	1.1	1.3	1.4	1.4	2.7	1.7	2.0
Gross financing needs	8.6	5.5	5.3	-1.5	-2.1	-2.8	6.5	-0.9	0.9
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	41.0	38.8	38.0	25.0	20.5	16.4	39.3	25.4	28.8
Primary balance	-0.2	1.8	1.9	1.8	1.8	1.6	1.2	1.8	1.7
Structural primary balance (before CoA)	-1.3	3.8	2.5	2.3	2.3	2.3	1.7	2.4	2.2
Real GDP growth	4.3	2.7	2.4	1.3	1.4	1.4	3.1	1.6	2.0
Gross financing needs	8.6	5.5	6.2	1.4	0.8	0.5	6.8	1.8	3.1
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	41.0	38.9	38.1	25.0	20.3	15.9	39.3	25.3	28.8
Implicit interest rate (nominal)	1.8	1.5	1.6	1.4	1.3	1.3	1.7	1.4	1.4
Gross financing needs	8.6	5.6	6.3	1.3	0.6	0.3	6.8	1.8	3.0
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	41.0	40.0	42.0	37.3	35.7	34.2	41.0	37.4	38.3
Primary balance	-0.2	-0.6	0.2	0.1	0.0	-0.2	-0.2	0.1	0.0
Structural primary balance (before CoA)	-1.3	-0.3	0.6	0.6	0.6	0.6	-0.3	0.6	0.4
Real GDP growth	4.3	5.9	-0.4	1.3	1.4	1.4	3.3	1.5	2.0
Gross financing needs	8.6	9.4	8.6	6.8	6.8	6.8	8.9	6.8	7.4
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	41.0	39.0	38.4	25.1	20.4	16.0	39.5	25.4	28.9
Exchange rate depreciation	0.0%	0.2%	0.2%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Gross financing needs	8.6	5.5	6.3	1.3	0.6	0.3	6.8	1.8	3.0
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	41.0	39.0	38.4	26.2	21.7	17.5	39.5	26.4	29.7
Implicit interest rate (nominal)	1.8	1.4	1.7	1.5	1.4	1.4	1.6	1.5	1.5
Real GDP growth	4.3	2.2	1.9	0.8	0.9	0.9	2.8	1.1	1.5
Gross financing needs	8.6	5.6	6.4	1.5	0.8	0.5	6.8	2.0	3.2

GERMANY

Short-term risks: low. *No overall short-term vulnerabilities are identified for Germany, according to the S0 indicator. However, gross financing needs remain large in the short term. Sovereign financing conditions are expected to remain favourable, notably supported by the Eurosystem's interventions and continued high demand for German government bonds.*

Medium-term risks: medium. *Medium-term fiscal sustainability risks appear medium overall, combining the medium risk according to the sustainability gap indicator S1 and the low risk from a debt sustainability analysis (DSA) perspective. Government debt, currently at 71% of GDP, is projected to decline to around 62% of GDP in 2032 in the baseline.*

Long-term risks: medium. *Long-term fiscal sustainability risks appear medium overall, combining the medium risk according to the sustainability gap indicator S2 and the low risk from a DSA perspective. The S2 long-term sustainability gap indicator points to risk linked to budgetary pressures stemming from population ageing.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling no overall short-term vulnerabilities. The fiscal sub-index points to short-term vulnerabilities (notably due to gross financing needs, primary and cyclically–adjusted balances and gross debt being all above their critical threshold).

Government financing needs are expected to decline in the short term (about 15% of GDP in 2022), after the high level reached in 2020-2021 (around 19% of GDP). Financing conditions should remain favourable, notably supported by the Eurosystem's interventions and a continued high demand for German government bonds. Financial markets' perceptions of sovereign risk are positive, as confirmed by the CDS spread and the 'AAA' rating that the three major rating agencies assigned to German government debt.

Medium-term fiscal sustainability risks: medium

Debt Sustainability Analysis (DSA): low risk

The debt sustainability analysis, based on the baseline, in particular the projected path, stochastic simulations, and alternative and stress-test scenarios, points to low risk.

Baseline results: moderate and declining debt

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with real GDP growth hovering around 1% in 2024-2032. Under a 'no-fiscal policy change' assumption, government debt would decline throughout the projection horizon to around 62% of GDP in 2032. These baseline projections assume a constant structural primary balance (SPB) before future ageing costs at the forecast deficit for 2023, namely -0.4% of GDP. Based on past fiscal performance, this level appears feasible ([18]). Government gross financing needs are projected to slightly decrease over the next 10 years, reaching around 13% of GDP in 2032.

Stochastic simulations: limited probability that debt will not stabilise by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the German economy. These stochastic simulations point to only a 27% probability of the debt ratio in 2026 being greater than in 2021, entailing low risk given the current level of 71% of GDP. In addition, such shocks point to moderate uncertainty surrounding the

([18]) Based on available historical data, Germany recorded a SPB greater than -0.4% of GDP in 71% of the cases.

baseline projections, as can be seen from the relatively narrow debt distribution cone ([19]).

Alternative and stress-test scenarios: low vulnerabilities, but a weaker primary balance would entail risks

Fiscal policy reverting to historical behaviour would bring a more sizeable reduction of the debt ratio. Indeed, if the SPB gradually converged to its historical average of the last 15 years (a surplus of 1.6% of GDP), the debt ratio would be about 12 pps. of GDP lower than in the baseline in 2032.

More adverse developments of the interest-growth rate differential than assumed under the baseline would have a moderate impact on the debt-to-GDP ratio, given its current value. In particular, a permanently higher 'r-g' differential (by 1 pp.) than in the baseline would entail a debt ratio in 2032 about 5 pps. of GDP higher than in the baseline and broadly stabilising by 2032.

If a temporary (one year) episode of financial stress pushed up market interest rates by 1 pps. in 2022, the debt trajectory would remain broadly unchanged compared with the baseline. However, if only half of the projected improvement in the SPB in 2022-2023 were to occur, the 2032 projected debt ratio would be around 18 pps. of GDP higher than in the baseline, and still on an increasing path by 2032.

S1 indicator: medium risk

The S1 indicator shows that, compared to the baseline, the structural primary balance (SPB) would need to improve by 0.3 pp. of GDP, in cumulated terms over 5 years, to bring the debt-to-GDP ratio to the reference value of 60% by 2038. This corresponds to an SPB of -0.1% of GDP, plausible by German standards ([20]). This value of S1 reflects the projected age-related public spending (contribution by 1.0 pp. of GDP) and the slight distance of the debt ratio from the 60% reference value (contribution of 0.6 pps. of GDP), mitigated by a favourable initial budgetary position (contribution of -1.4 pps. of GDP).

([19]) The difference between the 10th and 90th percentile in 2026 is around 27 pps. of GDP.
([20]) 66% of the SPBs recorded for the country over the past decades were greater than this value.

Long-term fiscal sustainability risks: medium

S2 indicator: medium risk

The S2 indicator shows that, relative to the baseline, the SPB would need to improve by 2.6 pps. of GDP to stabilise the debt-to-GDP ratio over the long term. Such adjustment would bring the SPB to 2.2% of GDP, which is very ambitious by German standards ([21]). This sustainability gap is driven by the projected increase of ageing costs (contribution of 2.1 pps. of GDP) and to a lower extent by the unfavourable initial budgetary position (0.5 pp. of GDP). Ageing costs are primarily related to the projected increase of public pension expenditure (contribution of 1.0 pps. of GDP) ([22]).

In sum, based on the sustainability gap indicator S2 and the DSA risk assessment discussed higher, overall long-term fiscal sustainability risks are medium.

Additional mitigating and aggravating risk factors

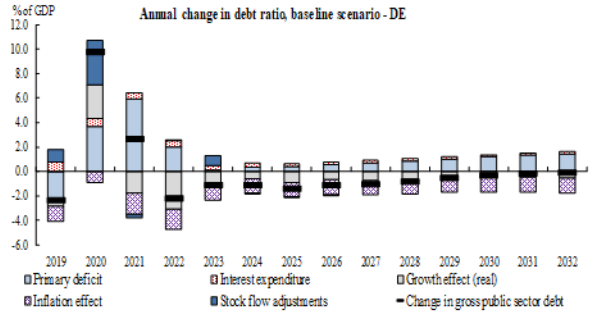
Several factors mitigate the risks. These include the lengthening of debt maturity in recent years, relatively stable financing sources (with a diversified and large investor base), the currency denomination of debt, historically low borrowing costs supported by the Eurosystem's interventions, and continuous high demand for German government bonds. In 2020, 25% of government debt was held by the Eurosystem. In addition, Germany's positive net international investment position helps mitigating vulnerabilities.

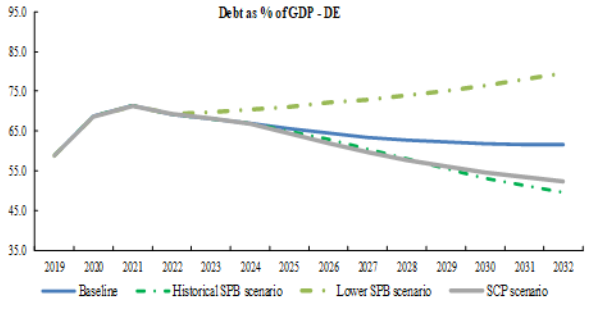
Risk-increasing factors are related to contingent liability risks stemming from the private sector, including via the possible materialisation of sizeable state guarantees granted to firms and self-employed during the COVID-19 crisis. However, this risk remains currently limited due to relatively low take-up so far. Contingent liability risks stemming from the banking sector are also low (based on the SYMBOL simulations).

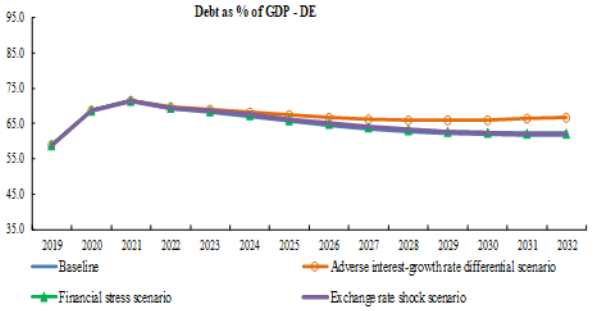
([21]) Only 9% of the SPBs recorded for the country over the past decades were greater than this value.
([22]) Between 2019 and 2070 total ageing costs are estimated to increase by 3.3 pps. of GDP (among which public pensions by 2.1 pps. of GDP) – see 2021 Ageing Report.

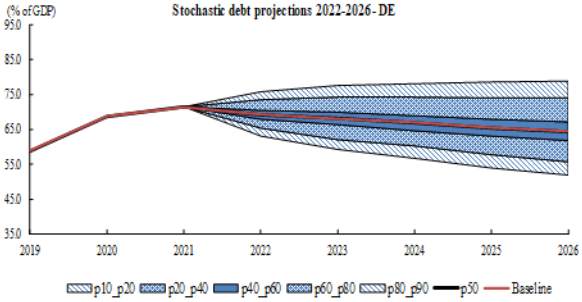
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

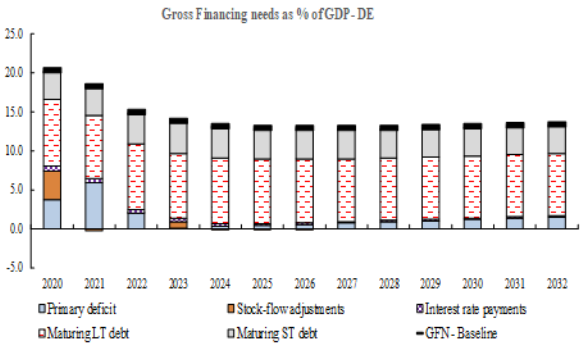
DE - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	58.9	68.7	71.4	69.2	68.1	67.0	65.6	64.5	63.5	62.7	62.2	61.9	61.7	61.6
Changes in the ratio (-1+2+3)	-2.3	9.8	2.7	-2.2	-1.1	-1.1	-1.4	-1.1	-1.0	-0.8	-0.5	-0.3	-0.2	-0.1
of which														
(1) Primary balance (1.1+1.2+1.3)	2.3	-3.7	-5.9	-2.0	-0.1	-0.4	-0.4	-0.6	-0.7	-0.9	-1.0	-1.2	-1.3	-1.5
(1.1) Structural primary balance (1.1.1-1.1.2+1.1.3)	1.7	-1.5	-4.5	-2.1	-0.4	-0.4	-0.5	-0.6	-0.7	-0.9	-1.0	-1.2	-1.3	-1.5
(1.1.1) Structural primary balance (bef. CoA)	1.7	-1.5	-4.5	-2.1	-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						0.1	0.2	0.3	0.5	0.7	0.9	1.1	1.3	1.4
(1.1.3) Others (taxes and property incomes)						0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3
(1.2) Cyclical component	0.6	-2.2	-1.5	0.1	0.3	0.1	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)	-1.1	2.5	-3.0	-4.3	-1.9	-1.5	-1.8	-1.7	-1.7	-1.7	-1.5	-1.5	-1.5	-1.5
(2.1) Interest expenditure	0.8	0.6	0.5	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2
(2.2) Growth effect	-0.6	2.8	-1.8	-3.1	-1.2	-0.6	-0.9	-0.7	-0.7	-0.7	-0.5	-0.5	-0.5	-0.5
(2.3) Inflation effect	-1.2	-0.9	-1.7	-1.7	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-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	1.0	3.6	-0.3	0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(3.1) Base	0.9	3.7	-0.2	0.0	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	0.1	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	0.9	-2.1	-5.0	-2.6	-0.8	-0.8	-0.8	-0.8	-0.9	-1.1	-1.2	-1.4	-1.5	-1.7
Gross financing needs	10.9	20.3	18.3	14.9	13.8	13.2	12.9	12.9	12.8	12.9	12.9	13.1	13.2	13.3

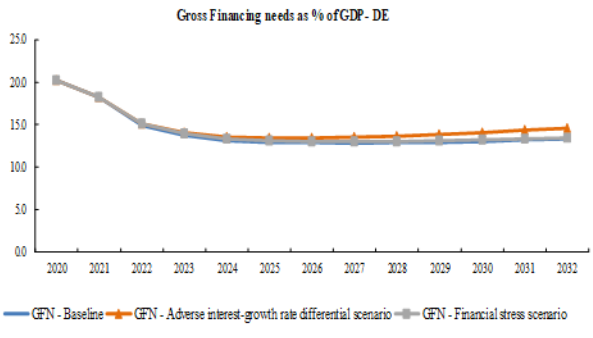












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
			Baseline	Historical SPB	Adverse r-g scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	LOW	LOW	LOW	LOW	MEDIUM	LOW		
			Debt level (2032)	61.6	49.5	66.8	62.2	79.6			
			Debt peak year	2021	2021	2021	2021	2032			
LOW (S0 = 0.3)	MEDIUM	MEDIUM (S1 = 0.3)	Percentile rank	70.8%	38.2%	70.8%	70.8%	96.3%		LOW	MEDIUM (S2 = 2.6)	MEDIUM
			Probability debt higher						27.2%		
			Dif. between percentiles						26.9		

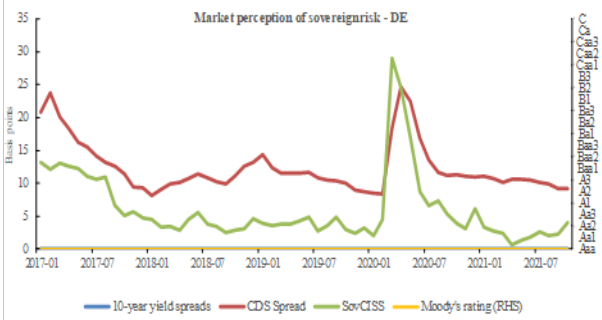
2.2. Sustainability indicators

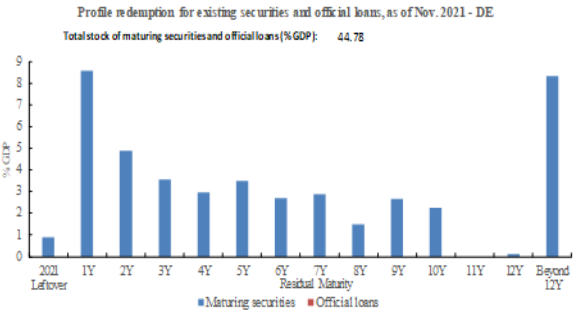
S0 indicator	2009	2021	Critical threshold
Overall index	**0.19**	**0.31**	**0.46**
Fiscal sub-index	0.35	0.45	0.36
Financial competitiveness sub-index	0.10	0.24	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**-1.1**	**0.3**	**0.4**	**0.7**
of which *Initial budgetary position*	*-2.2*	*-1.4*	*-1.3*	*-1.3*
Cost of delaying adjustment	*-0.1*	*0.0*	*0.0*	*0.1*
Debt requirement	*0.2*	*0.6*	*0.6*	*0.6*
Ageing costs	*1.0*	*1.0*	*1.0*	*1.4*
Required structural primary balance related to S1	**-0.4**	**-0.1**	**0.0**	**0.4**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**2.1**	**2.6**	**2.6**	**4.7**
of which Initial Budgetary position	-0.1	0.5	0.5	0.5
Ageing costs	2.2	2.1	2.1	4.2
of which Pensions	*1.0*	*1.0*	*1.0*	*1.0*
Health care	*0.5*	*0.4*	*0.3*	*1.1*
Long-term care	*0.3*	*0.2*	*0.3*	*1.6*
Others	*0.5*	*0.5*	*0.5*	*0.5*
Required structural primary balance related to S2	**2.9**	**2.2**	**2.3**	**4.4**

3. Financial information





Sovereign Ratings as of Nov. 2021, DE	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Aaau		Aaau	
S&P	AAAu	A-1+u	AAAu	A-1+u
Fitch	AAA		AAA	F1+

Sovereign yield spreads (bp)* - as of October 2021	10-year	0.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - DE (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	11.8	4.3	45.4

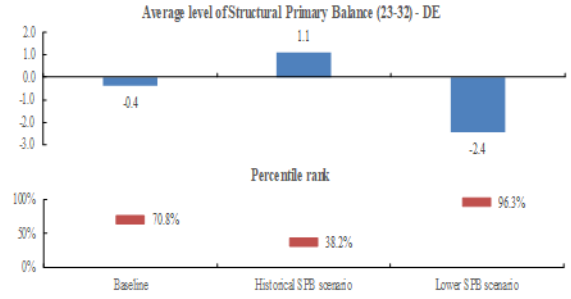
Net International Investment Position (IIP) DE (2020)	Net IIP (% GDP):
	61.7

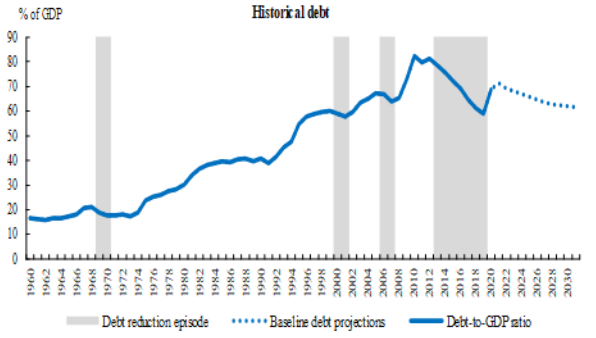
5. Risks related to government's contingent liabilities

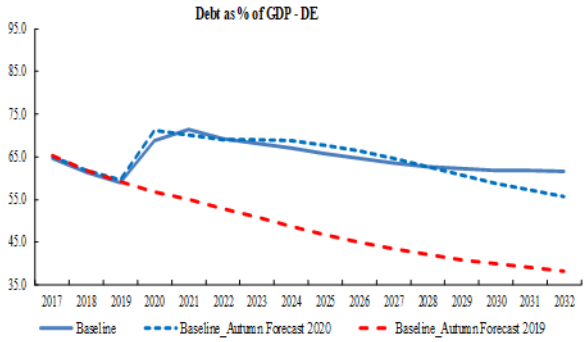
General government contingent liabilities		DE					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		14.3	13.4	12.8	13.1	17.5	8.1
of which	*One-off guarantees*	*14.3*	*13.4*	*12.8*	*13.1*	*17.5*	*7.1*
	Standardised guarantees	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.2	0.2	0.0	0.0	0.0	0.9
	Securities issued under liquidity schemes	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
	Total	0.5	0.3	0.1	0.1	0.1	0.9

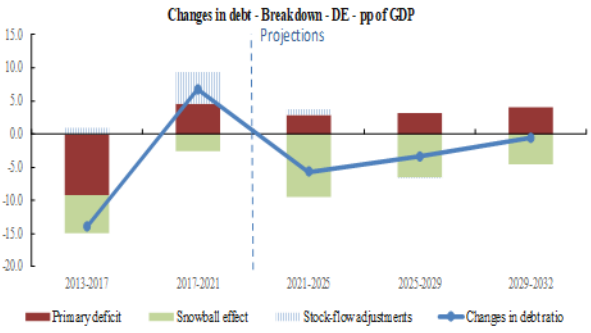
Government's contingent liability risks from banking sector - DE (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	6.0	7.8	119.3	1.1	-0.1	35.4	0.01%	0.13%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Germany	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	71.4	69.2	68.1	62.7	61.9	61.6	69.6	63.4	65.0
Primary balance	-5.9	-2.0	-0.1	-0.9	-1.2	-1.5	-2.7	-0.9	-1.3
Structural primary balance (before CoA)	-4.5	-2.1	-0.4	-0.4	-0.4	-0.4	-2.3	-0.4	-0.9
Real GDP growth	2.7	4.6	1.7	1.1	0.8	0.9	3.0	1.0	1.5
Potential GDP growth	1.2	1.3	1.4	1.1	0.8	0.9	1.3	1.0	1.1
Inflation rate	2.6	2.4	1.8	1.9	2.0	2.0	2.3	1.9	2.0
Implicit interest rate (nominal)	0.8	0.7	0.6	0.3	0.3	0.3	0.7	0.4	0.4
Gross financing needs	18.3	14.9	13.8	12.9	13.1	13.3	15.6	13.0	13.7
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	71.4	69.2	68.1	57.7	54.7	52.3	69.6	58.6	61.3
Primary balance	-5.9	-2.0	-0.1	0.4	0.1	-0.2	-2.7	0.3	-0.5
Structural primary balance (before CoA)	-4.5	-2.1	-0.4	0.9	0.9	0.9	-2.3	0.9	0.1
Real GDP growth	2.7	4.6	1.7	1.1	0.8	0.9	3.0	1.0	1.5
Gross financing needs	18.3	14.9	13.8	10.7	10.4	10.3	15.6	11.0	12.2
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	71.4	69.2	68.1	58.0	53.3	49.5	69.6	58.1	61.0
Primary balance	-5.9	-2.0	-0.1	0.8	0.8	0.5	-2.7	0.6	-0.2
Structural primary balance (before CoA)	-4.5	-2.1	-0.4	1.6	1.6	1.6	-2.3	1.3	0.4
Real GDP growth	2.7	4.6	1.7	1.4	1.1	0.9	3.0	1.0	1.5
Gross financing needs	18.3	14.9	13.8	10.4	9.3	8.7	15.6	10.6	11.8
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	71.4	69.4	68.4	63.3	62.5	62.2	69.7	63.9	65.4
Implicit interest rate (nominal)	0.8	1.0	0.8	0.4	0.3	0.4	0.9	0.4	0.5
Gross financing needs	18.3	15.1	13.9	13.0	13.2	13.5	15.8	13.2	13.8
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	71.4	69.4	69.6	73.9	76.5	79.6	70.2	74.4	73.4
Primary balance	-5.9	-2.9	-1.6	-2.9	-3.2	-3.5	-3.5	-2.9	-3.0
Structural primary balance (before CoA)	-4.5	-3.5	-2.4	-2.4	-2.4	-2.4	-3.5	-2.4	-2.7
Real GDP growth	2.7	5.6	1.9	1.1	0.8	0.9	3.4	0.9	1.5
Gross financing needs	18.3	16.1	15.2	16.7	17.6	18.6	16.5	16.8	16.7
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	71.4	69.5	68.7	63.2	62.3	62.1	69.9	63.9	65.4
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	18.3	15.0	13.9	13.0	13.2	13.4	15.7	13.1	13.8
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	71.4	69.6	69.0	65.9	66.0	66.8	70.0	66.6	67.5
Implicit interest rate (nominal)	0.8	0.8	0.8	0.7	0.7	0.8	0.8	0.7	0.7
Real GDP growth	2.7	4.1	1.2	0.6	0.3	0.4	2.7	0.5	1.0
Gross financing needs	18.3	15.1	14.0	13.7	14.1	14.6	15.8	13.8	14.3

ESTONIA

Short-term risks: low. *Estonia does not have major short-term vulnerabilities according to the S0 indicator. Gross financing needs are expected to stay very manageable, also considering that financing conditions should remain favourable.*

Medium-term risks: low. *Over the medium term, fiscal sustainability risks are low overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, currently at 19% of GDP, is projected to continue rising in the baseline, but to remain at modest levels, at 26% of GDP in 2032. Alternative and stress-test scenarios confirm this assessment.*

Long-term risks: low. *Over the long term, both the sustainability gap indicator S2 and the DSA point to low risks, considering the low debt burden and the projected decline in age-related spending.*

Short-term fiscal sustainability risks: low

The S0 indicator, aimed at the early detection of fiscal stress, does not point to the existence of overall short-term risks. Neither the financial-competitiveness sub-index, nor the fiscal sub-index signals major immediate vulnerabilities.

At about 3-4% of GDP in 2021-2022, financing needs are expected to be higher than prior to the pandemic but overall still very modest. Moreover, financing conditions should remain favourable, in particular supported by the Eurosystem's interventions. Financial markets perceive Estonian sovereign risk as low, as confirmed by the CDS spread and the 'AA' rating from major rating agencies.

Medium-term fiscal sustainability risks: low

Debt Sustainability Analysis (DSA): low risk

The DSA, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to a low risk.

Baseline results: increase from low levels at unchanged policies

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with average real GDP growth of 3% in 2024-2032. Under the baseline 'no-fiscal-policy-change' assumption, government debt is expected to increase over the next decade. The debt-to-GDP ratio would rise to about 26% in 2032 or by around 0.5 pps. annually. This slow-paced increase reflects an average primary deficit of 1.5% of GDP being partly offset by the favourable interest-growth rate dynamics. The baseline assumes a constant structural primary balance (SPB) before ageing costs at the forecast deficit for 2023, namely -1.8% of GDP, which is low by historical standards. ([23]) Gross financing needs are estimated at around 3% of GDP over the next 10 years given the limited primary deficit and the low debt stock.

Stochastic simulations: high probability that debt will not stabilise by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was carried out, based on the Estonian economy's historical volatility. These stochastic simulations see a very high probability that the debt ratio will be higher in 2026 than in 2021. However, the simulations do not find significant uncertainty around the baseline projections, as shown by the narrow debt distribution cone. ([24])

Alternative and stress-test scenarios: low vulnerabilities

If the SPB gradually converged to the average of the last 15 years – a deficit of 0.3% of GDP – the debt ratio would peak at about 22% of GDP in

([23]) Based on available historical data, Estonia recorded an SPB greater than -1.8% of GDP in 89% of the cases, so achieving a higher SPB is realistic.

([24]) The difference between the 10th and 90th percentile is 9 pps. of GDP in 2026.

2024 and decrease to 17% in 2032, compared to 26% according to the baseline.

Considering the low debt level, the impact of a less favourable interest-growth rate differential would be small. A 1 pp. higher 'r-g' difference throughout the projection period results in an estimated debt-to-GDP ratio of about 27% in 2032.

If a temporary (one-year) episode of financial stress pushed up market interest rates by 1 pp. in 2022, the 2032 projected debt would not change. If only half of the projected improvement in the SPB in 2022-2023 were to occur, the 2032 projected debt would be higher by 8 pps. of GDP relative to the baseline. At 34% of GDP, Estonian government debt would remain low, though, even under this most unfavourable scenario.

S1 indicator: low risk

The S1 indicator shows that a deterioration of the SPB by 3.1 pps. of GDP is compatible with government debt reaching the reference value of 60% of GDP by 2038. On the one hand, an adjustment of 0.8 pps. of GDP would be needed to arrive at the debt-stabilising primary balance. On the other hand, though, the large gap to the 60% of GDP target means that the SPB could deteriorate by 3.2 pps. of GDP. Because of decreasing pension expenditure at unchanged policies, overall ageing costs are projected to fall, narrowing the S1 sustainability gap further by 0.4 pps.

Long-term fiscal sustainability risks: low

S2 indicator: low risk

The S2 indicator shows that the SPB forecast for 2023 would need to improve by 0.5 pps. of GDP to stabilise the debt-to-GDP ratio over the long term. This adjustment would bring the SPB to a deficit of 1.3% of GDP, which is feasible by historical standards. ([25]) The small sustainability gap is composed of 1.8 pps. to correct for the initial budgetary position, while the projected fall in overall ageing costs allows the SPB to deteriorate by 1.3 pps. Falling ageing costs primarily concern lower spending on public pensions at unchanged policy, with long-term care and healthcare expenditure expected instead to rise. ([26])

In sum, based on the sustainability gap indicator S2 and the DSA risk assessment discussed previously, overall long-term fiscal sustainability risks are low.

Additional mitigating and aggravating risk factors

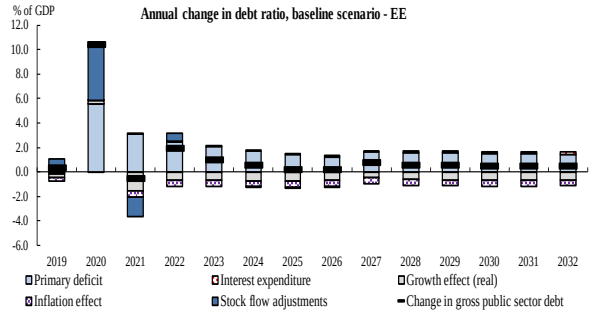
Even though non-residents hold most of the Estonian debt stock, the latter is small and fully denominated in euro. At the end of 2020, 4% of total government debt was held by the Eurosystem. State guarantees remain limited, at 1.9% of GDP at the end of 2020. Implicit contingent liabilities linked to the banking sector appear also limited (based on SYMBOL simulations). The negative net international investment position could be seen as a risk factor but does not fundamentally change the generally low fiscal vulnerabilities for Estonia.

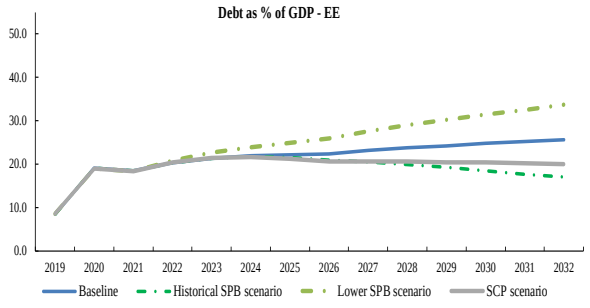
Higher risks could come from liabilities linked to an ageing population. Indeed, the baseline projections point to low and declining pension adequacy, which might be exacerbated by the decision to wind down the private second pillar. Eventual measures to improve pension adequacy could lead to higher public pension spending than projected in the baseline.

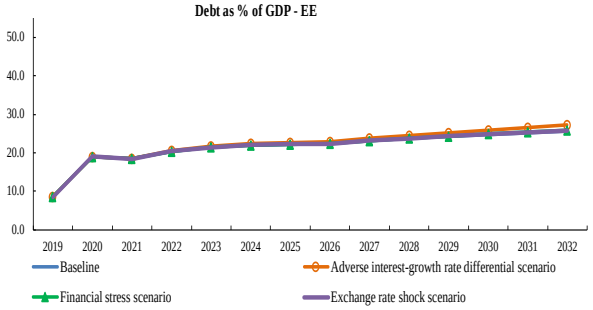
([25]) 84% of past Estonian SPBs were greater.
([26]) Spending on age-related items is expected to decline by 1.6 pps. of GDP between 2019 and 2070, driven by a fall in public pensions expenditure of 2.3 pps. – see 2021 Ageing Report.

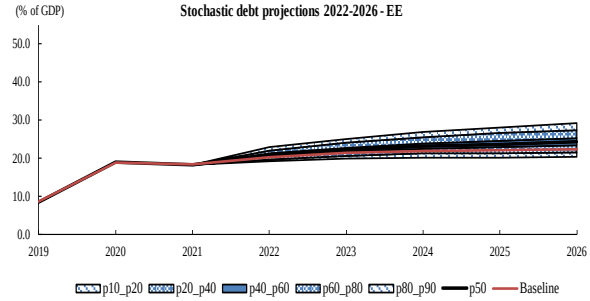
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

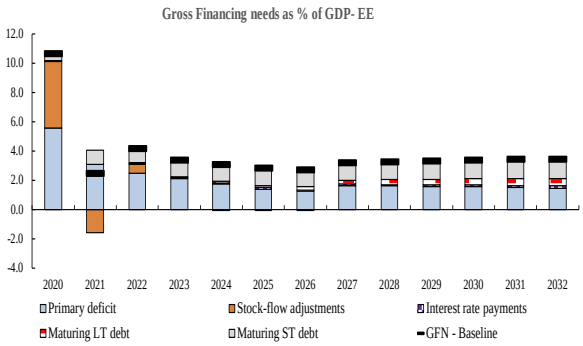
EE - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	**8.6**	**19.0**	**18.4**	**20.4**	**21.4**	**22.0**	**22.2**	**22.4**	**23.1**	**23.7**	**24.3**	**24.8**	**25.2**	**25.7**
Changes in the ratio (-1+2+3)	*0.3*	*10.4*	*-0.6*	*2.0*	*1.0*	*0.6*	*0.2*	*0.2*	*0.8*	*0.6*	*0.5*	*0.5*	*0.5*	*0.5*
of which														
(1) Primary balance (1.1+1.2+1.3)	**0.1**	**-5.6**	**-3.1**	**-2.5**	**-2.1**	**-1.7**	**-1.4**	**-1.2**	**-1.6**	**-1.6**	**-1.6**	**-1.5**	**-1.5**	**-1.5**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-0.6***	***-3.0***	***-3.7***	***-2.3***	***-1.8***	***-1.6***	***-1.6***	***-1.5***	***-1.6***	***-1.6***	***-1.6***	***-1.5***	***-1.5***	***-1.5***
(1.1.1) Structural primary balance (bef. CoA)	*-0.6*	*-3.0*	*-3.7*	*-2.3*	*-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						*-0.2*	*-0.2*	*-0.2*	*-0.1*	*-0.2*	*-0.2*	*-0.2*	*-0.3*	*-0.3*
(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*
(1.2) Cyclical component	***0.8***	***-2.5***	***-0.4***	***-0.4***	***-0.3***	***-0.1***	***0.2***	***0.3***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.0***	***1.0***	***0.2***	***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)	**-0.5**	**0.3**	**-2.0**	**-1.1**	**-1.1**	**-1.1**	**-1.2**	**-1.1**	**-0.9**	**-1.0**	**-1.0**	**-1.0**	**-1.0**	**-1.0**
(2.1) Interest expenditure	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.2*
(2.2) Growth effect	*-0.3*	*0.3*	*-1.5*	*-0.6*	*-0.7*	*-0.7*	*-0.8*	*-0.7*	*-0.5*	*-0.6*	*-0.7*	*-0.7*	*-0.7*	*-0.6*
(2.3) Inflation effect	*-0.3*	*0.0*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-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	**1.0**	**4.6**	**-1.6**	**0.6**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*1.0*	*4.6*	*-1.6*	*0.6*	*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	-0.7	-3.1	-3.7	-2.3	-1.8	-1.7	-1.7	-1.6	-1.7	-1.7	-1.7	-1.7	-1.6	-1.6
Gross financing needs	1.3	10.6	2.5	4.1	3.3	3.1	2.8	2.7	3.2	3.2	3.3	3.4	3.4	3.4

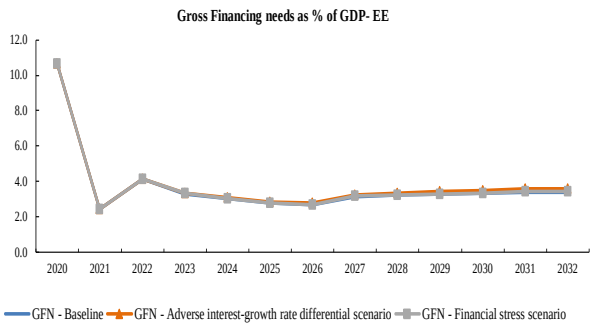












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
				Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2032)	25.7	17.0	27.2	25.8	33.7				
			Debt peak year	2032	2024	2032	2032	2032				
LOW (S0 = 0.2)	LOW	LOW (S1 = -3.1)	Percentile rank	89.3%	66.8%	89.3%	89.3%	98.1%		LOW	LOW (S2 = 0.5)	LOW
			Probability debt higher						97.6%			
			Dif. between percentiles						9.0			

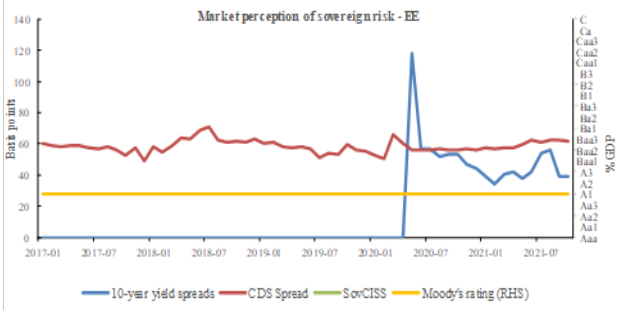
2.2. Sustainability indicators

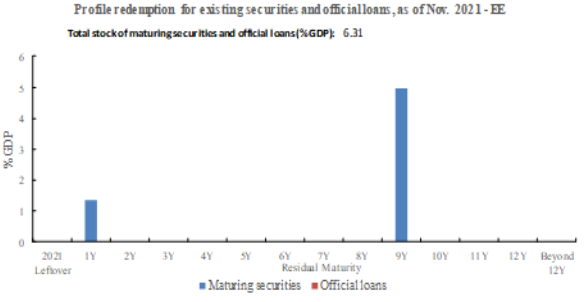
S0 indicator	2009	2021	Critical threshold
Overall index	**0.48**	**0.22**	**0.46**
Fiscal sub-index	0.27	0.22	0.36
Financial competitiveness sub-index	0.57	0.22	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**-2.9**	**-3.1**	**-3.0**	**-2.3**
of which *Initial budgetary position*	*-0.4*	*0.8*	*0.8*	*0.8*
Cost of delaying adjustment	*-0.3*	*-0.3*	*-0.3*	*-0.2*
Debt requirement	*-2.3*	*-3.2*	*-3.2*	*-3.2*
Ageing costs	*0.1*	*-0.4*	*-0.3*	*0.3*
Required structural primary balance related to S1	**-3.4**	**-4.9**	**-4.7**	**-4.0**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**0.7**	**0.5**	**0.7**	**6.0**
of which Initial Budgetary position	0.6	1.8	1.8	1.8
Ageing costs	0.2	-1.3	-1.1	4.2
of which Pensions	*-0.8*	*-2.0*	*-1.7*	*-1.8*
Health care	*0.4*	*0.7*	*0.7*	*1.8*
Long-term care	*0.4*	*0.3*	*0.3*	*4.5*
Others	*0.3*	*-0.3*	*-0.3*	*-0.3*
Required structural primary balance related to S2	**0.3**	**-1.3**	**-1.0**	**4.2**

3. Financial information





Sovereign Ratings as of Nov. 2021, EE	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's			WR	
S&P	AA-	A-1+	AA-	A-1+
Fitch	AA-		AA-	F1+

Sovereign yield spreads (bp)* - as of October 2021	10-year	39.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - EE (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	9.3	0.0	70.0

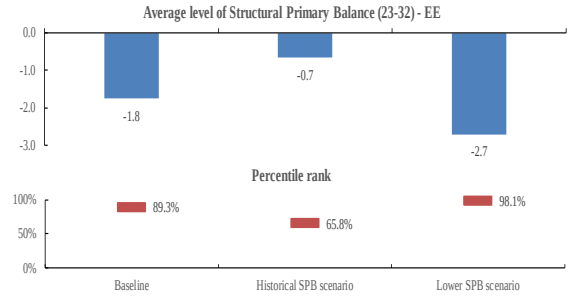
Net International Investment Position (IIP) - EE (2020)	Net IIP (% GDP):
	-21.5

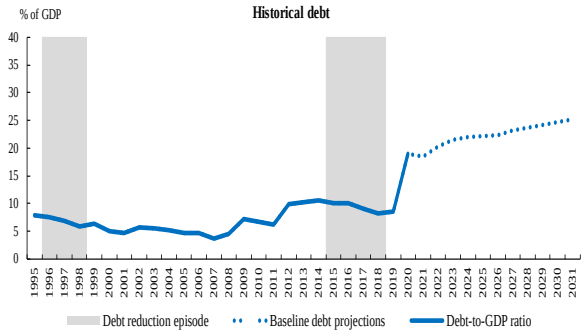
5. Risks related to government's contingent liabilities

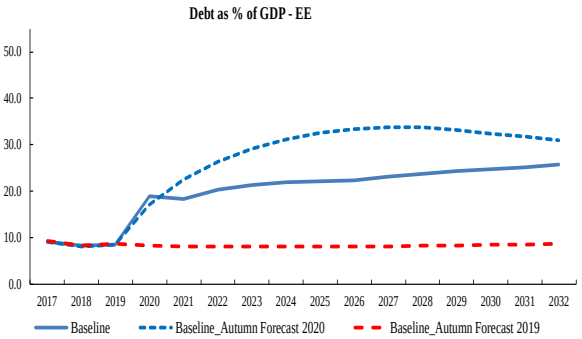
General government contingent liabilities		EE					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		1.8	1.7	1.6	1.4	1.9	8.1
of which One-off guarantees		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*7.1*
Standardised guarantees		*1.8*	*1.7*	*1.6*	*1.4*	*1.9*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.3*
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	n.a.	n.a.	n.a.	n.a.	n.a.	0.9
	Securities issued under liquidity schemes	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.	0.0
	Total	n.a.	n.a.	n.a.	n.a.	n.a.	0.9

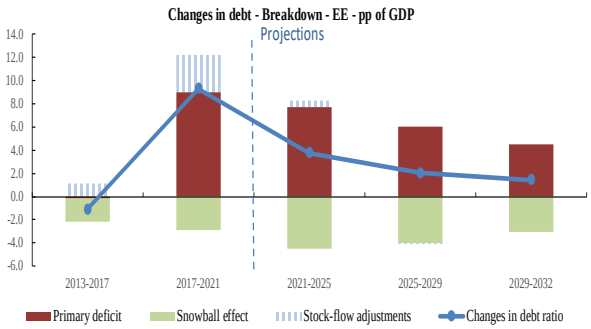
Government's contingent liability risks from banking sector - EE (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	3.6	6.0	101.8	1.1	-0.4	27.2	0.02%	0.13%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Estonia	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	18.4	20.4	21.4	23.7	24.8	25.7	20.1	23.7	22.8
Primary balance	-3.1	-2.5	-2.1	-1.6	-1.5	-1.5	-2.5	-1.5	-1.8
Structural primary balance (before CoA)	-3.7	-2.3	-1.8	-1.8	-1.8	-1.8	-2.6	-1.8	-2.0
Real GDP growth	9.0	3.7	3.5	2.9	2.9	2.7	5.4	3.0	3.6
Potential GDP growth	4.3	3.6	3.4	2.9	2.9	2.7	3.8	2.9	3.1
Inflation rate	2.9	3.0	2.4	2.2	2.1	2.0	2.8	2.2	2.3
Implicit interest rate (nominal)	0.3	0.4	0.4	0.5	0.5	0.6	0.4	0.5	0.5
Gross financing needs	2.5	4.1	3.3	3.2	3.4	3.4	3.3	3.2	3.2
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	18.4	20.4	21.4	20.6	20.3	20.0	20.1	20.6	20.5
Primary balance	-3.1	-2.5	-2.1	-0.8	-0.7	-0.7	-2.5	-0.8	-1.2
Structural primary balance (before CoA)	-3.7	-2.3	-1.8	-1.0	-1.0	-1.0	-2.6	-1.0	-1.4
Real GDP growth	9.0	3.7	3.5	2.9	2.9	2.7	5.4	3.0	3.6
Gross financing needs	2.5	4.1	3.3	2.3	2.3	2.2	3.3	2.2	2.5
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	18.4	20.4	21.4	20.0	18.5	17.0	20.1	19.7	19.8
Primary balance	-3.1	-2.5	-2.1	-0.3	-0.1	0.0	-2.5	-0.4	-1.0
Structural primary balance (before CoA)	-3.7	-2.3	-1.8	-0.3	-0.3	-0.3	-2.6	-0.5	-1.0
Real GDP growth	9.0	3.7	3.5	3.1	3.1	2.7	5.4	3.0	3.6
Gross financing needs	2.5	4.1	3.3	1.8	1.5	1.3	3.3	1.8	2.2
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	18.4	20.4	21.5	23.8	24.8	25.8	20.1	23.8	22.9
Implicit interest rate (nominal)	0.3	0.5	0.5	0.5	0.6	0.7	0.4	0.5	0.5
Gross financing needs	2.5	4.2	3.3	3.2	3.4	3.4	3.3	3.2	3.2
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	18.4	20.9	22.6	28.9	31.4	33.7	20.6	28.8	26.8
Primary balance	-3.1	-3.1	-2.8	-2.6	-2.5	-2.4	-3.0	-2.4	-2.6
Structural primary balance (before CoA)	-3.7	-3.2	-2.7	-2.7	-2.7	-2.7	-3.2	-2.7	-2.8
Real GDP growth	9.0	4.4	3.3	2.9	2.9	2.7	5.6	2.9	3.6
Gross financing needs	2.5	5.0	4.1	4.5	4.7	4.9	3.9	4.4	4.3
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	18.4	20.4	21.4	23.7	24.8	25.7	20.1	23.7	22.8
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	2.5	4.1	3.3	3.2	3.4	3.4	3.3	3.2	3.2
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	18.4	20.5	21.6	24.6	25.9	27.2	20.2	24.6	23.5
Implicit interest rate (nominal)	0.3	0.5	0.5	0.7	0.9	1.0	0.4	0.8	0.7
Real GDP growth	9.0	3.2	3.0	2.4	2.4	2.2	5.1	2.5	3.1
Gross financing needs	2.5	4.2	3.4	3.4	3.5	3.6	3.3	3.3	3.3

IRELAND

Short-term risks: low. *No overall short-term vulnerabilities are identified for Ireland, according to the S0 indicator. Gross financing needs should remain limited in the short term. Sovereign financing conditions are expected to remain favourable, notably supported by the Eurosystem's interventions.*

Medium-term risks: low. *Medium-term fiscal sustainability risks appear low overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, projected at 56% of GDP in 2021, is projected to decline, reaching around 46% of GDP in 2032 in the baseline. Alternative and stress-test scenarios confirm this assessment.*

Long-term risks: medium. *Long-term fiscal sustainability risks appear medium overall, combining the medium risk according to the sustainability gap indicator S2 and the low risk from a DSA perspective. The S2 long-term sustainability gap indicator points to risk linked to budgetary pressures stemming from population ageing.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling no overall short-term vulnerabilities. Both the fiscal and the financial competitiveness sub-indexes are also below their critical thresholds.

Government financing needs are expected to remain limited in the short term (about 5% of GDP in 2021-2022), and declining compared with 2020. Financing conditions should remain favourable, notably supported by the Eurosystem's interventions. Financial markets' perceptions of sovereign risk are positive, as confirmed by the CDS spread and the 'AA' rating (or equivalent assessment) that the three major rating agencies assigned to Irish government debt.

Medium-term fiscal sustainability risks: low

The debt sustainability analysis, based on the baseline, in particular the debt level and projected path, stochastic simulations, and alternative and stress-test scenarios, points to low risk.

Baseline results: moderate and declining debt

The baseline projections assume a favourable interest-growth rate differential, with real GDP growth averaging 3.4% in 2024-2032. Under a 'no-fiscal policy change' assumption, government debt is projected to decline to around 46% of GDP in 2032 ([27]). This baseline projection assumes a structural primary balance (SPB), without future ageing costs, remaining constant at the deficit forecast for 2023 of -0.5% of GDP. This level appears historically plausible ([28]). Government gross financing needs are projected to slightly increase, reaching around 7% of GDP in 2032.

Stochastic simulations: low probability that debt will not to stabilise by 2026, though significant uncertainty surrounding the baseline

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the Irish economy. These stochastic simulations point to only a 22% probability of the debt ratio in 2026 being greater than in 2021, entailing low risk given the current level of 56% of GDP. Yet, such shocks point to significant uncertainty surrounding the baseline projections, as can be seen from the relatively wide debt distribution cone ([29]).

([27]) Assuming a constant ratio over the projection period between GDP and GNI*, the latter being considered as a more appropriate measure of economic activity in Ireland, the debt ratio would exceed 60% of GNI* in 2032, associated with higher risks.

([28]) Based on available historical data, IE recorded a SPB greater than -0.5% of GDP in 65% of the cases. Therefore, the country has room to improve its fiscal position and lower its debt-to-GDP ratio.

([29]) The difference between the 10th and 90th percentile in 2026 is around 31 pps. of GDP.

Alternative and stress-test scenarios: no important vulnerabilities, but a weaker primary balance would entail risks

Fiscal policy reverting to historical behaviour would imply less favourable debt ratio developments. Indeed, if the SPB gradually converged to its historical average of the last 15 years (a deficit of 1.7% of GDP), the debt ratio would be about 7 pps. of GDP higher than in the baseline in 2032.

More adverse interest-growth rate differential developments than assumed under the baseline would have a limited impact on the debt ratio, given its current moderate value. In particular, a permanently higher 'r-g' differential (by 1 pp.) than in the baseline would entail a debt ratio about 3 pps. of GDP higher than in the baseline in 2032.

If only half of the projected improvement in the SPB in 2022-2023 were to occur, the projected debt ratio in 2032 would be around 14 pps. of GDP higher than in the baseline. In this case, the debt ratio would in fact be on an increasing path over the medium term. A temporary (one year) financial stress (a higher 1 pp. market interest rate in 2022) has on the other hand a limited impact.

S1 indicator: low risk

The S1 indicator shows that, compared to the baseline, the SPB could deteriorate -0.6 pp. of GDP, in cumulated terms over 5 years, while still keeping debt-to-GDP ratio at the reference value of 60% by 2038. This low value of S1 is due to the favourable initial budgetary position (contribution by -1.2 pp. of GDP) and a debt ratio already lower than the 60% reference value (contribution by -0.7 pp. of GDP), partly offset by projected increases in age-related public spending (contribution by 1.4 pp. of GDP).

Long-term fiscal sustainability risks: medium

S2 indicator: medium risk

The S2 indicator shows that, relative to the baseline, the SPB would need to improve by 5.7 pps. of GDP to stabilise the debt ratio over the long term. Such adjustment would bring the SPB to 5.2% of GDP, which is very ambitious by Irish standards ([30]). This sustainability gap is driven by the projected increase of ageing costs (contribution of 5 pps. of GDP) and the unfavourable initial budgetary position (0.6 pp. of GDP). Ageing costs are primarily related to the projected increase of public pension expenditure (contribution of 2.3 pps. of GDP), health care spending (contribution of 1.2 pps. of GDP) and long-term care spending (contribution of 1.6 pps. of GDP) ([31]).

In sum, based on the sustainability gap indicator S2 and the DSA risk assessment discussed higher, overall long-term fiscal sustainability risks are medium.

Additional mitigating and aggravating risk factors

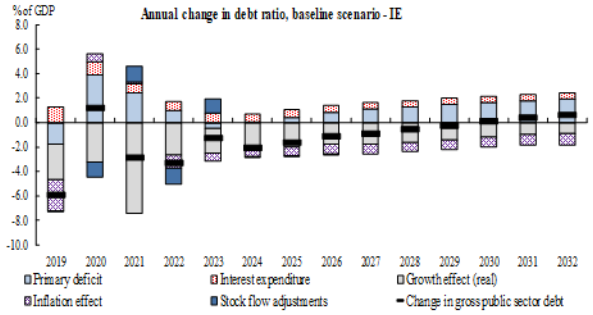
Several factors mitigate the risks. These include the recent lengthening of debt maturity, relatively stable financing sources (with a diversified and large investor base), the currency denomination of debt, and historically low borrowing costs supported by the Eurosystem's interventions. In 2020, a total of 28% of Ireland's government debt was held within the Eurosystem.

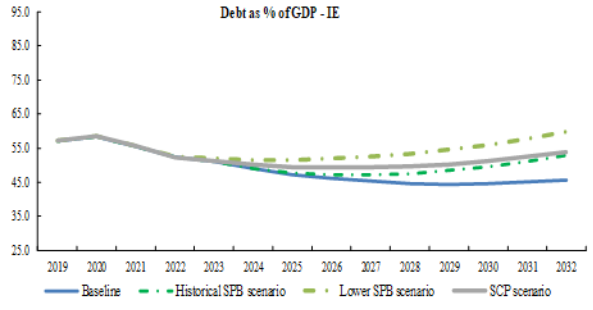
Risk-increasing factors are related to contingent liability risks stemming from the private sector, including via the possible materialisation of state guarantees granted to firms and self-employed during the COVID-19 crisis. However, this risk remains currently limited due to relatively low take-up so far. Contingent liability risks stemming from the banking sector are also contained (even based on the 'stressed' SYMBOL simulations). The negative net international investment position could be an aggravating factor, though it largely reflects presence of multinationals and International Financial Services Centre. Finally, alternative metrics to GDP suggests more important fiscal sustainability risks ([32]).

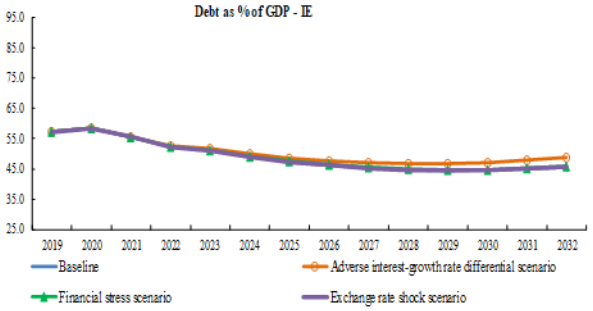
([30]) Over the past decades, such an SPB was never reached.
([31]) Between 2019 and 2070 total ageing costs are estimated to increase by 6.2 pps. of GDP (among which public pensions by 3 pps. of GDP) – see 2021 Ageing Report.
([32]) See Box 3.1 in the 2018 Fiscal Sustainability Report.

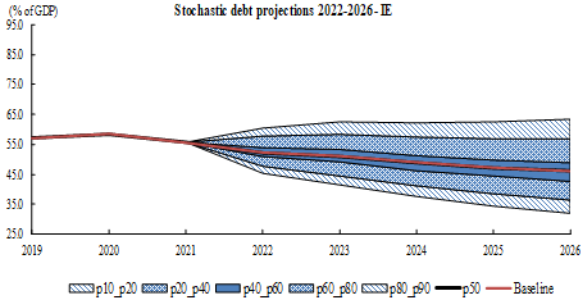
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

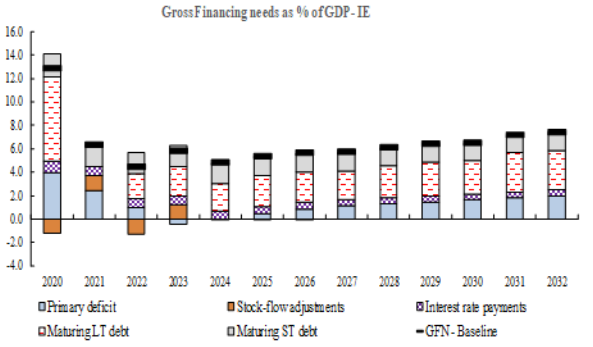
IE - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	57.2	58.4	55.6	52.3	51.1	49.0	47.3	46.2	45.3	44.7	44.4	44.6	45.0	45.7
Changes in the ratio (-1+2+3)	-5.9	1.2	-2.8	-3.3	-1.3	-2.1	-1.7	-1.1	-0.9	-0.6	-0.3	0.1	0.4	0.6
of which														
(1) Primary balance (1.1+1.2+1.3)	1.8	-3.9	-2.4	-1.0	0.4	0.0	-0.4	-0.8	-1.1	-1.3	-1.5	-1.6	-1.8	-1.9
(1.1) Structural primary balance (1.1.1-1.1.2+1.1.3)	3.6	-1.4	-4.0	-2.4	-0.5	-0.6	-0.7	-0.9	-1.1	-1.3	-1.5	-1.6	-1.8	-1.9
(1.1.1) Structural primary balance (bef. CoA)	3.6	-1.4	-4.0	-2.4	-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						0.1	0.3	0.5	0.6	0.8	1.0	1.2	1.3	1.5
(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
(1.2) Cyclical component	-1.8	-2.5	1.6	1.4	0.9	0.6	0.3	0.1	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)	-4.1	-1.5	-6.5	-3.0	-2.0	-2.1	-2.1	-2.0	-2.0	-1.9	-1.7	-1.5	-1.4	-1.3
(2.1) Interest expenditure	1.3	1.0	0.8	0.7	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5
(2.2) Growth effect	-2.8	-3.2	-7.4	-2.6	-2.0	-2.0	-2.0	-1.8	-1.8	-1.6	-1.4	-1.2	-1.0	-0.9
(2.3) Inflation effect	-2.6	0.7	0.1	-1.1	-0.7	-0.7	-0.7	-0.7	-0.8	-0.8	-0.8	-0.8	-0.9	-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	0.0	-1.2	1.3	-1.3	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(3.1) Base	0.0	-1.2	1.3	-1.3	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	2.3	-2.4	-4.7	-3.1	-1.2	-1.3	-1.4	-1.5	-1.6	-1.8	-2.0	-2.1	-2.3	-2.5
Gross financing needs	6.3	12.9	6.3	4.4	5.8	4.8	5.4	5.6	5.7	6.1	6.4	6.5	7.2	7.4

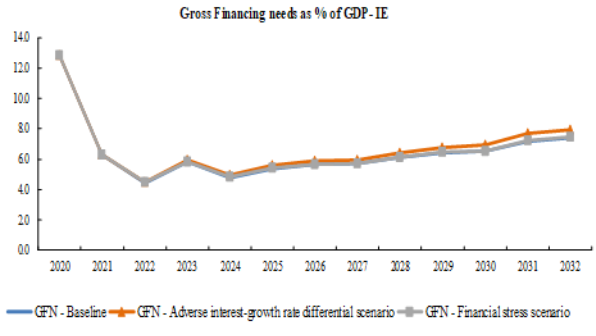












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
				Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2032)	45.7	52.8	48.8	45.9	59.8				
			Debt peak year	2021	2021	2021	2021	2032				
			Percentile rank	65.3%	76.6%	65.3%	65.3%	79.5%				
			Probability debt higher						22.2%			
			Dif. between percentiles						31.4			
LOW (S0 = 0.4)	LOW	LOW (S1 = -0.6)								LOW	MEDIUM (S2 = 5.7)	MEDIUM

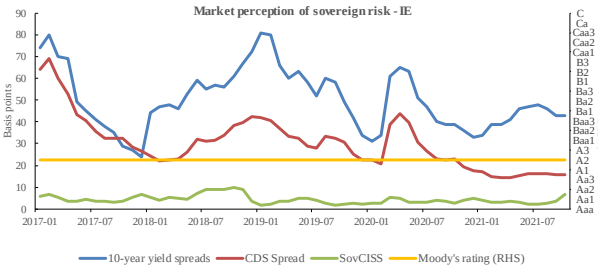
2.2. Sustainability indicators

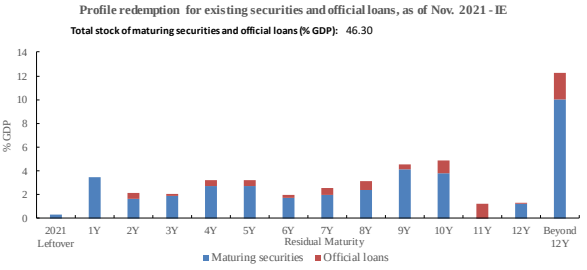
S0 indicator	2009	2021	Critical threshold
Overall index	**0.74**	**0.36**	**0.46**
Fiscal sub-index	0.81	0.22	0.36
Financial competitiveness sub-index	0.70	0.43	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**-1.8**	**-0.6**	**-0.6**	**-0.3**
of which *Initial budgetary position*	*-2.6*	*-1.2*	*-1.2*	*-1.2*
Cost of delaying adjustment	*-0.2*	*-0.1*	*-0.1*	*0.0*
Debt requirement	*-0.1*	*-0.7*	*-0.7*	*-0.7*
Ageing costs	*1.0*	*1.4*	*1.4*	*1.7*
Required structural primary balance related to S1	**-0.9**	**-1.1**	**-1.1**	**-0.7**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**2.4**	**5.7**	**5.6**	**7.8**
of which Initial Budgetary position	-0.9	0.6	0.7	0.6
Ageing costs	3.3	5.0	4.9	7.1
of which Pensions	*1.0*	*2.3*	*2.3*	*2.3*
Health care	*0.7*	*1.2*	*1.2*	*1.8*
Long-term care	*1.8*	*1.6*	*1.5*	*3.2*
Others	*-0.3*	*-0.1*	*-0.1*	*-0.1*
Required structural primary balance related to S2	**3.3**	**5.2**	**5.1**	**7.3**

3. Financial information





Sovereign Ratings as of Nov. 2021, IE	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	A2		A2	P-1
S&P	AA-	A-1+	AA-	A-1+
Fitch	A+		A+	F1+

Sovereign yield spreads (bp)* - as of October 2021		
	10-year	43.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - IE (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	10.1	0.0	55.5

Net International Investment Position (IIP) IE (2020)	Net IIP (% GDP):
	-174.0

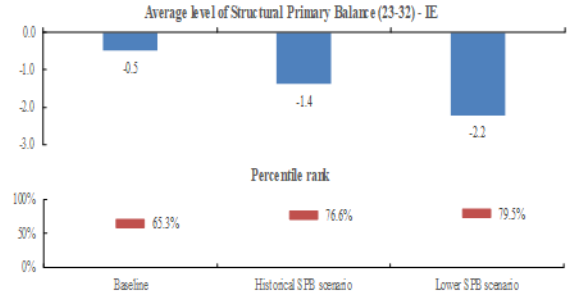
5. Risks related to government's contingent liabilities

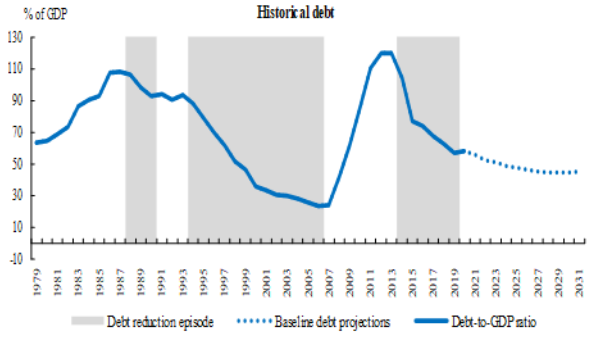
General government contingent liabilities		IE					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		1.5	0.2	0.1	0.1	0.3	8.1
of which	One-off guarantees	1.5	0.1	0.0	0.0	0.2	7.1
	Standardised guarantees	0.0	0.1	0.1	0.1	0.1	1.1
Public-private partnerships (PPPs) (% GDP)		0.7	0.8	0.7	0.7	0.7	0.3

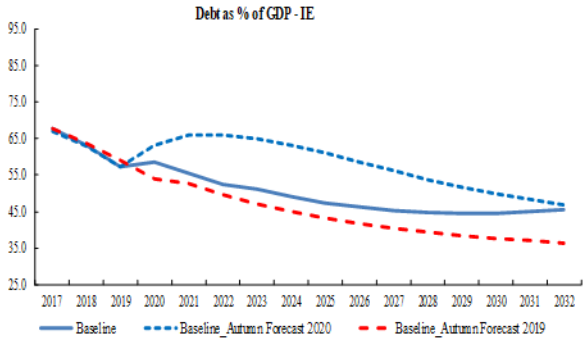
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.5	0.1	0.0	0.0	0.0	0.9
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	1.0	0.0	0.0	0.0	0.0	0.0
	Total	1.5	0.1	0.0	0.0	0.0	0.9

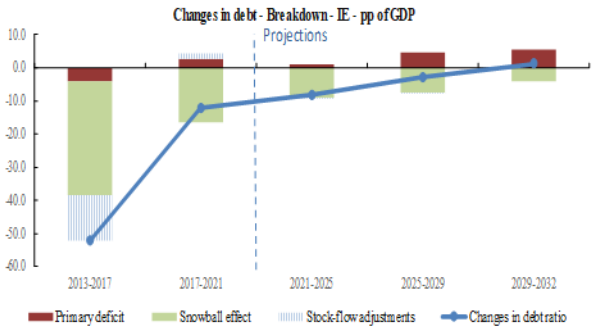
Government's contingent liability risks from banking sector - IE (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	-1.8	0.3	77.7	3.4	-0.7	28.3	0.08%	0.94%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Ireland	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	55.6	52.3	51.1	44.7	44.6	45.7	53.0	45.8	47.6
Primary balance	-2.4	-1.0	0.4	-1.3	-1.6	-1.9	-1.0	-1.2	-1.1
Structural primary balance (before CoA)	-4.0	-2.4	-0.5	-0.5	-0.5	-0.5	-2.3	-0.5	-0.9
Real GDP growth	14.6	5.1	4.1	3.7	2.7	2.2	7.9	3.4	4.6
Potential GDP growth	5.9	5.4	5.1	3.7	2.7	2.2	5.4	3.6	4.1
Inflation rate	-0.2	2.0	1.4	1.8	1.9	2.0	1.0	1.8	1.6
Implicit interest rate (nominal)	1.5	1.4	1.5	1.2	1.2	1.2	1.5	1.3	1.3
Gross financing needs	6.3	4.4	5.8	6.1	6.5	7.4	5.5	6.1	6.0
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	55.6	52.3	51.4	49.7	51.2	53.9	53.1	50.7	51.3
Primary balance	-2.4	-1.0	-0.3	-2.3	-2.7	-3.0	-1.2	-2.2	-1.9
Structural primary balance (before CoA)	-4.0	-2.4	-1.7	-1.5	-1.5	-1.5	-2.7	-1.5	-1.8
Real GDP growth	14.6	5.1	5.0	3.7	2.7	2.2	8.2	3.3	4.6
Gross financing needs	6.3	4.4	6.5	7.6	8.2	9.3	5.7	7.6	7.1
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	55.6	52.3	51.1	47.6	49.7	52.8	53.0	49.0	50.0
Primary balance	-2.4	-1.0	0.4	-2.3	-2.8	-3.1	-1.0	-2.0	-1.8
Structural primary balance (before CoA)	-4.0	-2.4	-0.5	-1.7	-1.7	-1.7	-2.3	-1.5	-1.7
Real GDP growth	14.6	5.1	4.1	3.5	2.6	2.2	7.9	3.4	4.6
Gross financing needs	6.3	4.4	5.8	7.3	8.1	9.3	5.5	7.3	6.8
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	55.6	52.4	51.2	44.9	44.8	45.9	53.1	46.0	47.8
Implicit interest rate (nominal)	1.5	1.6	1.6	1.3	1.2	1.2	1.6	1.3	1.4
Gross financing needs	6.3	4.5	5.9	6.1	6.5	7.4	5.6	6.2	6.0
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	55.6	52.5	52.1	53.4	56.0	59.8	53.4	54.3	54.1
Primary balance	-2.4	-1.4	-0.7	-3.0	-3.4	-3.7	-1.5	-2.8	-2.5
Structural primary balance (before CoA)	-4.0	-3.1	-2.2	-2.2	-2.2	-2.2	-3.1	-2.2	-2.4
Real GDP growth	14.6	5.6	4.7	3.7	2.7	2.2	8.3	3.3	4.6
Gross financing needs	6.3	5.1	7.0	8.6	9.3	10.7	6.1	8.6	8.0
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	55.6	52.3	51.1	44.7	44.6	45.7	53.0	45.8	47.6
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	6.3	4.4	5.8	6.1	6.5	7.4	5.5	6.1	6.0
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	55.6	52.6	51.7	46.7	47.1	48.8	53.3	47.8	49.2
Implicit interest rate (nominal)	1.5	1.5	1.6	1.5	1.5	1.5	1.5	1.5	1.5
Real GDP growth	14.6	4.6	3.6	3.2	2.2	1.7	7.6	2.9	4.1
Gross financing needs	6.3	4.5	5.9	6.4	6.9	7.9	5.6	6.5	6.2

GREECE

Short-term risks: high. *Overall, short-term vulnerabilities are identified for Greece, according to the S0 indicator. Moreover, gross financing needs remain substantial in the short term. However, sovereign financing conditions are expected to remain favourable, notably supported by the Eurosystem's interventions, while a large share of debt is held by the official sector.*

Medium-term risks: high. *Medium-term fiscal sustainability risks appear high overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, currently at more than 202% of GDP, is projected to substantially decline, yet remaining relatively high at 155% of GDP in 2032 in the baseline. The relative sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

Long-term risks: medium. *Long-term fiscal sustainability risks appear medium overall, combining the low risk according to the sustainability gap indicator S2 and the high risk from a DSA perspective.*

Short-term fiscal sustainability risks: high

The value of the early-detection indicator of fiscal stress, the S0 indicator, is above its critical threshold, signalling overall short-term vulnerabilities. This result is notably driven on the fiscal side by gross financing needs, the cyclically-adjusted balance, and gross debt being all above their critical thresholds. On the financial-competitiveness side, the current account deficit and negative net international investment position also contribute to this result.

Government financing needs are expected to remain substantial in the short term (about 18% of GDP in 2022), above their pre-crisis level. Yet, financing conditions should remain favourable, notably supported by the Eurosystem's interventions. Financial markets' perceptions of sovereign risk are improving but remain just below investment grade, as confirmed by the reduced CDS spread and stable 'BB' (or equivalent) rating that the three major rating agencies assigned to the Greek government debt.

Medium-term fiscal sustainability risks: high

Debt Sustainability Analysis (DSA): high risk

The debt sustainability analysis, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to a high risk.

Baseline results: declining high debt

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with real GDP growth hovering around 1% in 2024-2032. Under a 'no-fiscal policy change' assumption, government debt would substantially decline between 2023 and 2032 (-37 pps. of GDP), however still stay at around 155% of GDP in 2032. These baseline projections assume that the structural primary balance (SPB) before ageing costs remains constant at the forecast surplus for 2023, namely 0.5% of GDP, implying an average primary balance of 1.9% of GDP between 2024 and 2032. Based on past fiscal performance, this value appears plausible, notably considering the average SPB over the last 15 years ([33]). Government gross financing needs are projected to moderate and hover around 14% of GDP between 2024 and 2032.

Stochastic simulations: limited probability that debt would not stabilise by 2026 but significant uncertainty surrounding the baseline

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the Greek economy. These stochastic simulations point to an 18% probability of the debt ratio in 2026 being greater than in 2021, entailing medium risk given the high current level of more than 202% of GDP. In addition, such shocks point to significant uncertainty surrounding

([33]) The SPB over the last 15 years averaged at 2.1% of GDP, though based on longer time series, Greece recorded a SPB greater than 0.5% of GDP in only 38% of the cases.

the baseline projections, as can be seen from the wide debt distribution cone ([34]).

Alternative and stress-test scenarios: significant vulnerabilities, but still declining debt under all scenarios and reverting to historical behaviour would reduce risks

Fiscal policy reverting to historical trajectories would bring a more sizeable reduction of the debt ratio. Indeed, if the SPB gradually converged to its historical average of the last 15 years (at 2.1% of GDP), the debt ratio would be about 12 pps. of GDP lower than in the baseline in 2032. More adverse developments of the interest-growth rate differential than assumed under the baseline would have a sizable impact on the debt-to-GDP ratio, given its current high value. In particular, a permanently higher 'r-g' differential (by 1 pp.) than in the baseline would entail a debt ratio in 2032 about 11 pps. of GDP higher than in the baseline, although the debt path would remain on a declining trend. Gross financing needs would remain below 20% of GDP at the end of the horizon. If a temporary (one year) episode of financial stress pushed up market interest rates by about 6 pps. in 2022, the debt ratio in 2032 would be around 4 pps. of GDP higher than in the baseline. Similarly, if only half of the projected improvement in the SPB in 2022-2023 were to occur, the debt ratio in 2032 would be 30 pps. of GDP higher than in the baseline, reaching 184% of GDP. This would alter, but not reverse, the medium-term debt reducing path. Gross financing need would exceed 20 % of GDP at the end of the horizon.

S1 indicator: high risk

The S1 indicator shows that, compared to the baseline, the structural primary balance (SPB) would need to improve by 6.8 pps. of GDP, in cumulated terms over 5 years, to bring the debt-to-GDP ratio to the reference value of 60% by 2038. This corresponds to an SPB of 7.2% of GDP, which is considered ambitious based on historical data ([35]). This significant value of S1 is mainly due to the large distance of the debt ratio to the 60% reference value putting upward pressure on the S1 fiscal gap (contribution of 10.7 pps. of GDP), partly offset by the favourable initial budgetary position (contribution by -3.6 pps. of GDP) and the projected age-related public spending (contribution by -1.2 pps. of GDP). In alternative adverse scenarios, significant fiscal effort would also be needed to bring the debt ratio to 60% of GDP and to keep the GFN below 20% of GDP by 2032.

([34]) The difference between the 10th and 90th percentile in 2026 is around 65 pps. of GDP.

([35]) Only 11% of the SPBs recorded for the country over the past decades were greater than this value.

Long-term fiscal sustainability risks: medium

S2 indicator: low risk

The negative S2 indicator value shows that no additional fiscal effort (in terms of SPB) would be needed, relative to the baseline, to stabilise the debt-to-GDP ratio over the long term. However, for high-debt countries such as Greece, the absence of a fiscal gap according to this indicator should be interpreted with caution. Moreover, under alternative adverse scenarios, fiscal effort would be needed to stabilise the debt over the long run.

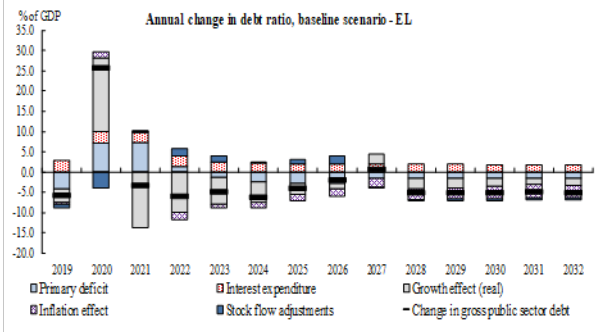
In sum, based on the sustainability gap indicator S2 and the DSA risk assessment discussed higher, overall long-term fiscal sustainability risks are medium.

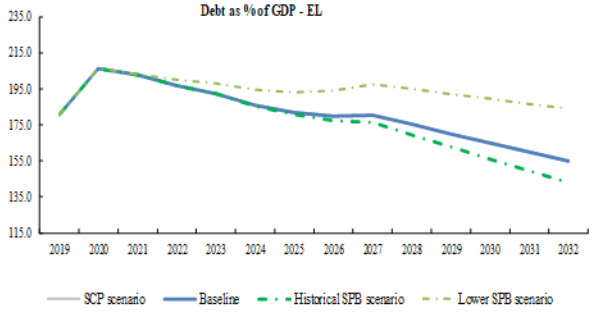
Additional mitigating and aggravating risk factors

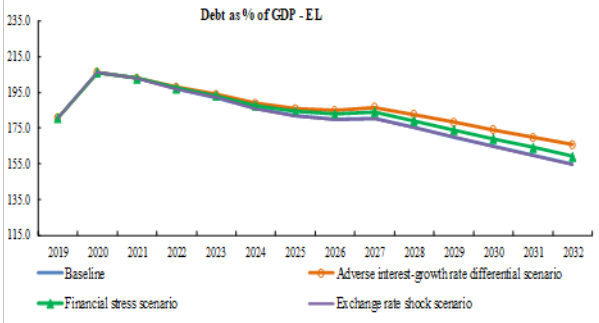
Several factors mitigate the risks. These include the large share of debt held by official lenders at low interest rates, and a particularly long maturity of debt compared with peer countries (about 22 years against an EU average of about 8 years). The currency denomination of debt and historically low financing costs supported by the Eurosystem's interventions also contribute to mitigate risks. At the end of 2020, 73% of Greece's government debt was held by official lenders and 7% by the Eurosystem. Risk-increasing factors are related to the state guarantees granted recently, also in the context of the COVID-19 crisis. Contingent liability risks stemming from the high share of non-performing loans (NPLs) in the banking sector are also significant (also highlighted by SYMBOL simulations), though the share of NPLs witnessed a sharp recent reduction to less than 15% in the course of 2021. Furthermore, costs linked to pending legal cases against the state also pose fiscal risks of potentially up to 1.5% of GDP.

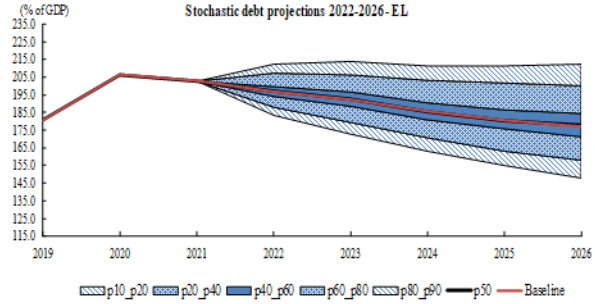
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

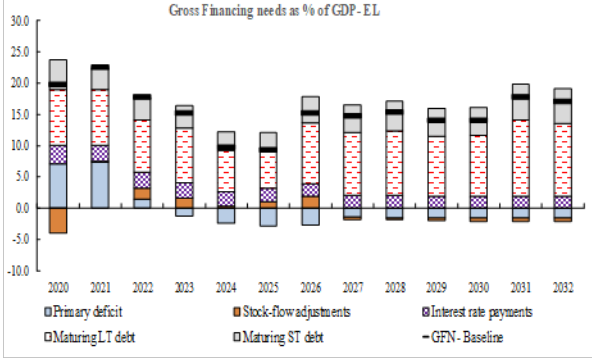
EL - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	180.7	206.3	202.9	196.9	192.1	185.9	181.9	179.9	180.4	175.3	170.1	164.8	159.8	154.7
Changes in the ratio (-1+2+3)	-5.7	25.6	-3.4	-6.0	-4.9	-6.2	-4.0	-2.0	0.5	-5.1	-5.2	-5.3	-5.0	-5.1
of which														
(1) Primary balance (1.1+1.2+1.3)	4.1	-7.1	-7.3	-1.4	1.3	2.5	2.8	2.7	1.5	1.5	1.6	1.6	1.6	1.5
(1.1) Structural primary balance (1.1.1-1.1.2+1.1.3)	4.7	-2.1	-5.4	-0.9	0.5	1.0	1.2	1.4	1.5	1.5	1.6	1.6	1.6	1.5
(1.1.1) Structural primary balance (bef. CoA)	4.7	-2.1	-5.4	-0.9	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						-0.6	-0.8	-1.0	-1.2	-1.3	-1.3	-1.3	-1.3	-1.3
(1.1.3) Others (taxes and property incomes)						-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2
(1.2) Cyclical component	-1.6	-5.6	2.4	0.4	-0.8	-1.5	-1.6	-1.4	0.0	0.0	0.0	0.0	0.0	0.0
(1.3) One-off and other temporary measures	1.0	0.6	-0.5	0.1	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)	-0.8	22.6	-10.9	-9.2	-5.2	-4.0	-2.2	-1.2	2.4	-3.2	-3.2	-3.2	-2.9	-2.9
(2.1) Interest expenditure	3.0	3.0	2.6	2.5	2.4	2.2	2.1	2.0	2.1	2.0	1.9	1.9	1.9	1.9
(2.2) Growth effect	-3.3	18.1	-13.6	-9.9	-6.7	-5.0	-2.7	-1.4	2.5	-2.7	-2.3	-2.0	-1.6	-1.7
(2.3) Inflation effect	-0.5	1.5	0.2	-1.9	-0.9	-1.2	-1.5	-1.9	-2.2	-2.5	-2.8	-3.0	-3.2	-3.1
(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	-0.9	-4.0	0.2	1.8	1.6	0.3	1.1	1.9	-0.4	-0.3	-0.5	-0.5	-0.5	-0.6
(3.1) Base	-0.9	-4.0	0.2	1.8	1.6	0.3	1.1	1.9	-0.4	-0.3	-0.5	-0.5	-0.5	-0.6
(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	1.7	-5.1	-7.9	-3.5	-1.9	-1.8	-1.6	-1.6	-1.6	-1.6	-1.5	-1.4	-1.4	-1.4
Gross financing needs	16.3	19.7	22.4	17.8	15.1	9.7	9.2	15.2	14.7	15.2	13.9	14.0	17.7	17.0

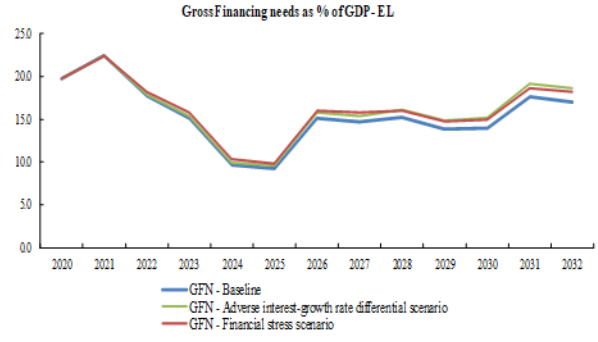












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
				Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	HIGH	HIGH	HIGH	HIGH	MEDIUM	MEDIUM			
			Debt level (2032)	154.7	143.0	165.6	159.3	184.0				
			Debt peak year	2021	2021	2021	2021	2021				
			Percentile rank	37.6%	22.3%	37.6%	37.6%	50.9%				
			Probability debt higher						17.9%			
			Dif. between percentiles						64.7			
HIGH (S0 = 0.5)	HIGH	HIGH (S1 = 6.8)								HIGH	LOW (S2 = -2.5)	MEDIUM

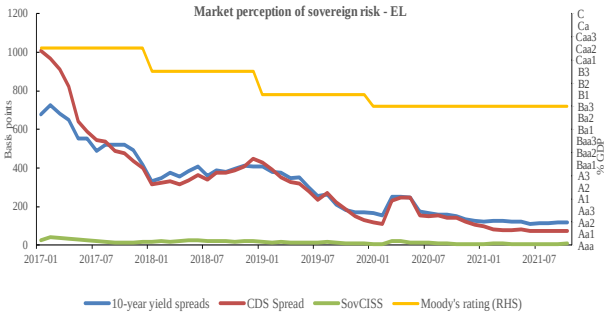
2.2. Sustainability indicators

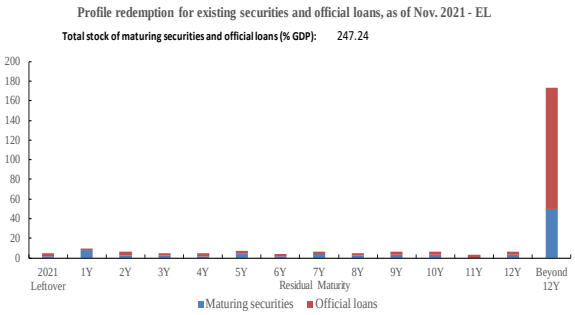
S0 indicator	2009	2021	Critical threshold
Overall index	**0.76**	**0.48**	**0.46**
Fiscal sub-index	0.87	0.56	0.36
Financial competitiveness sub-index	0.72	0.45	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**:**	**6.8**	**6.8**	**7.1**
of which *Initial budgetary position*	*:*	*-3.6*	*-3.4*	*-3.6*
Cost of delaying adjustment	*:*	*0.8*	*0.8*	*0.9*
Debt requirement	*:*	*10.7*	*10.6*	*10.7*
Ageing costs	*:*	*-1.2*	*-1.2*	*-0.9*
Required structural primary balance related to S1	**:**	**7.2**	**7.3**	**7.5**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**:**	**-2.5**	**-1.3**	**0.7**
of which Initial Budgetary position	:	0.1	0.6	0.2
Ageing costs	:	-2.6	-1.9	0.4
of which Pensions	*:*	*-2.7*	*-2.0*	*-2.6*
Health care	*:*	*0.7*	*0.7*	*1.5*
Long-term care	*:*	*0.0*	*0.0*	*2.2*
Others	*:*	*-0.6*	*-0.6*	*-0.6*
Required structural primary balance related to S2	**:**	**-2.0**	**-0.8**	**1.1**

3. Financial information





Sovereign Ratings as of Nov. 2021, EL	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Ba3	NP	Ba3	NP
S&P	BB	B	BB	B
Fitch	BB		BB	B

Sovereign yield spreads (bp)* - as of October 2021	10-year	117.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - EL (2020)	Share of short-term government debt (p.p.): 5.8	Share of government debt in foreign currency (%): 1.2	Share of government debt by non-residents (%): 82.6

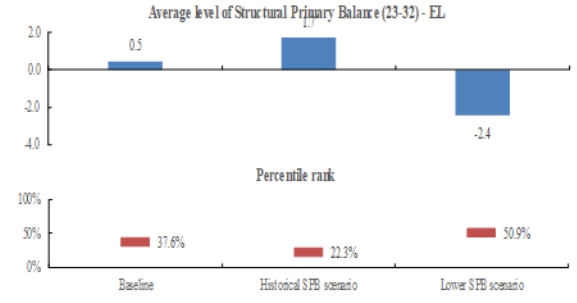
Net International Investment Position (IIP) EL (2020)	Net IIP (% GDP): -175.0

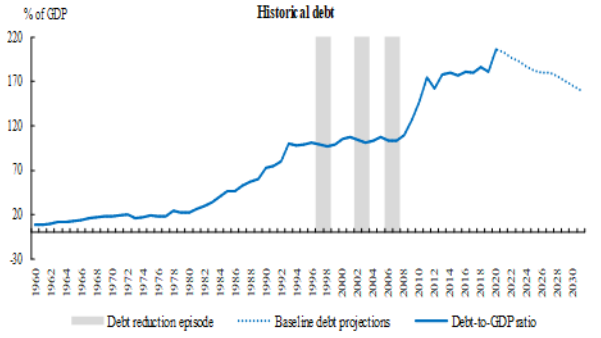
5. Risks related to government's contingent liabilities

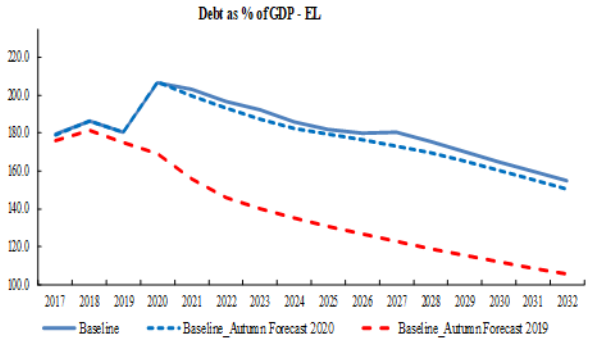
General government contingent liabilities		EL					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		6.5	4.4	4.2	4.1	6.4	8.1
of which	*One-off guarantees*	*6.5*	*4.3*	*4.1*	*4.1*	*5.4*	*7.1*
	Standardised guarantees	*0.0*	*0.0*	*0.0*	*0.0*	*1.0*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.1*	*0.1*	*0.2*	*0.2*	*0.2*	*0.3*
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	2.2	0.2	0.2	0.2	0.2	0.9
	Securities issued under liquidity schemes	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
	Total	2.2	0.2	0.2	0.2	0.2	0.9

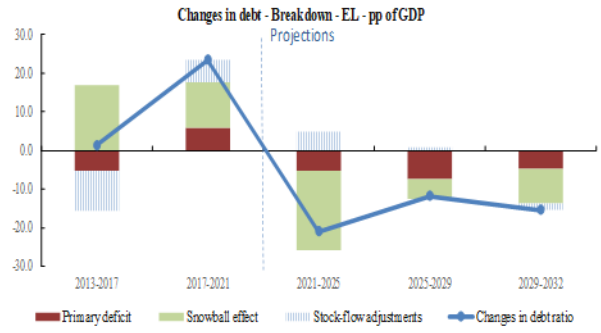
Government's contingent liability risks from banking sector - EL (2020)	Private sector credit flow (% GDP): 5.4	Change in nominal house price index (p.p.): 4.4	Bank loans-to-deposits ratio (%): 67.1	Share of non-performing loans (%): 14.8	Change in share of non-performing loans (p.p): -15.5	NPL coverage ratio (%) 46.6	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL): Baseline 0.21%	Stressed 2.62%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Greece	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	202.9	196.9	192.1	175.3	164.8	154.7	197.3	172.5	178.7
Primary balance	-7.3	-1.4	1.3	1.5	1.6	1.5	-2.5	1.9	0.8
Structural primary balance (before CoA)	-5.4	-0.9	0.5	0.5	0.5	0.5	-1.9	0.5	-0.1
Real GDP growth	7.1	5.2	3.6	1.5	1.2	1.1	5.3	1.1	2.1
Potential GDP growth	0.2	1.0	1.3	1.5	1.2	1.1	0.8	1.3	1.1
Inflation rate	-0.1	0.9	0.4	1.4	1.8	2.0	0.4	1.4	1.2
Implicit interest rate (nominal)	1.3	1.3	1.3	1.2	1.1	1.2	1.3	1.2	1.2
Gross financing needs	22.4	17.8	15.1	15.2	14.0	17.0	18.4	14.1	15.2
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	202.9	196.9	192.3	175.5	165.0	154.9	197.4	172.7	178.9
Primary balance	-7.3	-1.4	1.1	1.5	1.6	1.5	-2.5	1.9	0.8
Structural primary balance (before CoA)	-5.4	-0.9	0.3	0.5	0.5	0.5	-2.0	0.5	-0.2
Real GDP growth	7.1	5.2	3.6	1.5	1.2	1.1	5.3	1.1	2.1
Gross financing needs	22.4	17.8	15.3	15.3	14.0	17.0	18.5	14.1	15.2
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	202.9	196.9	192.1	169.6	156.0	143.0	197.3	166.7	174.4
Primary balance	-7.3	-1.4	1.3	3.2	3.3	3.2	-2.5	3.3	1.9
Structural primary balance (before CoA)	-5.4	-0.9	0.5	2.1	2.1	2.1	-1.9	1.9	0.9
Real GDP growth	7.1	5.2	3.6	1.5	1.2	1.1	5.3	1.1	2.1
Gross financing needs	22.4	17.8	15.1	13.2	11.3	13.7	18.4	12.1	13.7
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	202.9	197.4	193.1	178.9	168.8	159.0	197.8	175.8	181.3
Implicit interest rate (nominal)	1.3	1.6	1.6	1.3	1.3	1.4	1.5	1.4	1.4
Gross financing needs	22.4	18.2	15.7	16.0	14.9	18.1	18.8	14.9	15.9
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	202.9	199.9	197.8	194.9	189.3	184.0	200.2	191.8	193.9
Primary balance	-7.3	-4.3	-1.6	-1.4	-1.3	-1.4	-4.4	-1.0	-1.8
Structural primary balance (before CoA)	-5.4	-3.9	-2.4	-2.4	-2.4	-2.4	-3.9	-2.4	-2.8
Real GDP growth	7.1	5.2	3.6	1.5	1.2	1.1	5.3	1.1	2.1
Gross financing needs	22.4	20.7	18.0	20.4	20.1	25.2	20.4	19.3	19.6
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	202.9	196.9	192.1	175.3	164.8	154.7	197.3	172.5	178.7
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	22.4	17.8	15.1	15.2	14.0	17.0	18.4	14.1	15.2
7. Adverse interest-growth rate differential	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	202.9	197.9	194.0	182.6	173.9	165.6	198.3	179.6	184.3
Implicit interest rate (nominal)	1.3	1.4	1.3	1.3	1.3	1.4	1.3	1.3	1.3
Real GDP growth	7.1	4.7	3.1	1.0	0.7	0.6	4.9	0.6	1.7
Gross financing needs	22.4	17.9	15.3	16.1	15.2	18.6	18.6	15.0	15.9

SPAIN

Short-term risks: low. *Overall, the S0 indicator does not signal major short-term fiscal risks. Gross financing needs should still be large in the short term. Yet, sovereign financing conditions are expected to remain favourable, notably supported by the Eurosystem's interventions.*

Medium-term risks: high. *Over the medium term, fiscal sustainability risks are high overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, currently at 120% of GDP, is projected to continue rising, reaching 126% of GDP in 2032 in the baseline. The sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

Long-term risks: high. *Over the long term, medium risks from the sustainability gap indicator S2, combined with high vulnerabilities from the DSA contribute to the overall assessment. The S2 indicator mainly captures risks linked to the unfavourable initial budgetary position.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling no overall short-term vulnerabilities. Yet, the fiscal sub-index points to short-term vulnerabilities (notably due to gross financing needs, net debt, and the cyclically adjusted balance being above the critical threshold), while the financial competitiveness sub-index is contained.

Government financing needs are expected to remain large in the short term (about 24% of GDP in 2021-2022), although declining compared with 2020. Yet, financing conditions should remain favourable, notably supported by the Eurosystem's interventions. Financial markets' perceptions of sovereign risk are positive, as confirmed by the CDS spread and the 'A-' rating that the three major rating agencies assigned to Spanish government debt.

Medium-term fiscal sustainability risks: high

Debt Sustainability Analysis (DSA): high risk

The DSA, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to a high risk.

Baseline results: steady debt increase at unchanged policies

The baseline projections up to 2032 assume a favourable interest-growth rate differential over the projection period, with real GDP growth hovering around 0.8% over 2024-2032. Under a 'no-fiscal policy change' assumption, debt would steadily increase, rising by 9 pps. between 2023 and 2032, when it would reach 126% of GDP. These baseline projections assume a structural primary balance (SPB) of -2.5% of GDP ([36]) before ageing costs, leaving substantial scope for fiscal consolidation ([37]). Government gross financing needs are projected to slightly decrease over the next 10 years, reaching around 22% of GDP in 2032.

Stochastic simulations: high probability that debt will not stabilise by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the Spanish economy. These stochastic simulations point to a 57% probability of the debt ratio in 2026 being greater than in 2021, entailing high risk given the current level of 120% of GDP. In addition, such shocks point to significant uncertainty surrounding the baseline

([36]) The indexation of public salaries, current and social transfers in kind paid by the government are set to contribute to the primary expenditure increase in 2023.

([37]) Based on available historical data, Spain recorded an SPB greater than -2.5% of GDP in 92% of the cases. Therefore, the country has room to improve its fiscal position and lower its debt-to-GDP ratio.

projections, as can be seen from the wide debt distribution cone ([38]).

Alternative and stress-test scenarios: important vulnerabilities, but reverting to historical behaviour would reduce risks.

Fiscal policy reverting to historical behaviour would bring the debt ratio towards a stable path. Indeed, if the SPB gradually converged to its historical average of the last 15 years (a deficit of 1.0% of GDP), the debt ratio would be about 9 pps. of GDP lower than in the baseline in 2032.

On the other hand, more adverse developments of the interest-growth rate differential than assumed under the baseline would have a sizable impact on the debt-GDP ratio, given its current high value. A permanently higher 'r-g' differential (by 1 pp.) than in the baseline would entail a debt ratio in 2032 about 10 pps. of GDP higher than in the baseline. If a temporary (one-year) episode of financial stress pushed up interest rates by 2.8 pp. in 2022, the 2032 debt projection would be some 3 pps. of GDP higher than in the baseline. If only half of the projected improvement in the SPB in 2022-2023 were to occur, the 2032 debt projection would not change significantly compared to the baseline.

S1 indicator: high risk

The S1 indicator shows that, compared to the baseline, the structural primary balance (SPB) would need to improve by 6.2 pps. of GDP, in cumulated terms over 5 years, to bring the debt-to-GDP ratio to the reference value of 60% by 2038. This corresponds to an SPB of 3.6% of GDP, which is very ambitious by historical Spanish standards ([39]). This significant value of S1 is mainly due to the large distance of the debt ratio from the 60% reference value (contribution of 4.3 pps. of GDP) and the unfavourable initial budgetary position (contribution of 1.5 pps. of GDP), partly mitigated by the projected age-related public spending (contribution of -0.3 pp. of GDP).

([38]) The difference between the 10th and 90th percentile in 2026 is around 40 pps. of GDP.
([39]) None of the past Spanish SPBs were larger.

Long-term fiscal sustainability risks: high

S2 indicator: medium risk

The S2 indicator shows that, relative to the baseline, the SPB would need to improve by 2.2 pps. of GDP to stabilise the debt-to-GDP ratio over the long term. Such adjustment would bring the SPB to a small deficit of 0.3% of GDP, which appears feasible by Spanish standards ([40]). This sustainability gap is entirely driven by the unfavourable initial budgetary position (contribution of 3.0 pps. of GDP). Ageing costs, with a contribution of -0.8 pp. of GDP that narrows the S2 fiscal gap, are primarily related to the projected decline of pension spending (contribution of -2.2 pps. of GDP), while the projected increase of public health care and long-term care spending aggravates the fiscal sustainability gap (contributions of 1.2 and 0.7 pps. of GDP, respectively) ([41]).

In sum, based on the sustainability gap indicator S2 and the DSA risk assessment discussed above, overall long-term fiscal sustainability risks are high.

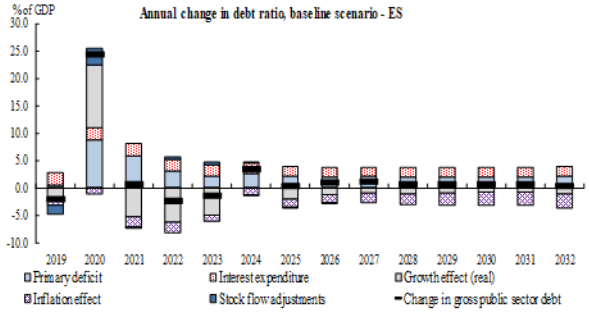
Additional mitigating and aggravating risk factors

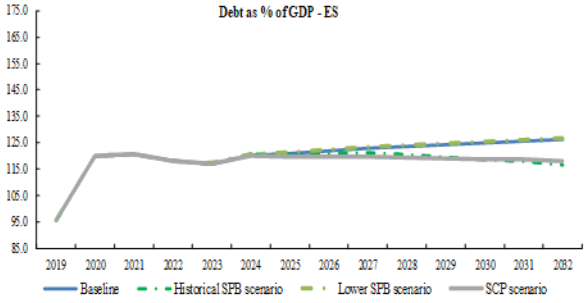
Several factors mitigate the risks. These include the lengthening of debt maturity in recent years, relatively stable financing sources (with a diversified and large investor base), the currency denomination of debt, and historically low borrowing costs supported by the Eurosystem's interventions. In 2020, 26% of government debt was held by the Eurosystem. Risk-increasing factors are related to Spain's negative net international investment position and to contingent liability risks stemming from the private sector, including via the possible materialisation of state guarantees granted to firms and self-employed during the COVID-19 crisis (the guarantees taken up amounted to around 8.4% of GDP at the end of September 2021). Contingent liability risks linked to the banking sector appear limited, although under more severe stress, high risks are identified (based on the SYMBOL simulations).

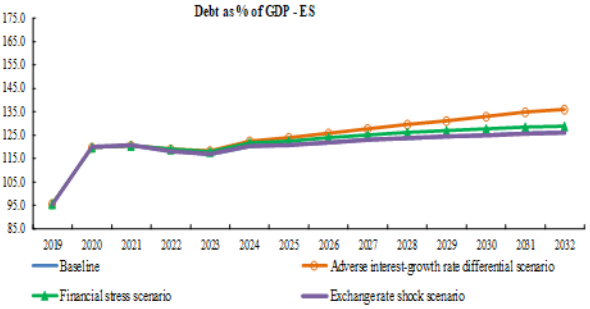
([40]) 53% of past Spanish SPBs were larger.
([41]) Between 2019 and 2070, total ageing costs are estimated to fall by 0.4 pp. of GDP (among which public pensions by 2.1 pps. of GDP) – see 2021 Ageing Report.

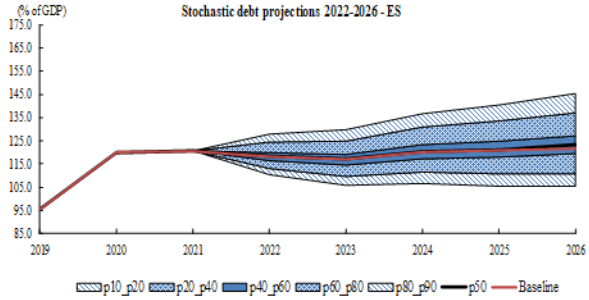
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

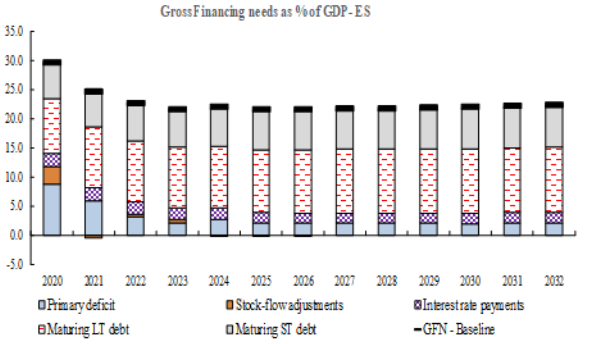
ES - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	95.5	120.0	120.6	118.2	116.9	120.3	120.8	121.8	123.0	123.7	124.3	125.0	125.7	126.1
Changes in the ratio (-1+2+3)	*-2.0*	*24.4*	*0.6*	*-2.4*	*-1.3*	*3.4*	*0.4*	*1.1*	*1.2*	*0.7*	*0.7*	*0.7*	*0.7*	*0.4*
of which														
(1) Primary balance (1.1+1.2+1.3)	-0.6	-8.7	-5.9	-3.1	-2.1	-2.7	-2.1	-2.0	-2.1	-2.0	-2.0	-2.0	-2.0	-2.1
(1.1) Structural primary balance (1.1.1-1.1.2+1.1.3)	*-1.8*	*-2.2*	*-2.5*	*-2.0*	*-2.5*	*-2.4*	*-2.3*	*-2.2*	*-2.1*	*-2.0*	*-2.0*	*-2.0*	*-2.0*	*-2.1*
(1.1.1) Structural primary balance (bef. CoA)	*-1.8*	*-2.2*	*-2.5*	*-2.0*	*-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						*-0.2*	*-0.3*	*-0.4*	*-0.5*	*-0.5*	*-0.6*	*-0.6*	*-0.6*	*-0.5*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*
(1.2) Cyclical component	*1.5*	*-5.3*	*-3.3*	*-1.1*	*0.4*	*-0.3*	*0.2*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(1.3) One-off and other temporary measures	*-0.2*	*-1.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(2) Snowball effect (2.1+2.2+2.3+2.4)	-0.9	12.7	-4.8	-6.0	-4.0	0.8	-1.7	-1.0	-0.9	-1.3	-1.4	-1.3	-1.3	-1.7
(2.1) Interest expenditure	*2.3*	*2.2*	*2.2*	*2.1*	*2.0*	*1.9*	*1.8*	*1.8*	*1.7*	*1.7*	*1.7*	*1.8*	*1.8*	*1.9*
(2.2) Growth effect	*-2.0*	*11.5*	*-5.2*	*-6.2*	*-4.9*	*0.1*	*-2.1*	*-1.2*	*-0.9*	*-1.1*	*-1.0*	*-0.8*	*-0.7*	*-1.1*
(2.3) Inflation effect	*-1.3*	*-1.0*	*-1.8*	*-1.9*	*-1.1*	*-1.2*	*-1.4*	*-1.6*	*-1.8*	*-1.9*	*-2.1*	*-2.3*	*-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	-1.6	3.0	-0.4	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(3.1) Base	*-1.6*	*3.0*	*-0.4*	*0.5*	*0.5*	*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	-4.1	-4.5	-4.7	-4.1	-4.6	-4.3	-4.1	-3.9	-3.8	-3.7	-3.7	-3.8	-3.8	-4.0
Gross financing needs	15.6	29.6	24.7	22.6	21.6	22.0	21.5	21.5	21.7	21.8	21.8	22.0	22.1	22.3

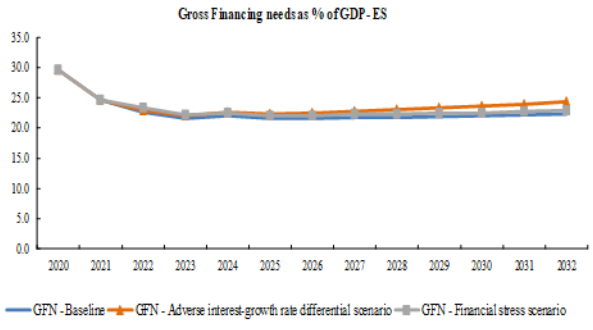












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
			Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
Risk category			HIGH	HIGH	HIGH	HIGH	HIGH	HIGH			
Debt level (2032)			126.1	116.7	136.1	128.9	126.7				
Debt peak year			2032	2027	2032	2032	2032				
Percentile rank			92.0%	72.6%	92.0%	92.0%	92.0%				
Probability debt higher								56.8%			
Dif. between percentiles								40.3			
LOW (S0 = 0.3)	HIGH	HIGH (S1 = 6.2)							HIGH	MEDIUM (S2 = 2.2)	HIGH

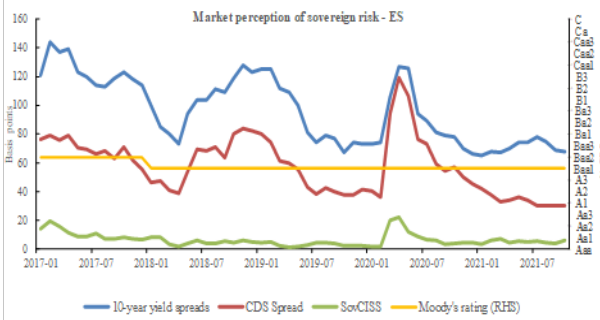
2.2. Sustainability indicators

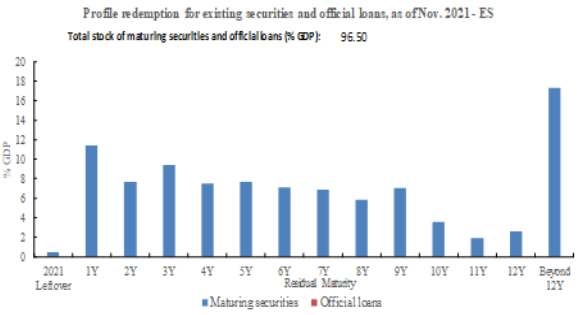
S0 indicator	2009	2021	Critical threshold
Overall index	**0.79**	**0.34**	**0.46**
Fiscal sub-index	0.69	0.57	0.36
Financial competitiveness sub-index	0.85	0.22	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**7.7**	**6.2**	**6.3**	**6.7**
of which *Initial budgetary position*	*-0.1*	*1.5*	*1.6*	*1.5*
Cost of delaying adjustment	*0.9*	*0.8*	*0.8*	*0.8*
Debt requirement	*5.4*	*4.3*	*4.2*	*4.3*
Ageing costs	*1.5*	*-0.3*	*-0.3*	*0.1*
Required structural primary balance related to S1	**6.7**	**3.6**	**3.7**	**4.1**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**0.2**	**2.2**	**3.2**	**4.8**
of which Initial Budgetary position	1.1	3.0	3.2	3.0
Ageing costs	-0.8	-0.8	0.0	1.8
of which Pensions	*-1.9*	*-2.2*	*-1.3*	*-2.2*
Health care	*0.0*	*1.2*	*1.1*	*2.0*
Long-term care	*1.0*	*0.7*	*0.6*	*2.4*
Others	*0.0*	*-0.4*	*-0.4*	*-0.4*
Required structural primary balance related to S2	**-0.8**	**-0.3**	**0.7**	**2.3**

3. Financial information





Sovereign Ratings as of Nov. 2021, ES	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Baa1		Baa1	P-2
S&P	Au	A-1u	Au	A-1u
Fitch	A-		A-	F1

Sovereign yield spreads (bp)* - as of October 2021	10-year	68.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - ES (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	7.5	0.0	43.9

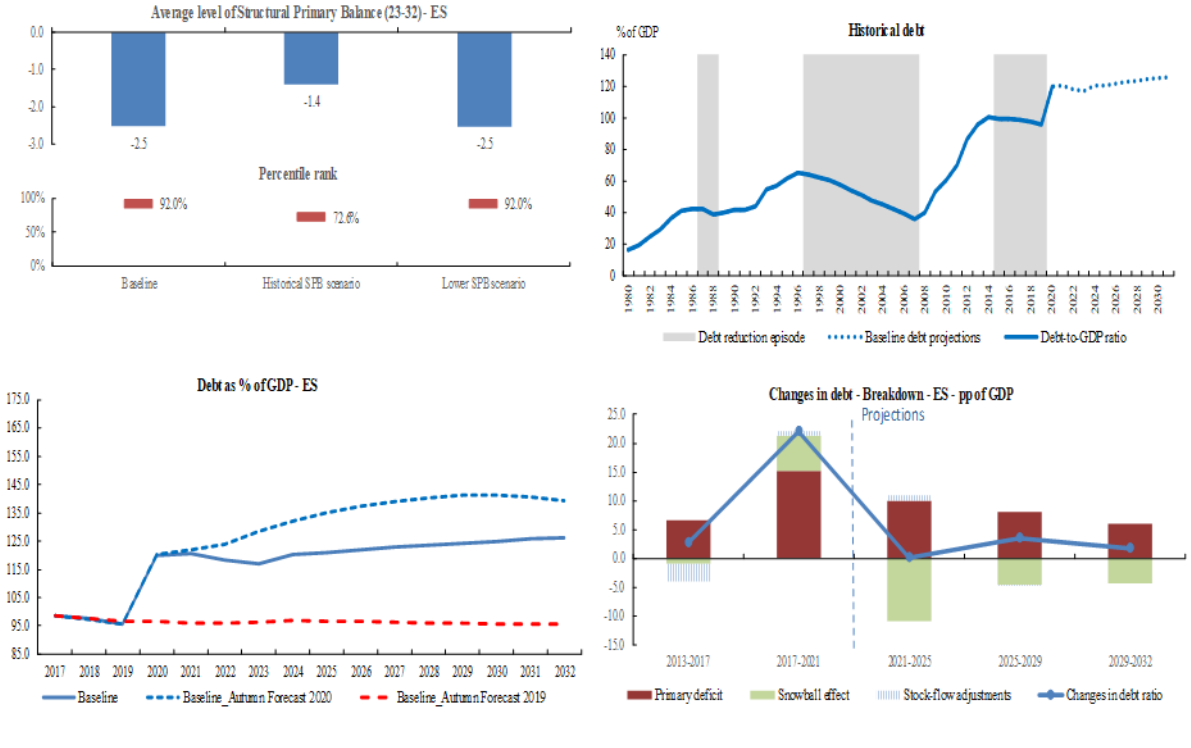
Net International Investment Position (IIP) - ES (2020)	Net IIP (% GDP):
	-85.5

5. Risks related to government's contingent liabilities

General government contingent liabilities		ES					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		7.8	6.5	5.6	5.0	10.7	8.1
of which	*One-off guarantees*	*7.8*	*6.5*	*5.6*	*5.0*	*10.7*	*7.1*
	Standardised guarantees	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.4*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.1	0.0	0.0	0.0	0.0	0.9
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	3.7	3.4	3.0	2.8	0.0	0.0
	Total	3.8	3.4	3.0	2.8	0.0	0.9

Government's contingent liability risks from banking sector - ES (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	4.4	2.2	103.2	3.1	0.1	40.8	0.30%	2.26%

6. Realism of baseline assumptions



7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Spain	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	120.6	118.2	116.9	123.7	125.0	126.1	118.6	123.4	122.2
Primary balance	-5.9	-3.1	-2.1	-2.0	-2.0	-2.1	-3.7	-2.1	-2.5
Structural primary balance (before CoA)	-2.5	-2.0	-2.5	-2.5	-2.5	-2.5	-2.3	-2.5	-2.5
Real GDP growth	4.6	5.5	4.4	0.9	0.7	0.9	4.9	0.8	1.8
Potential GDP growth	1.0	1.6	1.8	0.9	0.7	0.9	1.4	0.9	1.0
Inflation rate	1.5	1.6	0.9	1.6	1.9	2.0	1.3	1.6	1.5
Implicit interest rate (nominal)	2.0	1.9	1.8	1.4	1.5	1.5	1.9	1.5	1.6
Gross financing needs	24.7	22.6	21.6	21.8	22.0	22.3	23.0	21.9	22.1
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	120.6	118.2	117.0	119.4	118.9	118.2	118.6	119.3	119.1
Primary balance	-5.9	-3.1	-1.9	-1.1	-1.0	-1.1	-3.6	-1.2	-1.8
Structural primary balance (before CoA)	-2.5	-2.0	-2.0	-1.6	-1.6	-1.6	-2.2	-1.6	-1.7
Real GDP growth	4.6	5.5	4.0	0.9	0.7	0.9	4.7	0.9	1.8
Gross financing needs	24.7	22.6	21.4	20.3	20.2	20.2	22.9	20.4	21.1
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	120.6	118.2	116.9	120.5	118.5	116.7	118.6	119.6	119.3
Primary balance	-5.9	-3.1	-2.1	-0.8	-0.5	-0.6	-3.7	-1.0	-1.7
Structural primary balance (before CoA)	-2.5	-2.0	-2.5	-1.0	-1.0	-1.0	-2.3	-1.3	-1.5
Real GDP growth	4.6	5.5	4.4	1.2	0.9	0.9	4.9	0.8	1.8
Gross financing needs	24.7	22.6	21.6	20.2	19.6	19.5	23.0	20.3	21.0
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	120.6	118.9	117.9	126.0	127.6	128.9	119.1	125.7	124.0
Implicit interest rate (nominal)	2.0	2.5	2.2	1.6	1.6	1.6	2.2	1.7	1.8
Gross financing needs	24.7	23.3	22.1	22.3	22.5	22.8	23.3	22.4	22.6
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	120.6	118.1	117.4	124.2	125.5	126.7	118.7	123.9	122.6
Primary balance	-5.9	-3.4	-2.2	-2.0	-2.0	-2.1	-3.8	-2.1	-2.6
Structural primary balance (before CoA)	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5	-2.5
Real GDP growth	4.6	5.9	3.9	0.9	0.7	0.9	4.8	0.8	1.8
Gross financing needs	24.7	23.1	21.8	21.9	22.1	22.4	23.2	22.0	22.3
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	120.6	118.2	116.9	123.7	125.0	126.1	118.6	123.4	122.2
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	24.7	22.6	21.6	21.8	22.0	22.3	23.0	21.9	22.1
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	120.6	118.8	118.2	129.5	132.9	136.1	119.2	129.4	126.8
Implicit interest rate (nominal)	2.0	2.0	2.0	1.8	1.8	1.9	2.0	1.8	1.9
Real GDP growth	4.6	5.0	3.9	0.4	0.2	0.4	4.5	0.3	1.4
Gross financing needs	24.7	22.8	21.9	23.1	23.6	24.3	23.1	23.2	23.2

FRANCE

Short-term risks: low. *Overall, the S0 indicator does not signal major short-term fiscal risks for France. Although declining in the short term, gross financing needs should remain high. Yet, sovereign financing conditions are expected to remain favourable, notably supported by the Eurosystem's interventions.*

Medium-term risks: high. *Over the medium term, fiscal sustainability risks are high, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. In the baseline, debt - currently at around 115% of GDP - is projected to increase over the medium term, exceeding 120% of GDP in 2032. The sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

Long-term risks: medium. *Low risks from the sustainability gap indicator S2, combined with high vulnerabilities from the DSA, contribute to the overall long-term assessment. S2 captures challenges linked to the large initial deficit, while ageing-related spending is expected to decline over the long term.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling no overall short-term vulnerabilities. However, the fiscal sub-index points to vulnerabilities related in particular to gross financing needs, debt, and the cyclically-adjusted and primary deficits, which are all above their critical thresholds, while the financial competitiveness sub-index is contained. Government financing needs are expected to decline in the short term, although remaining at a high level of about 22% of GDP in 2021-2022, down from about 28% in 2020. Yet, financing conditions should remain favourable, notably supported by the Eurosystem's interventions. Financial markets' perceptions of sovereign risk remain positive, as confirmed by the CDS spread and the high-grade 'AA/Aa2' rating that the three major rating agencies assigned to French government debt.

Medium-term fiscal sustainability risks: high

Overall medium-term fiscal sustainability risks appear to be high, based on the DSA and S1.

Debt sustainability analysis (DSA): high risk

The DSA points to high risk, based on the baseline – in particular the level of debt and its projected path – as well as stochastic simulations, and alternative and stress-test scenarios.

Baseline results: steady debt increase at unchanged policies

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with annual real GDP growth averaging 0.8% in 2024-2032. Under a 'no-fiscal-policy-change' assumption, the structural primary balance (SPB) is expected to remain constant (excluding changes in the cost of ageing) at its level forecast for 2023, namely -2.9% of GDP. Under these assumptions, government debt would increase steadily as from 2024, to reach around 122% of GDP in 2032. Yet, the projected SPB underpinning the baseline is very low by French standards, indicating that the country has significant room for tighter positions ([42]). Government gross financing needs are projected to increase slightly over the next 10 years, reaching about 23% of GDP in 2032.

Stochastic simulations: high probability that debt will not stabilise by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the French economy. These stochastic simulations point to a 59% probability of the debt ratio being greater in 2026 than in 2021. This entails a high risk given the current level of about 115% of GDP. The uncertainty

([42]) Based on available historical data, France recorded a SPB greater than -2.9% of GDP 96% of the time. This would suggest that the country has room for manoeuvre to adjust its fiscal position to lower its debt-to-GDP ratio.

surrounding the baseline projections is limited, as can be seen from the relatively narrow debt distribution cone ([43]).

Alternative and stress-test scenarios: confirmation of an increasing debt path, except if fiscal policy reverted to historical behaviour

Fiscal policy reverting to historical behaviour would stabilise the debt ratio at its current level. Indeed, if the SPB gradually converged to its historical average of the last 15 years (a deficit of 1.5% of GDP), the debt ratio would remain broadly stable over the next decade and, in 2032, it would be about 8 pps. of GDP lower than in the baseline. At the same time, less favourable developments in the interest-growth rate differential would put debt on a much steeper upward trajectory as the high debt level exposes France to substantial snowball effects. An 'r-g' differential permanently higher by 1 pp. than in the baseline would push debt about 9 pps. of GDP higher than in the baseline. Temporary (one-year) financial stress, rising the market interest rate by 2.5 pps. in 2022, would increase debt by 2 pps. of GDP by 2032 compared to the baseline. Conversely, halving the improvement in the SPB in 2022-2023 compared to the baseline would push up the debt ratio by 12 pps. of GDP by 2032.

S1 indicator: high risk

The S1 indicator shows that, compared to the baseline, the SPB would need to improve by 6.3 pps. of GDP cumulatively over 5 years, to bring debt to the reference value of 60% by 2038. This would bring the SPB to a surplus of 3.4% of GDP, which appears implausible by historical French standards ([44]). The significant value of S1 is mainly due to the distance of debt from 60% and the unfavourable initial budgetary position (contributing 4.1 pps. and 1.0 pps. of GDP, respectively), but also to age-related public spending (contributing 0.4 pps.).

Long-term fiscal sustainability risks: medium

Overall long-term fiscal sustainability risks appear to be medium, based on S2 and the DSA.

([43]) The difference between the 10th and 90th percentiles in 2026 is around 22 pps. of GDP.
([44]) France never recorded such an SPB in the past decades.

S2 indicator: low risk

S2 shows that, relative to the baseline, the SPB would need to improve by 1.8 pps. of GDP to stabilise the debt ratio over the long term. This would lead to an SPB of -1.1% of GDP, which appears plausible by historical French standards ([45]). The sustainability gap is entirely due to the unfavourable initial budgetary position (contributing 3.1 pps. of GDP), dampened by decreasing ageing costs (contributing -1.3 pps). The projected decline in ageing costs are primarily related to public pension expenditure (-2.1 pps.), though pension spending will remain high at around 15½% of GDP until the mid-2030s before starting to decrease. By contrast, long-term care and health care expenditure is projected to increase over the projection period, each contributing about 0.6 pps. of GDP to the fiscal sustainability gap ([46]).

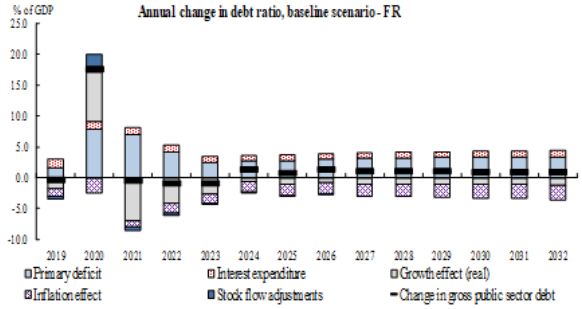
Additional mitigating and aggravating risk factors

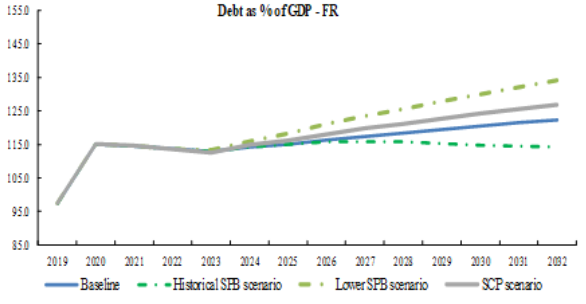
Several factors mitigate the risks. These include relatively stable financing sources (with a diversified and large investor base), the currency denomination of debt, and historically low borrowing costs supported by the Eurosystem's interventions. In 2020, more than 20% of government debt was held by the Eurosystem. On the other hand, several factors may aggravate sustainability risks. Despite a lengthening of debt maturity in recent years, the share of short-term debt remains close to 13% of total debt. Moreover, contingent liability risks stem from the private sector, including via the possible materialisation of state guarantees granted to firms and the self-employed during the COVID-19 crisis, which represent 5½ % of GDP. The share of non-performing loans remains significant. Although contingent liability risks linked to the banking sector appear limited, medium risks are identified under more severe stress, based on SYMBOL simulations. France's negative net international investment position and high private indebtedness are also sources of vulnerability.

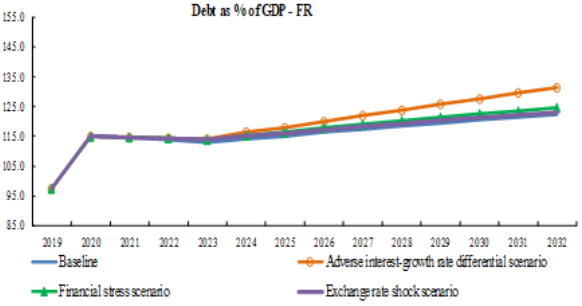
([45]) 55% of the SPBs recorded in France over the past were greater than this value.
([46]) Between 2019 and 2070 total ageing costs are estimated to decline by 0.8 pp. of GDP, with increases in health care and long-term care spending (by 1.9 pps. of GDP together) more than offset by a decline in public pensions (-2.2 pps. of GDP) and, to a lesser extent, education – see 2021 Ageing Report.

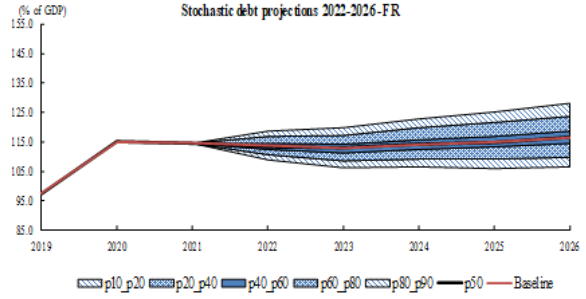
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

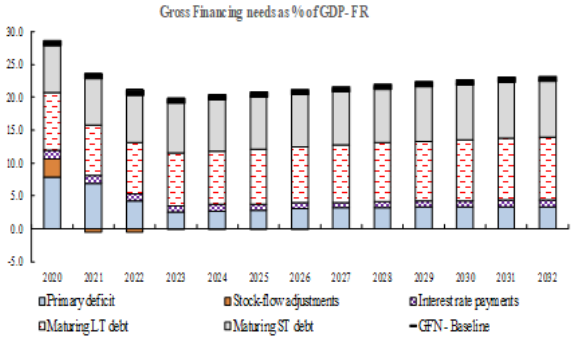
FR - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	**97.5**	**115.0**	**114.6**	**113.7**	**112.9**	**114.2**	**115.1**	**116.4**	**117.4**	**118.5**	**119.5**	**120.5**	**121.4**	**122.3**
Changes in the ratio (-1+2+3)	*-0.3*	*17.6*	*-0.4*	*-0.9*	*-0.9*	*1.4*	*0.8*	*1.3*	*1.0*	*1.1*	*1.0*	*1.0*	*1.0*	*0.9*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-1.6**	**-7.8**	**-6.9**	**-4.2**	**-2.5**	**-2.7**	**-2.8**	**-3.0**	**-3.1**	**-3.2**	**-3.2**	**-3.3**	**-3.3**	**-3.3**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	**-1.8**	**-3.3**	**-5.6**	**-4.1**	**-2.9**	**-2.9**	**-3.0**	**-3.1**	**-3.1**	**-3.2**	**-3.2**	**-3.3**	**-3.3**	**-3.3**
(1.1.1) Structural primary balance (bef. CoA)	*-1.8*	*-3.3*	*-5.6*	*-4.1*	*-2.9*	*-2.9*	*-2.9*	*-2.9*	*-2.9*	*-2.9*	*-2.9*	*-2.9*	*-2.9*	*-2.9*
(1.1.2) Cost of ageing						*0.1*	*0.2*	*0.2*	*0.3*	*0.4*	*0.4*	*0.4*	*0.5*	*0.5*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*
(1.2) Cyclical component	**1.1**	**-4.4**	**-1.3**	**0.1**	**0.5**	**0.2**	**0.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(1.3) One-off and other temporary measures	**-0.9**	**-0.1**	**-0.1**	**-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)	**-1.5**	**7.0**	**-6.8**	**-4.6**	**-3.2**	**-1.3**	**-1.9**	**-1.7**	**-2.1**	**-2.2**	**-2.2**	**-2.3**	**-2.3**	**-2.4**
(2.1) Interest expenditure	*1.4*	*1.3*	*1.2*	*1.1*	*1.0*	*1.0*	*0.9*	*0.9*	*0.9*	*0.9*	*0.9*	*1.0*	*1.0*	*1.1*
(2.2) Growth effect	*-1.7*	*8.1*	*-7.0*	*-4.1*	*-2.6*	*-0.6*	*-1.1*	*-0.8*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.2*
(2.3) Inflation effect	*-1.2*	*-2.4*	*-0.9*	*-1.5*	*-1.6*	*-1.7*	*-1.8*	*-1.9*	*-2.0*	*-2.1*	*-2.2*	*-2.3*	*-2.4*	*-2.4*
(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	**-0.4**	**2.8**	**-0.6**	**-0.5**	**-0.2**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.5*	*2.8*	*-0.5*	*-0.6*	*-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	*0.1*	*0.0*	*-0.1*	*0.1*	*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	-4.6	-6.7	-5.2	-3.9	-3.9	-3.9	-4.0	-4.0	-4.1	-4.2	-4.2	-4.3	-4.4
Gross financing needs	16.6	28.2	23.1	20.6	19.4	20.0	20.3	20.8	21.2	21.6	21.9	22.2	22.6	22.8

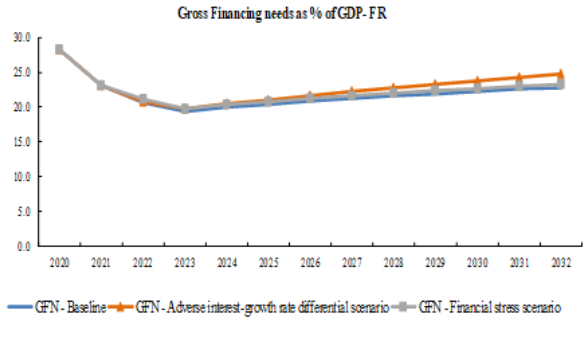












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
				Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH			
			Debt level (2032)	122.3	114.3	131.4	124.5	134.1				
			Debt peak year	2032	2027	2032	2032	2032				
			Percentile rank	95.7%	85.1%	95.7%	95.7%	99.7%				
			Probability debt higher						59.2%			
			Dif. between percentiles						21.7			
LOW (S0 = 0.5)	HIGH	HIGH (S1 = 6.3)								HIGH	LOW (S2 = 1.8)	MEDIUM

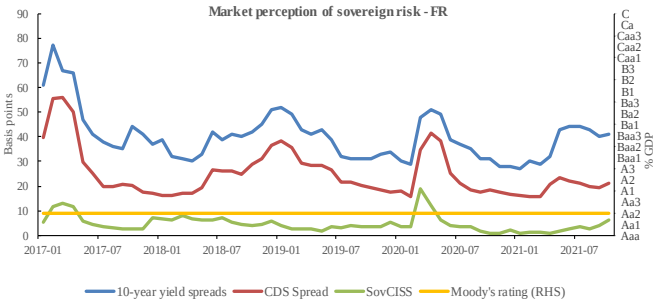
2.2. Sustainability indicators

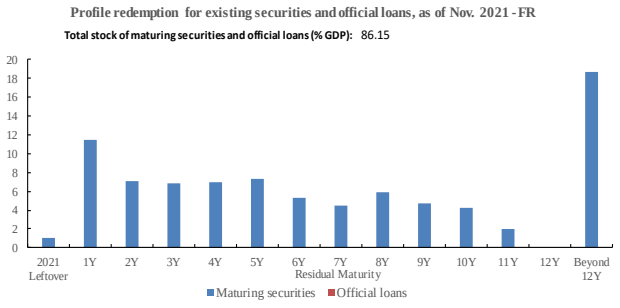
S0 indicator	2009	2021	Critical threshold
Overall index	**0.39**	**0.45**	**0.46**
Fiscal sub-index	0.96	0.69	0.36
Financial competitiveness sub-index	0.09	0.33	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**4.4**	**6.3**	**6.3**	**6.8**
of which *Initial budgetary position*	*-1.1*	*1.0*	*1.1*	*1.1*
Cost of delaying adjustment	*0.5*	*0.7*	*0.7*	*0.8*
Debt requirement	*4.8*	*4.1*	*4.1*	*4.1*
Ageing costs	*0.3*	*0.4*	*0.4*	*0.8*
Required structural primary balance related to S1	**3.0**	**3.4**	**3.5**	**4.0**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**-1.1**	**1.8**	**2.8**	**5.0**
of which Initial Budgetary position	1.7	3.1	3.3	3.1
Ageing costs	-2.8	-1.3	-0.5	1.9
of which Pensions	*-3.2*	*-2.1*	*-1.3*	*-2.1*
Health care	*0.2*	*0.6*	*0.6*	*1.6*
Long-term care	*0.5*	*0.7*	*0.7*	*2.9*
Others	*-0.3*	*-0.5*	*-0.4*	*-0.5*
Required structural primary balance related to S2	**-2.6**	**-1.1**	**-0.1**	**2.1**

3. Financial information





Sovereign Ratings as of Nov. 2021, FR	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Aa2u		Aa2u	
S&P	AAu	A-1+u	AAu	A-1+u
Fitch	AA		AA	F1+

Sovereign yield spreads (bp)* - as of October 2021	10-year	41.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - FR (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	12.8	4.3	48.6

Net International Investment Position (IIP) - FR (2020)	Net IIP (% GDP):
	-30.2

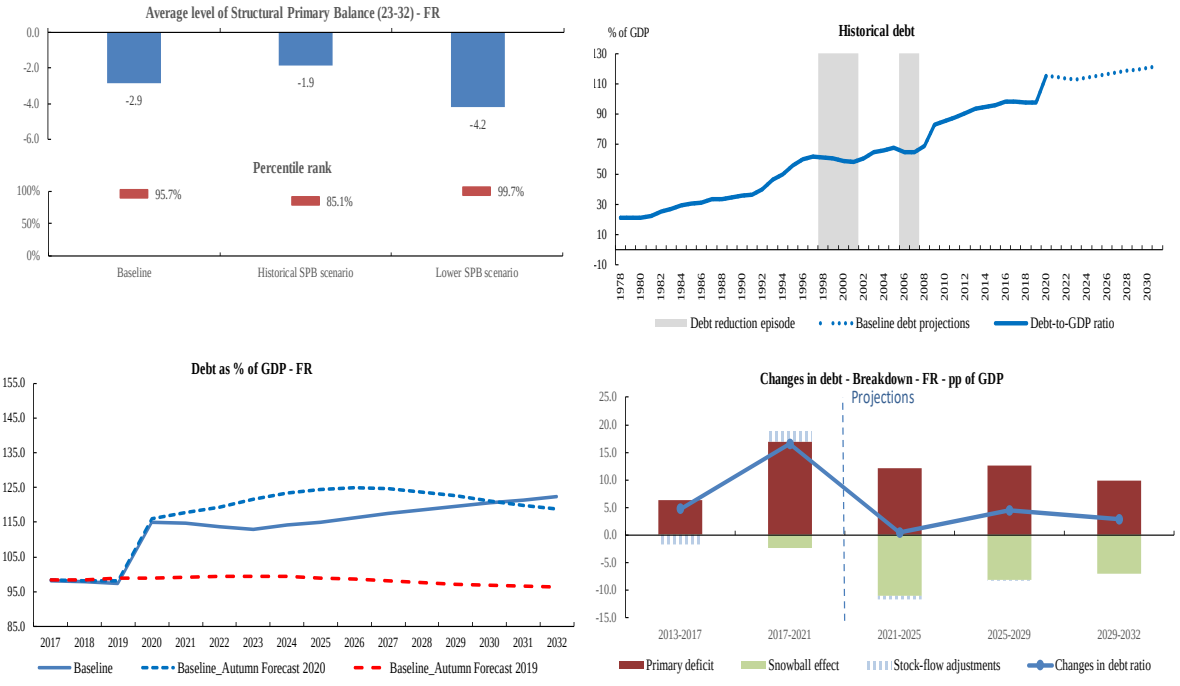
5. Risks related to government's contingent liabilities

General government contingent liabilities		FR					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		12.0	12.0	12.0	11.6	17.1	8.1
of which	*One-off guarantees*	*9.7*	*9.7*	*9.6*	*9.3*	*14.5*	*7.1*
	Standardised guarantees	*2.2*	*2.3*	*2.4*	*2.3*	*2.6*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*

		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	2.0	1.6	1.5	1.3	1.3	0.9
	Securities issued under liquidity schemes	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
	Total	2.0	1.6	1.5	1.3	1.3	0.9

Government's contingent liability risks from banking sector - FR (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	13.0	5.2	105.0	2.1	-0.3	49.4	0.10%	0.84%

6. Realism of baseline assumptions



7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, France	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	114.6	113.7	112.9	118.5	120.5	122.3	113.7	118.4	117.2
Primary balance	-6.9	-4.2	-2.5	-3.2	-3.3	-3.3	-4.5	-3.1	-3.5
Structural primary balance (before CoA)	-5.6	-4.1	-2.9	-2.9	-2.9	-2.9	-4.2	-2.9	-3.2
Real GDP growth	6.5	3.8	2.3	0.9	0.9	1.0	4.2	0.8	1.7
Potential GDP growth	1.2	1.5	1.6	0.9	0.9	1.0	1.4	0.9	1.1
Inflation rate	0.8	1.4	1.4	1.8	1.9	2.0	1.2	1.8	1.6
Implicit interest rate (nominal)	1.1	1.0	0.9	0.8	0.8	0.9	1.0	0.8	0.9
Gross financing needs	23.1	20.6	19.4	21.6	22.2	22.8	21.0	21.5	21.4
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	114.6	113.7	112.6	121.2	124.2	126.9	113.6	121.1	119.2
Primary balance	-6.9	-4.2	-3.0	-3.7	-3.8	-3.8	-4.7	-3.6	-3.9
Structural primary balance (before CoA)	-5.6	-4.1	-3.8	-3.4	-3.4	-3.4	-4.5	-3.4	-3.7
Real GDP growth	6.5	3.8	3.0	0.9	0.9	1.0	4.4	0.8	1.7
Gross financing needs	23.1	20.6	19.8	22.4	23.3	24.0	21.2	22.3	22.0
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	114.6	113.7	112.9	115.7	114.9	114.3	113.7	115.1	114.7
Primary balance	-6.9	-4.2	-2.5	-2.1	-1.9	-2.0	-4.5	-2.2	-2.8
Structural primary balance (before CoA)	-5.6	-4.1	-2.9	-1.5	-1.5	-1.5	-4.2	-1.8	-2.4
Real GDP growth	6.5	3.8	2.3	1.1	1.1	1.0	4.2	0.8	1.7
Gross financing needs	23.1	20.6	19.4	20.2	20.2	20.4	21.0	20.2	20.4
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	114.6	114.3	113.7	120.3	122.5	124.5	114.2	120.1	118.6
Implicit interest rate (nominal)	1.1	1.5	1.2	0.9	1.0	1.0	1.3	1.0	1.1
Gross financing needs	23.1	21.1	19.8	22.0	22.7	23.3	21.3	21.9	21.8
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	114.6	113.5	113.3	125.7	130.0	134.1	113.8	125.4	122.5
Primary balance	-6.9	-4.6	-3.3	-4.6	-4.6	-4.7	-5.0	-4.4	-4.5
Structural primary balance (before CoA)	-5.6	-4.9	-4.2	-4.2	-4.2	-4.2	-4.9	-4.2	-4.4
Real GDP growth	6.5	4.4	2.6	0.9	0.9	1.0	4.5	0.8	1.7
Gross financing needs	23.1	21.3	20.2	23.8	24.9	25.9	21.5	23.7	23.2
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	114.6	114.2	113.8	119.4	121.3	123.1	114.2	119.3	118.0
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	23.1	20.6	19.6	21.7	22.4	22.9	21.1	21.6	21.5
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	114.6	114.4	114.2	123.9	127.7	131.4	114.4	123.8	121.5
Implicit interest rate (nominal)	1.1	1.1	1.1	1.1	1.2	1.3	1.1	1.1	1.1
Real GDP growth	6.5	3.3	1.8	0.4	0.4	0.5	3.9	0.3	1.2
Gross financing needs	23.1	20.8	19.8	22.7	23.7	24.7	21.2	22.7	22.3

CROATIA

Short-term risks: low. *No short-term vulnerabilities are identified for Croatia, according to the S0 indicator. Gross financing needs should decline in the short term, and sovereign financing conditions are expected to remain favourable.*

Medium-term risks: high. *Over the medium term, fiscal sustainability risks are high overall, based on medium risks from the sustainability gap indicator S1 and high vulnerabilities from a debt sustainability analysis (DSA) perspective. In the baseline, debt — currently at 82% of GDP – is overall projected to decline compared to its 2021 level, reaching 77% of GDP in 2032. Similar dynamics obtained under possible macro-fiscal shocks also contribute to this assessment.*

Long-term risks: medium. *Low risks from the sustainability gap indicator S2, combined with high vulnerabilities from the DSA, contribute to the overall long-term assessment. The low value of S2 reflects the fact that the projected decline in ageing costs partially offsets the initial deficit.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling no overall short-term vulnerabilities. Both the fiscal and the financial-competitiveness sub-indices are also below their critical thresholds. Government financing needs are expected to decline in the short term, to about 12.5% of GDP in 2021-2022, from about 21% in 2020. Moreover, financing conditions should remain favourable. Financial markets' perceptions of sovereign risk have improved in recent years, as confirmed by the CDS spread and the upgrade to investment grade that two of the three major rating agencies assigned to Croatian government debt.

Medium-term fiscal sustainability risks: high

Overall medium-term fiscal sustainability risks appear to be high, based on the DSA and S1.

Debt sustainability analysis (DSA): high risk

The DSA points to high risk, based on the baseline – in particular the level of debt and its projected path – as well as stochastic simulations, and alternative and stress-test scenarios.

Baseline results: debt overall declines compared to its current level

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with annual real GDP growth averaging 1.2% in 2024-2032. Under a 'no-fiscal-policy-change' assumption, the structural primary balance (SPB) is expected to remain constant (excluding changes in the cost of ageing) at its level forecast for 2023, namely -1.4% of GDP. Under these assumptions, government debt would decline until 2026 but increase again afterwards, to reach 77% of GDP in 2032, still remaining below its current level. The assumed SPB underpinning the baseline, although negative, appears already within the higher range of the historical distribution for the country ([47]). After declining until 2025, government gross financing needs are projected to increase again, reaching 14% of GDP in 2032.

Stochastic simulations: low probability that debt will not stabilise by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the Croatian economy. These stochastic simulations point to a 21% probability of the debt ratio being greater in 2026 than in 2021. This entails a low risk, given also the current level of 82% of GDP. Yet, the uncertainty surrounding the baseline projections is not negligible, as can be seen from the relatively wide debt distribution cone ([48]).

([47]) Based on available historical data, Croatia recorded a SPB above -1.4% of GDP only 48% of the time. This would suggest that the country has moderate room for manoeuvre to adjust its fiscal position to lower its debt ratio.

([48]) The difference between the 10th and 90th percentiles in 2026 is around 29 pps. of GDP.

Alternative and stress-test scenarios: confirmation of a likely debt increase as from the late 2020s

Various alternative scenarios confirm the dynamics envisaged in the baseline. All point to the prospect of a debt ratio declining until 2026 before rebounding to a range of 76% to 83% of GDP in 2032. In particular, as the SPB envisaged in the baseline is close to Croatia's historical average of the last 15 years (a deficit of 1.2 % of GDP), reverting to historical behaviour would reduce the debt ratio only slightly, namely by 1 pp. of GDP by 2032, compared to the baseline. Similarly, given the limited fiscal consolidation expected for 2022-2023, halving the forecast consolidation would increase the 2032 debt level by only 2 pps. of GDP compared with the baseline. A permanent adverse shock on the interest-growth rate differential – increasing the 'r-g' differential by 1 pp. compared to the baseline – would result in a debt ratio higher by about 6 pps. of GDP by 2032 compared with the baseline. Finally, temporary (one-year) financial stress rising the interest rate by 1 pp. in 2022 would not change the 2032 debt projection significantly.

S1 indicator: medium risk

The S1 indicator shows that, compared to the baseline, the SPB would need to improve by 1.6 pps. of GDP cumulative over 5 years to bring the debt ratio to the reference value of 60% by 2038. This would bring the SPB to 0.2% of GDP, which is very ambitious by historical standards ([49]). The value of S1 is mainly due to the distance of debt to 60% of GDP and to the projected age-related public spending (contributing 1.4 pps. and 0.2 pp. of GDP, respectively), while the initial budgetary position would make a small negative contribution (-0.2 pp.).

Long-term fiscal sustainability risks: medium

Overall long-term fiscal sustainability risks appear to be medium, based on S2 and the DSA.

([49]) Only 23% of the SPBs recorded in Croatia over the available past data were larger than this value.

S2 indicator: low risk

S2 shows that, relative to the baseline, the SPB would need to improve by 1.3 pps. of GDP to stabilise the debt ratio over the long term. This would bring the SPB close to balance (at -0.1% of GDP), which is fairly ambitious by historical standards ([50]). The sustainability gap entirely stems from the unfavourable initial budgetary position (contributing 1.8 pps. of GDP), partially offset by the projected decline in age-related public spending (-0.5 pp. of GDP). The projected decrease in ageing costs is primarily related to public pensions (-1.1 pps.), while expenditure on health care and long-term care is projected to increase (joint contribution of 0.8 pps.) ([51]).

Additional mitigating and aggravating risk factors

Several factors mitigate the risks. These include the lengthening of debt maturity in recent years, relatively stable financing sources (with a diversified and large investor base), historically low borrowing costs and the potential impact on long-term growth of reforms under the recovery and resilience plan ([52]). On the other hand, several factors may aggravate sustainability risks, in particular Croatia's negative net international investment position and the recently evidenced decline in population ([53]). State guarantees granted to firms and self-employed during the COVID-19 crisis were limited and do not result in major contingent liability risks. The share of non-performing loans remains high; nevertheless, contingent liability risks linked to the banking sector appear limited, based on the SYMBOL simulations.

([50]) Only 31% of the SPBs recorded in Croatia over the past were greater than this value.

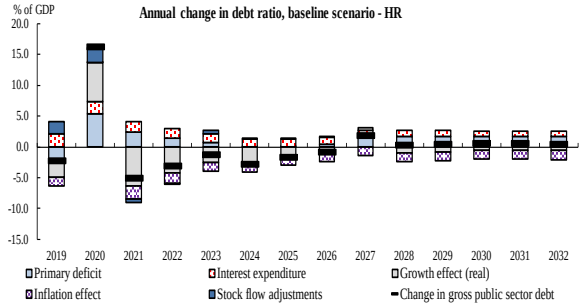
([51]) Between 2019 and 2070, ageing costs are estimated to decrease by 0.3 pps. of GDP (pensions and education: -1.2 pps, health care and long-term care: +0.9 pp.) – see 2021 Ageing Report.

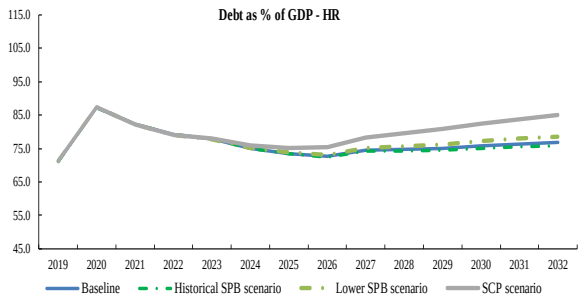
([52]) The baseline projections take into account the expected impact of investment but not of structural reforms, as it is more difficult to quantify at this stage.

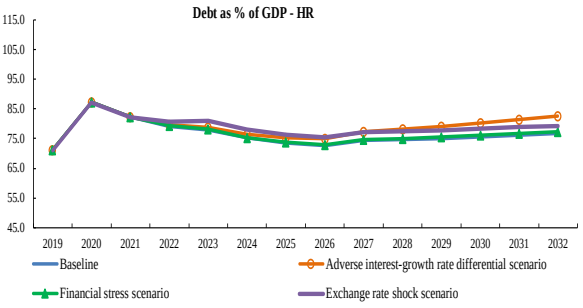
([53]) As evidenced by the 2021 census, published after the 2021 Ageing report and therefore not reflected in it.

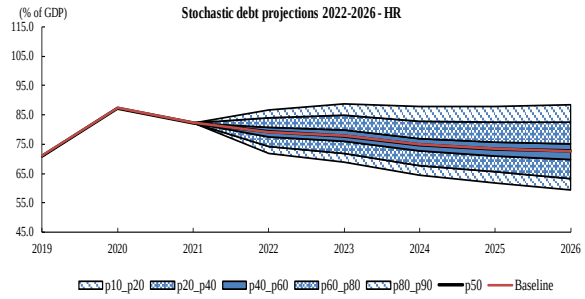
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

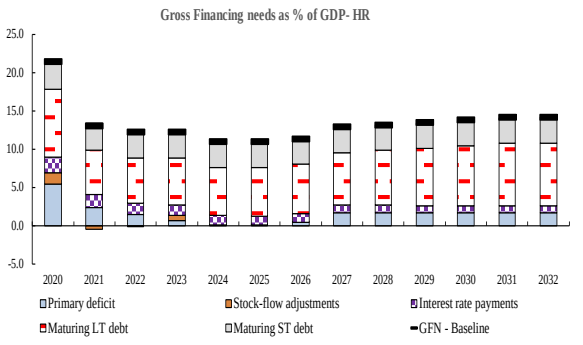
HR - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	**71.1**	**87.3**	**82.3**	**79.2**	**77.9**	**75.1**	**73.4**	**72.6**	**74.4**	**74.7**	**75.1**	**75.7**	**76.3**	**76.7**
Changes in the ratio (-1+2+3)	*-2.2*	*16.2*	*-5.0*	*-3.1*	*-1.3*	*-2.8*	*-1.7*	*-0.8*	*1.8*	*0.3*	*0.4*	*0.6*	*0.6*	*0.4*
of which														
(1) Primary balance (1.1+1.2+1.3)	**2.5**	**-5.4**	**-2.4**	**-1.4**	**-0.7**	**-0.1**	**-0.1**	**-0.4**	**-1.6**	**-1.7**	**-1.7**	**-1.7**	**-1.7**	**-1.6**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***0.8***	***-2.8***	***-1.8***	***-1.9***	***-1.4***	***-1.4***	***-1.5***	***-1.6***	***-1.6***	***-1.7***	***-1.7***	***-1.7***	***-1.7***	***-1.6***
(1.1.1) Structural primary balance (bef. CoA)	*0.8*	*-2.8*	*-1.8*	*-1.9*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*
(1.1.2) Cost of ageing						*0.0*	*0.1*	*0.2*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*
(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*
(1.2) Cyclical component	***1.6***	***-2.7***	***-0.6***	***0.5***	***0.6***	***1.3***	***1.4***	***1.2***	***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)	**-1.6**	**8.3**	**-6.7**	**-4.4**	**-2.6**	**-2.8**	**-1.8**	**-1.3**	**0.2**	**-1.4**	**-1.3**	**-1.1**	**-1.1**	**-1.2**
(2.1) Interest expenditure	*2.2*	*2.0*	*1.7*	*1.5*	*1.4*	*1.3*	*1.2*	*1.1*	*1.0*	*1.0*	*0.9*	*0.9*	*0.9*	*0.9*
(2.2) Growth effect	*-2.4*	*6.3*	*-6.4*	*-4.3*	*-2.5*	*-2.7*	*-1.5*	*-1.0*	*0.5*	*-0.9*	*-0.8*	*-0.5*	*-0.5*	*-0.6*
(2.3) Inflation effect	*-1.4*	*0.1*	*-2.0*	*-1.7*	*-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	**1.9**	**2.4**	**-0.6**	**-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	*1.8*	*1.5*	*-0.4*	*0.0*	*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	*0.1*	*0.9*	*-0.2*	*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	-4.7	-3.5	-3.4	-2.7	-2.7	-2.6	-2.7	-2.7	-2.6	-2.6	-2.6	-2.6	-2.6
Gross financing needs	14.0	21.4	13.0	12.2	12.2	10.9	10.9	11.3	12.8	13.1	13.4	13.8	14.1	14.2

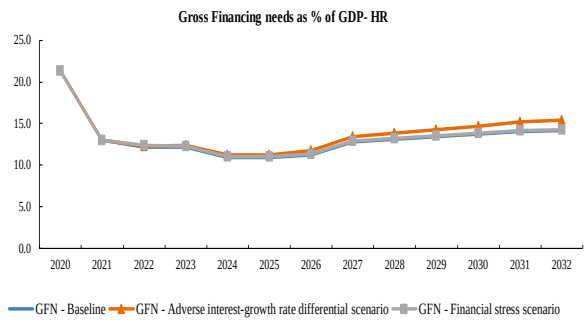












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
				Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	MEDIUM	MEDIUM	HIGH	MEDIUM	MEDIUM	LOW			
			Debt level (2032)	76.7	75.7	82.6	77.2	78.5				
			Debt peak year	2021	2021	2032	2021	2021				
			Percentile rank	48.4%	47.5%	48.4%	48.4%	49.9%				
			Probability debt higher						20.5%			
			Dif. between percentiles						28.9			
LOW (S0 = 0.4)	HIGH	MEDIUM (S1 = 1.6)								HIGH	LOW (S2 = 1.3)	MEDIUM

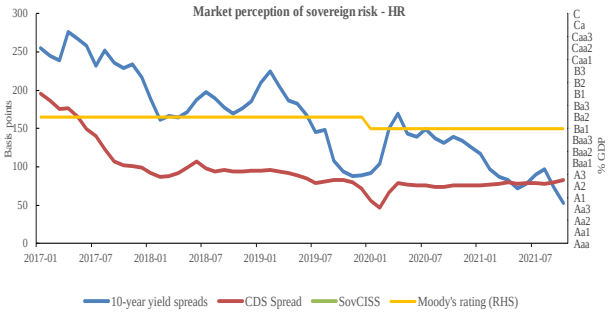
2.2. Sustainability indicators

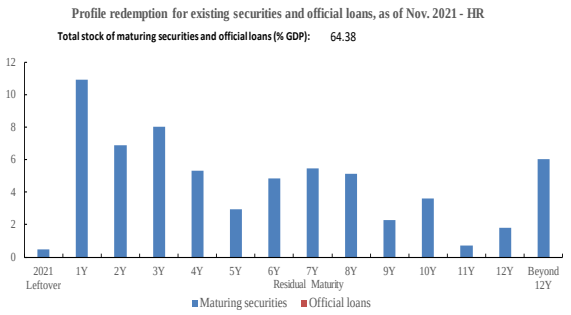
S0 indicator	2009	2021	Critical threshold
Overall index	**0.84**	**0.38**	**0.46**
Fiscal sub-index	0.64	0.33	0.36
Financial competitiveness sub-index	0.93	0.41	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**-1.5**	**1.6**	**1.6**	**2.0**
of which *Initial budgetary position*	*-2.0*	*-0.2*	*-0.1*	*-0.1*
Cost of delaying adjustment	*-0.2*	*0.2*	*0.2*	*0.2*
Debt requirement	*1.6*	*1.4*	*1.3*	*1.4*
Ageing costs	*-0.9*	*0.2*	*0.2*	*0.5*
Required structural primary balance related to S1	**-0.6**	**0.2**	**0.2**	**0.6**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**-2.1**	**1.3**	**1.6**	**3.9**
of which Initial Budgetary position	-0.3	1.8	1.9	1.8
Ageing costs	-1.8	-0.5	-0.3	2.0
of which Pensions	*-2.5*	*-1.1*	*-0.9*	*-1.1*
Health care	*0.8*	*0.6*	*0.6*	*1.5*
Long-term care	*0.3*	*0.2*	*0.1*	*1.8*
Others	*-0.3*	*-0.1*	*-0.2*	*-0.1*
Required structural primary balance related to S2	**-1.2**	**-0.1**	**0.3**	**2.5**

3. Financial information





Sovereign Ratings as of Nov. 2021, HR	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Ba1		Ba1	
S&P	BBB-	A-3	BBB-	A-3
Fitch	BBB		BBB	F3

Sovereign yield spreads (bp)* - as of October 2021	10-year	53.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - HR (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	6.0	71.0	32.1

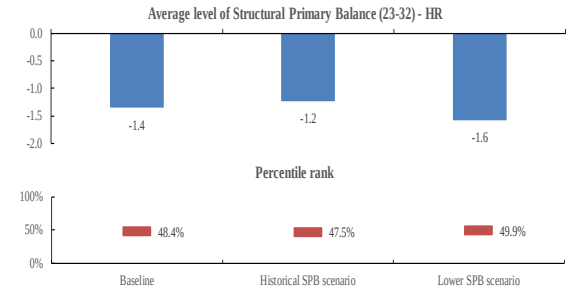
Net International Investment Position (IIP) - HR (2020)	Net IIP (% GDP):
	-47.8

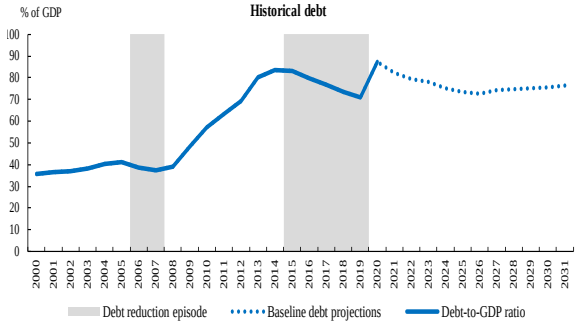
5. Risks related to government's contingent liabilities

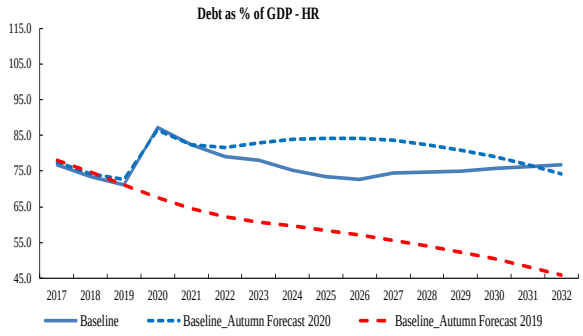
General government contingent liabilities		HR					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		2.6	2.6	1.4	1.1	1.7	8.1
of which One-off guarantees		*2.6*	*2.6*	*1.4*	*1.1*	*1.7*	*7.1*
Standardised guarantees		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.3*
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.0	0.0	0.0	0.0	0.0	0.9
	Securities issued under liquidity schemes	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
	Total	0.0	0.0	0.0	0.0	0.0	0.9

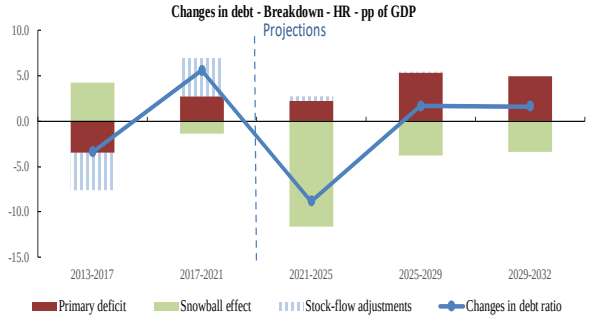
Government's contingent liability risks from banking sector - HR (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	1.3	7.7	65.5	3.9	-0.4	62.0	0.00%	0.04%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Croatia	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	82.3	79.2	77.9	74.7	75.7	76.7	79.8	74.9	76.1
Primary balance	-2.4	-1.4	-0.7	-1.7	-1.7	-1.6	-1.5	-1.2	-1.2
Structural primary balance (before CoA)	-1.8	-1.9	-1.4	-1.4	-1.4	-1.4	-1.7	-1.4	-1.4
Real GDP growth	8.1	5.6	3.4	1.3	0.7	0.8	5.7	1.2	2.3
Potential GDP growth	2.9	3.1	3.0	1.3	0.7	0.8	3.0	1.4	1.8
Inflation rate	2.4	2.1	1.9	1.9	2.0	2.0	2.1	1.9	2.0
Implicit interest rate (nominal)	2.2	2.0	1.8	1.4	1.3	1.2	2.0	1.4	1.6
Gross financing needs	13.0	12.2	12.2	13.1	13.8	14.2	12.5	12.7	12.7
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	82.3	79.2	78.0	79.5	82.3	85.1	79.8	79.6	79.7
Primary balance	-2.4	-1.4	-1.2	-2.7	-2.7	-2.7	-1.6	-2.1	-2.0
Structural primary balance (before CoA)	-1.8	-1.9	-2.0	-2.4	-2.4	-2.4	-1.9	-2.4	-2.3
Real GDP growth	8.1	5.6	3.9	1.3	0.7	0.8	5.9	1.2	2.3
Gross financing needs	13.0	12.2	12.6	14.7	15.7	16.4	12.6	14.3	13.9
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	82.3	79.2	77.9	74.3	75.0	75.7	79.8	74.5	75.8
Primary balance	-2.4	-1.4	-0.7	-1.5	-1.5	-1.5	-1.5	-1.0	-1.2
Structural primary balance (before CoA)	-1.8	-1.9	-1.4	-1.2	-1.2	-1.2	-1.7	-1.2	-1.3
Real GDP growth	8.1	5.6	3.4	1.3	0.7	0.8	5.7	1.2	2.3
Gross financing needs	13.0	12.2	12.2	12.9	13.5	13.9	12.5	12.6	12.5
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	82.3	79.3	78.1	75.1	76.1	77.2	79.9	75.3	76.4
Implicit interest rate (nominal)	2.2	2.2	1.9	1.4	1.3	1.3	2.1	1.5	1.6
Gross financing needs	13.0	12.3	12.3	13.2	13.9	14.3	12.5	12.8	12.7
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	82.3	79.1	77.8	75.7	77.1	78.5	79.7	75.9	76.8
Primary balance	-2.4	-1.3	-0.8	-1.9	-1.9	-1.9	-1.5	-1.4	-1.4
Structural primary balance (before CoA)	-1.8	-1.7	-1.6	-1.6	-1.6	-1.6	-1.7	-1.6	-1.6
Real GDP growth	8.1	5.4	3.7	1.3	0.7	0.8	5.8	1.2	2.3
Gross financing needs	13.0	12.0	12.3	13.5	14.2	14.7	12.4	13.1	12.9
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	82.3	80.6	80.9	77.4	78.3	79.2	81.3	77.6	78.5
Exchange rate depreciation	0.0%	1.6%	1.6%	0.0%	0.0%	0.0%	1.1%	0.0%	0.3%
Gross financing needs	13.0	12.4	12.6	13.5	14.2	14.6	12.7	13.1	13.0
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	82.3	79.6	78.8	78.1	80.3	82.6	80.2	78.4	78.8
Implicit interest rate (nominal)	2.2	2.1	2.0	1.7	1.6	1.6	2.1	1.7	1.8
Real GDP growth	8.1	5.1	2.9	0.8	0.2	0.3	5.4	0.7	1.9
Gross financing needs	13.0	12.3	12.4	13.8	14.7	15.4	12.6	13.5	13.2

ITALY

Short-term risks: low. *Overall, the S0 indicator does not signal major short-term fiscal risks However, gross financing needs remain large. Sovereign financing conditions are expected to remain favourable, notably supported by the Eurosystem's interventions*

Medium-term risks: high. *Over the medium term, fiscal sustainability risks appear to be high overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, currently around 155% of GDP, is projected to continue rising, reaching around 161% of GDP in 2032 in the baseline. The sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

Long-term risks: high. *Over the long term, medium risk from the sustainability gap indicator S2, combined with high vulnerabilities from the DSA contribute to the overall assessment. The S2 indicator mainly captures risks linked to the unfavourable initial budgetary position.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling no overall short-term vulnerabilities. However, the fiscal sub-index points to short-term vulnerabilities (notably due to gross financing needs and the share, as % of GDP, of short-term public debt being above the critical threshold). Government financing needs are expected to remain large in the short term (about 28% of GDP in 2021-2022), although slightly declining compared with 2020. Yet, financing conditions should remain favourable, notably supported by the Eurosystem's interventions. Financial markets' perceptions of sovereign risk are stable, as confirmed by the CDS spread and the recent improvement in the ratings that the three major rating agencies assigned to Italian government debt.

Medium-term fiscal sustainability risks: high

Debt Sustainability Analysis (DSA): high risk

The DSA, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to a high risk.

Baseline results: steady debt increase at unchanged policies

The baseline projections up to 2032 assume a favourable interest-growth rate differential over the projection period, with real GDP growth hovering around 1% over 2024-2032. Under a 'no-fiscal policy change' assumption, debt would stabilise (at around 150% of GDP) until 2026, to then start rising as of 2027. Between 2023 and 2032, debt would increase by 10.6 pps., reaching around 160% of GDP in 2032. Yet, these baseline projections assume a structural primary balance (SPB) of -2.1% of GDP before ageing costs, leaving substantial scope for fiscal consolidation. ([54]) Government gross financing needs are projected to slightly increase over the next 10 years, reaching around 29% of GDP in 2032.

Stochastic simulations: high probability that debt will not stabilise by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the Italian economy. These stochastic simulations point to a 41% probability of the debt ratio in 2026 being greater than in 2021, entailing high risk given the current level of around 155% of GDP. In addition, such shocks point to significant uncertainty surrounding the baseline projections, as can be seen from the wide debt distribution cone. ([55])

([54]) Based on available historical data, Italy recorded an SPB greater than -2.1% of GDP in 75% of the cases. Therefore, the country has room to improve its fiscal position and lower its debt-to-GDP ratio.

([55]) The difference between the 10th and 90th percentile in 2026 is around 43 pps. of GDP.

Alternative and stress-test scenarios: important vulnerabilities, but reverting to historical behaviour would reduce risks

Fiscal policy reverting to historical behaviour would bring the debt ratio towards a stable path. Indeed, if the SPB gradually converged to its historical average of the last 15 years (a *surplus* of 1.7% of GDP), the debt ratio would be about 24 pps. of GDP lower than in the baseline and be put on a downward path. On the other hand, more adverse developments of the interest-growth rate differential than assumed under the baseline would have a sizable impact on the debt-GDP ratio, given its current high value. A permanently higher 'r-g' differential (by 1 pp.) than in the baseline would entail a debt ratio in 2032 about 13 pps. of GDP higher than in the baseline. If a temporary (one-year) episode of financial stress pushed up interest rates by 4.8 pp. in 2022, the 2032 debt projection would be some 6 pps. of GDP higher than in the baseline. If only half of the projected improvement in the SPB in 2022-2023 were to occur, the 2032 projected debt would be higher by around 12 pps. of GDP relative to the baseline.

S1 indicator: high risk

The S1 indicator shows that, compared to the baseline, the structural primary balance (SPB) would need to improve by 10.3 pps. of GDP, in cumulated terms over 5 years, to bring the debt-to-GDP ratio to the reference value of 60% by 2038. This corresponds to an SPB of 8.2% of GDP, which is very ambitious by Italian standards. ([56]) This significant value of S1 value is mainly related to the distance of the debt ratio from the 60% reference value (contribution of 6.5 pps. of GDP), the unfavourable initial budgetary position (contribution of 1.4 pps. of GDP), and the projected age-related public spending (contribution of 1.1 pps. of GDP).

Long-term fiscal sustainability risks: high

S2 indicator: medium risk

The S2 indicator shows that, relative to the baseline, the SPB would need to improve by 2.1 pps. of GDP to stabilise the debt-to-GDP ratio over the long term. Such adjustment would bring the SPB to balance, which is attainable by Italian standards. ([57]) This sustainability gap is driven by the initial budgetary position (2.6 pps. of GDP), mitigated by a slight decrease in projected ageing costs (contribution of -0.5 pps. of GDP). Ageing costs' future developments are primarily related to the projected decrease of public pension expenditure (contribution of -1.9 pps. of GDP), though pension spending will continue to increase to reach a peak of 18% of GDP in 2036 before starting to decrease. Health and long-term care spending is instead projected to increase over the projection period (contribution of around 0.8 pps. of GDP, respectively). ([58])

In sum, over the long term fiscal sustainability risks appear to be high overall, based on the sustainability gap indicator S2 combined with the DSA risk assessment (see previous section).

Additional mitigating and aggravating risk factors

Several factors mitigate the risks. These include the lengthening of debt maturity in recent years, the currency denomination of debt, and historically low borrowing costs, notably supported by the Eurosystem's interventions. At the end of 2020, more than 20% of government debt was held by the Eurosystem. Italy's positive net international investment position also helps mitigating vulnerabilities. Other factors aggravate risks. The ratio of short-term government debt (in terms of GDP) is non-negligible. Risk-increasing factors are also related to contingent liability risks from the private sector, including via possible materialisation of sizeable state guarantees granted to firms and self-employed during the COVID-19 crisis. Contingent liability risks stemming from the banking sector identify medium risks under a severe stress scenario (based on the SYMBOL simulations).

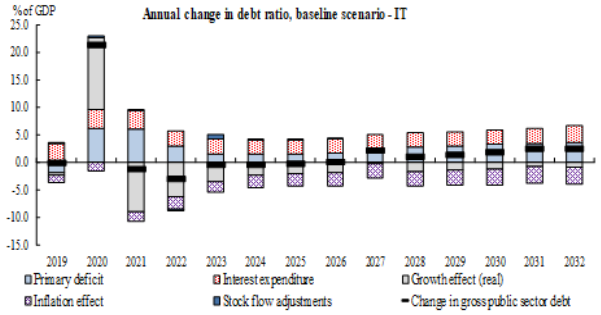
([56]) None of the past Italian SPBs were larger.

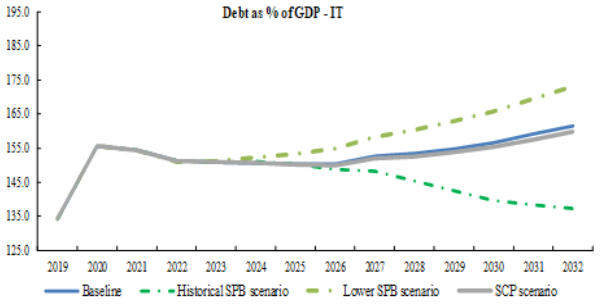
([57]) 60% of the SPBs recorded for the country over 1980-2021 were greater than this value.

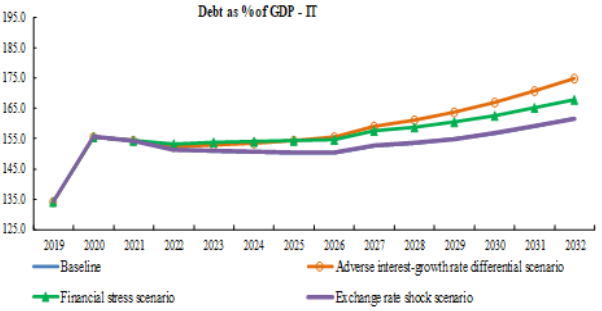
([58]) Between 2019 and 2070, total ageing costs are estimated to decrease by -0.1 pps. of GDP (among which public pensions by -1.8 pps. of GDP) – see 2021 Ageing Report.

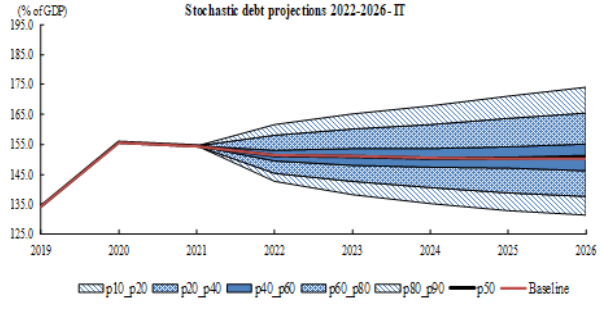
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

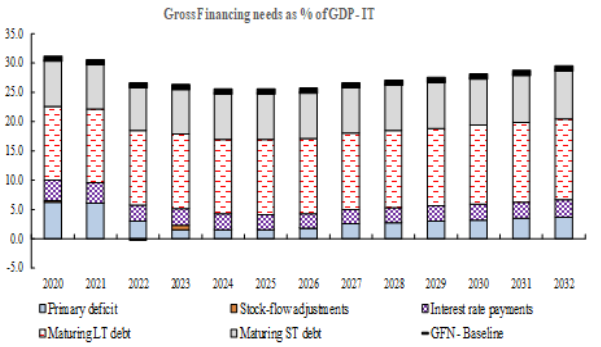
IT - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	134.3	155.6	154.4	151.4	151.0	150.6	150.3	150.3	152.6	153.5	154.9	156.7	159.1	161.6
Changes in the ratio (-1+2+3)	*-0.2*	*21.4*	*-1.3*	*-3.0*	*-0.4*	*-0.4*	*-0.2*	*0.0*	*2.2*	*1.0*	*1.4*	*1.8*	*2.4*	*2.5*
of which														
(1) Primary balance (1.1+1.2+1.3)	1.8	-6.1	-5.9	-2.9	-1.4	-1.5	-1.5	-1.7	-2.5	-2.7	-3.0	-3.2	-3.4	-3.6
(1.1) Structural primary balance (1.1.1-1.1.2+1.1.3)	*1.4*	*-1.5*	*-4.6*	*-3.1*	*-2.1*	*-2.0*	*-2.2*	*-2.3*	*-2.5*	*-2.7*	*-3.0*	*-3.2*	*-3.4*	*-3.6*
(1.1.1) Structural primary balance (bef. CoA)	*1.4*	*-1.5*	*-4.6*	*-3.1*	*-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						*-0.1*	*0.0*	*0.2*	*0.4*	*0.7*	*1.0*	*1.3*	*1.5*	*1.8*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.2*	*0.2*	*0.3*
(1.2) Cyclical component	*0.4*	*-4.7*	*-1.8*	*-0.1*	*0.5*	*0.6*	*0.6*	*0.6*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(1.3) One-off and other temporary measures	*0.1*	*0.1*	*0.4*	*0.3*	*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)	1.6	14.9	-7.3	-5.6	-2.6	-1.9	-1.8	-1.7	-0.3	-1.8	-1.6	-1.4	-1.0	-1.1
(2.1) Interest expenditure	*3.4*	*3.5*	*3.4*	*2.9*	*2.8*	*2.7*	*2.6*	*2.5*	*2.5*	*2.6*	*2.6*	*2.7*	*2.8*	*3.0*
(2.2) Growth effect	*-0.5*	*13.0*	*-9.0*	*-6.2*	*-3.4*	*-2.4*	*-2.1*	*-1.9*	*-0.3*	*-1.7*	*-1.4*	*-1.2*	*-0.8*	*-0.9*
(2.3) Inflation effect	*-1.2*	*-1.5*	*-1.6*	*-2.2*	*-2.0*	*-2.1*	*-2.2*	*-2.4*	*-2.5*	*-2.6*	*-2.8*	*-2.9*	*-3.1*	*-3.1*
(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	0.0	0.3	0.1	-0.4	0.8	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*	*0.1*	*-0.4*	*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	-2.0	-5.0	-8.0	-5.9	-4.9	-4.7	-4.7	-4.9	-5.0	-5.3	-5.6	-5.9	-6.2	-6.6
Gross financing needs	20.3	30.6	30.0	26.2	25.8	25.0	25.0	25.2	26.2	26.6	27.0	27.6	28.2	28.9

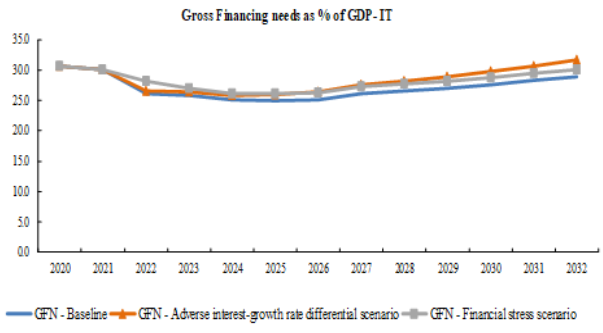












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
				Baseline	Historical SPB	Adverse r-g scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH			
			Debt level (2032)	161.6	137.2	174.8	167.9	173.2				
			Debt peak year	2032	2021	2032	2032	2032				
LOW (S0 = 0.3)	HIGH	HIGH (S1 = 10.3)	Percentile rank	75.0%	47.5%	75.0%	75.0%	95.2%		HIGH	MEDIUM (S2 = 2.1)	HIGH
			Probability debt higher						41.4%			
			Dif. between percentiles						42.7			

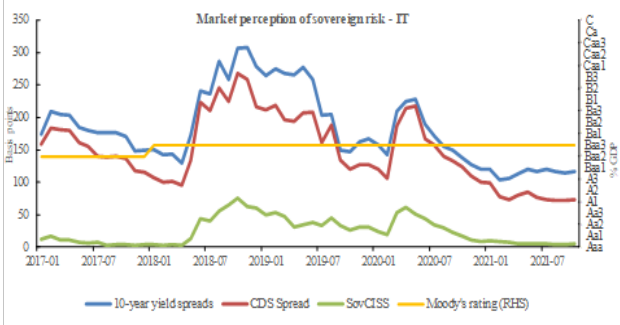
2.2. Sustainability indicators

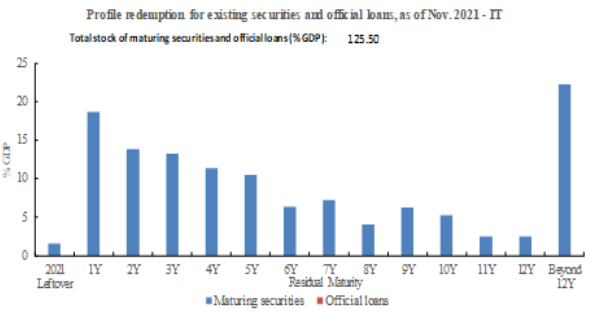
S0 indicator	2009	2021	Critical threshold
Overall index	**0.58**	**0.28**	**0.46**
Fiscal sub-index	0.96	0.69	0.36
Financial competitiveness sub-index	0.38	0.07	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**9.2**	**10.3**	**10.4**	**10.6**
of which *Initial budgetary position*	*0.2*	*1.4*	*1.6*	*1.4*
Cost of delaying adjustment	*1.2*	*1.3*	*1.3*	*1.3*
Debt requirement	*6.5*	*6.5*	*6.4*	*6.5*
Ageing costs	*1.4*	*1.1*	*1.1*	*1.4*
Required structural primary balance related to S1	**9.4**	**8.2**	**8.3**	**8.5**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**1.1**	**2.1**	**3.1**	**3.7**
of which Initial Budgetary position	0.5	2.6	2.9	2.6
Ageing costs	0.6	-0.5	0.2	1.1
of which Pensions	*-1.8*	*-1.9*	*-1.2*	*-1.9*
Health care	*0.6*	*0.8*	*0.8*	*1.5*
Long-term care	*1.8*	*0.9*	*0.8*	*1.8*
Others	*-0.1*	*-0.3*	*-0.3*	*-0.3*
Required structural primary balance related to S2	**1.2**	**0.0**	**0.9**	**1.6**

3. Financial information





Sovereign Ratings as of Nov. 2021, IT	Local currency		Foreign currency	
	long term	short term	long term	short term
Moody's	Baa3u	P-3u	Baa3u	P-3u
S&P	BBBu	A-2u	BBBu	A-2u
Fitch	BBB-		BBB-	F3

Sovereign yield spreads (bp)* - as of October 2021	10-year	116.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - IT (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	14.2	0.1	29.8

Net International Investment Position (IIP) IT (2020)	Net IIP (% GDP):
	2.4

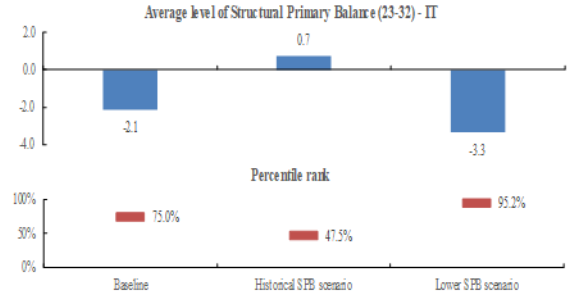
5. Risks related to government's contingent liabilities

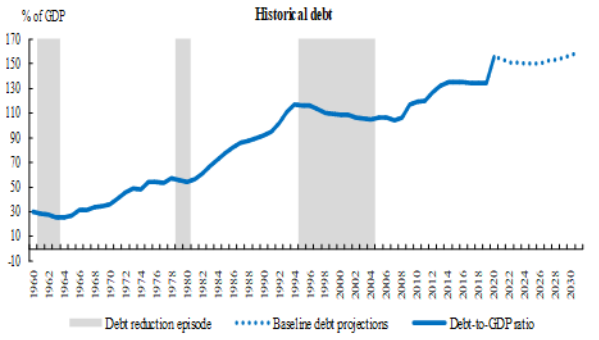
General government contingent liabilities		IT					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		2.4	3.9	4.3	4.8	13.2	8.1
of which	One-off guarantees	1.2	2.5	2.6	2.9	5.6	7.1
	Standardised guarantees	1.2	1.4	1.7	1.9	7.6	1.1
Public-private partnerships (PPPs) (% GDP)		0.0	0.0	0.0	0.0	0.0	0.3

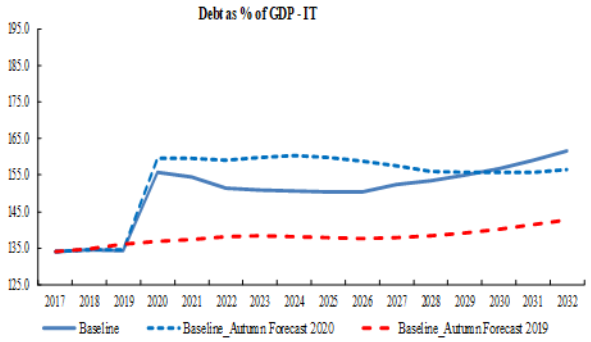
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.4	1.3	0.9	1.2	0.6	0.9
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0
	Total	0.4	1.3	0.9	1.2	0.6	0.9

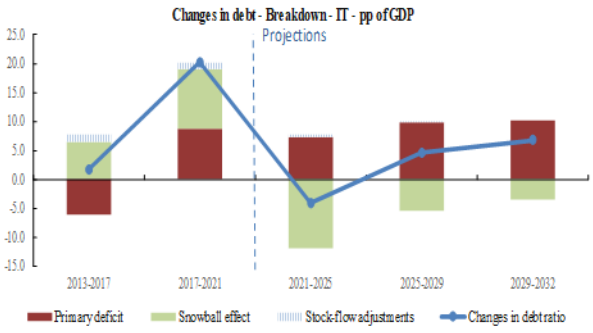
Government's contingent liability risks from banking sector - IT (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	4.1	1.9	94.0	3.7	-2.3	53.5	0.07%	0.85%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Italy	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	154.4	151.4	151.0	153.5	156.7	161.6	152.2	154.4	153.9
Primary balance	-5.9	-2.9	-1.4	-2.7	-3.2	-3.6	-3.4	-2.6	-2.8
Structural primary balance (before CoA)	-4.6	-3.1	-2.1	-2.1	-2.1	-2.1	-3.3	-2.1	-2.4
Real GDP growth	6.2	4.3	2.3	1.1	0.8	0.6	4.3	1.0	1.8
Potential GDP growth	0.3	1.1	1.3	1.1	0.8	0.6	0.9	1.0	1.0
Inflation rate	1.1	1.5	1.4	1.8	1.9	2.0	1.3	1.7	1.6
Implicit interest rate (nominal)	2.4	2.0	1.9	1.7	1.8	1.9	2.1	1.8	1.9
Gross financing needs	30.0	26.2	25.8	26.6	27.6	28.9	27.3	26.6	26.8
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	154.4	151.4	150.9	152.7	155.4	159.9	152.2	153.6	153.3
Primary balance	-5.9	-2.9	-1.5	-2.5	-3.0	-3.4	-3.5	-2.4	-2.6
Structural primary balance (before CoA)	-4.6	-3.1	-2.3	-1.9	-1.9	-1.9	-3.3	-1.9	-2.2
Real GDP growth	6.2	4.3	2.5	1.1	0.8	0.6	4.3	0.9	1.8
Gross financing needs	30.0	26.2	25.9	26.2	27.2	28.4	27.4	26.3	26.6
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	154.4	151.4	151.0	145.3	139.7	137.2	152.2	144.6	146.5
Primary balance	-5.9	-2.9	-1.4	0.5	0.6	0.2	-3.4	0.2	-0.7
Structural primary balance (before CoA)	-4.6	-3.1	-2.1	1.7	1.7	1.7	-3.3	1.1	0.0
Real GDP growth	6.2	4.3	2.3	1.7	1.4	0.6	4.3	1.0	1.8
Gross financing needs	30.0	26.2	25.8	22.6	21.7	21.8	27.3	22.7	23.9
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	154.4	153.3	153.7	158.8	162.6	167.9	153.8	159.5	158.1
Implicit interest rate (nominal)	2.4	3.3	2.5	2.0	2.0	2.1	2.7	2.1	2.2
Gross financing needs	30.0	28.2	27.0	27.7	28.8	30.1	28.4	27.8	27.9
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	154.4	151.0	151.4	160.5	165.9	173.2	152.2	161.2	159.0
Primary balance	-5.9	-3.4	-2.3	-4.0	-4.4	-4.8	-3.9	-3.8	-3.8
Structural primary balance (before CoA)	-4.6	-4.0	-3.3	-3.3	-3.3	-3.3	-4.0	-3.3	-3.5
Real GDP growth	6.2	4.9	2.4	1.1	0.8	0.6	4.5	0.9	1.8
Gross financing needs	30.0	26.9	26.6	28.7	30.1	31.8	27.8	28.7	28.5
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	154.4	151.4	151.0	153.6	156.8	161.7	152.3	154.5	153.9
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	30.0	26.2	25.9	26.6	27.6	28.9	27.4	26.6	26.8
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	154.4	152.3	152.9	161.2	167.0	174.8	153.2	162.2	160.0
Implicit interest rate (nominal)	2.4	2.1	2.1	2.1	2.2	2.3	2.2	2.1	2.1
Real GDP growth	6.2	3.8	1.8	0.6	0.3	0.1	3.9	0.5	1.3
Gross financing needs	30.0	26.5	26.4	28.2	29.7	31.6	27.6	28.3	28.1

CYPRUS

Short-term risks: high. *Overall short-term vulnerabilities are identified for Cyprus, according to the S0 indicator. However, after the peak recorded in 2020, gross financing needs should revert to low levels in the short term. Also, sovereign financing conditions are expected to remain favourable, notably supported by the Eurosystem's interventions.*

Medium-term risks: medium*. Over the medium term, fiscal sustainability risks appear to be medium overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, currently at 104% of GDP, is projected to substantially decrease in the baseline, yet remaining above the 60% of GDP threshold in 2032. The sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

Long-term risks: medium. *Over the long term, low risks from the sustainability gap indicator S2, combined with medium vulnerabilities from the DSA contribute to the overall assessment. The S2 indicator mainly captures budgetary pressures stemming from population ageing.*

Short-term fiscal sustainability risks: high

The value of the early-detection indicator of fiscal stress, the S0 indicator, is above its critical threshold, signalling overall short-term vulnerabilities. The fiscal sub-index points to short-term vulnerabilities (notably due to the cyclically-adjusted balance and net government debt), similarly to the financial competitiveness sub-index which indicates vulnerabilities too (notably due to the large current account deficit and the negative net international investment position). Government financing needs are expected to remain low in the short term (about 4-5% of GDP in 2021-2022), substantially declining compared with 2020. ([59]) Financing conditions should remain favourable, notably supported by the Eurosystem's interventions. Financial markets' perceptions of sovereign risk are positive, as confirmed by the CDS spread and the 'BBB-' rating that the three major rating agencies assigned to Cypriot government debt.

Medium-term fiscal sustainability risks: medium

Debt Sustainability Analysis (DSA): medium risk

The debt sustainability analysis, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to a medium risk.

([59]) The strong reduction of GFN in 2021 is based on the assumption that GFN would be partly covered by the use of cash deposits.

Baseline results: debt on a downward path

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with real GDP growth hovering around 1.8% in 2024-2032. Under a 'no-fiscal policy change' assumption, debt would continue to fall, by some 16 pps. between 2023 and 2032, when it would reach 78% of GDP. These baseline projections assume a constant structural primary balance before ageing costs (SPB) at its forecast deficit for 2023, namely -0.2% of GDP. This value, although close to balance, appears already within the higher range of the historical distribution for the country ([60]). Government gross financing needs are projected to increase to 9% of GDP in 2032.

Stochastic simulations: limited probability that debt will not stabilise by 2026, but high uncertainty

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the Cypriot economy. These stochastic simulations point to a 16% probability of the debt ratio in 2026 being greater than in 2021, entailing medium risks given the current level of 104% of GDP. In addition, such shocks point to significant uncertainty surrounding the

([60]) Based on available historical data, Cyprus recorded a SPB greater than -0.2% of GDP in only 42% of the cases.

baseline projections, as can be seen from the wide debt distribution cone ([61]).

Alternative and stress-test scenarios: moderate vulnerabilities

Fiscal policy reverting to historical behaviour would bring a more sizeable reduction of the debt ratio. Indeed, if the SPB gradually converged to its historical average of the last 15 years (a surplus of 1.4% of GDP), the debt ratio would be about 10 pps. of GDP lower than in the baseline in 2032.

More adverse developments of the interest-growth rate differential than assumed under the baseline would have a sizable impact on the debt-GDP ratio, given its current high value. A permanently higher 'r-g' differential (by 1 pp.) than in the baseline would entail a debt ratio in 2032 about 6 pps. of GDP higher than in the baseline. Debt would nonetheless remain on a declining path.

If a temporary (one year) episode of financial stress pushed up interest rates by 1.8 pps. in 2022, the 2032 debt projections would not change significantly. However, if only half of the projected improvement in the SPB in 2022-2023 were to occur, the 2032 projected debt would be some 13 pps. of GDP higher than in the baseline, and reach about 90% of GDP. It would remain on a declining path.

S1 indicator: medium risk

The S1 indicator shows that, compared to the baseline, the structural primary balance (SPB) would need to improve by 1.0 pp. of GDP, in cumulated terms over 5 years, to bring the debt-to-GDP ratio to the reference value of 60% by 2038. This corresponds to an SPB of 0.8% of GDP, which is fairly ambitious by Cypriot standards ([62]). The value of S1 is mainly due to the distance of the debt ratio from the 60% reference value (contribution of 2.7 pps. of GDP) and the projected age-related public spending (contribution of 0.3 pp. of GDP), partly compensated by the favourable initial budgetary position (contribution of -2.0 pps. of GDP).

([61]) The difference between the 10th and 90th percentile in 2026 is around 44 pps. of GDP.

([62]) Only 30% of past Cypriot SPBs were larger than this value in the past.

Long-term fiscal sustainability risks: medium

S2 indicator: low risk

Overall long-term fiscal sustainability risks appear to be medium, based on the sustainability gap indicator S2 and the DSA.

The S2 indicator shows that, relative to the baseline, the SPB would need to improve by 1.9 pps. of GDP to stabilise the debt-to-GDP ratio over the long term. Such adjustment would bring the SPB to 1.7% of GDP, which is ambitious by Cypriot standards ([63]). This sustainability gap is driven by the projected increase of ageing costs (contribution of 1.1 pps. of GDP) and the unfavourable initial budgetary position (0.7 pp. of GDP). Ageing costs are primarily related to the projected increase of public pension expenditure (contribution of 1.0 pp. of GDP) and health care spending (contribution of 0.3 pp. of GDP) ([64]).

Additional mitigating and aggravating risk factors

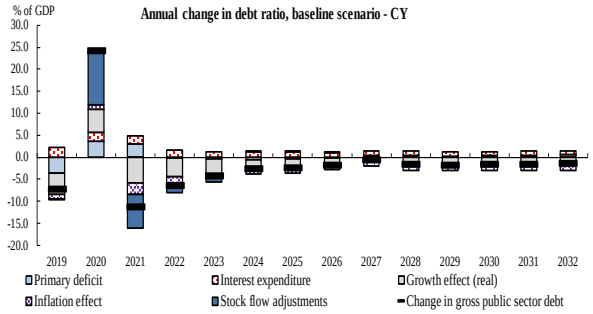
Several factors mitigate the risks. These include the lengthening of debt maturity in recent years, relatively stable financing sources (with a diversified and large investor base), the currency denomination of debt, and historically low borrowing costs supported by the Eurosystem's interventions. In 2020, about a quarter of government debt was held by official lenders. Risk-increasing factors are related to the country's negative net international investment position, and contingent liability risks stemming from the private sector, including via the possible materialisation of sizeable state guarantees granted to firms and self-employed during the COVID-19 crisis. This risk remains currently limited due to relatively low take-up so far. Contingent liability risks linked to the banking sector appear limited, although under more severe stress, high risks are identified (based on the SYMBOL simulations).

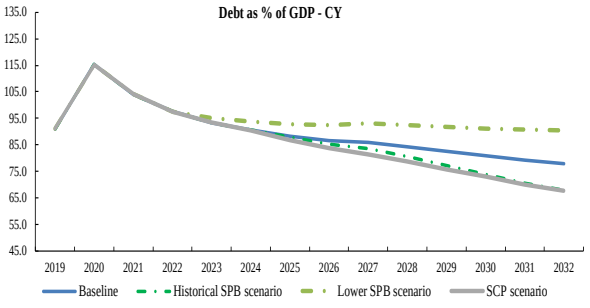
([63]) Only 24% of past Cypriot SPBs were greater than this value in the past.

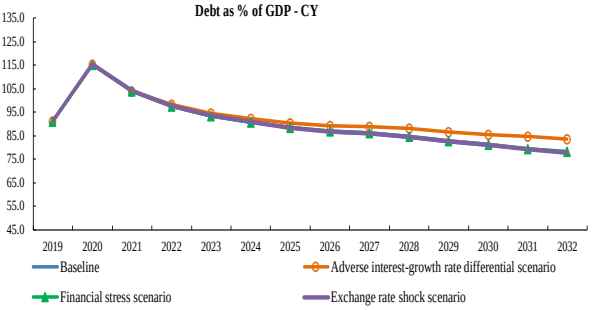
([64]) Between 2019 and 2070 total ageing costs are estimated to increase by 2.0 pps. of GDP (among which public pensions by 2.1 pps. of GDP) – see 2021 Ageing Report. However, this does not take into account legislated future increases to the General Social Insurance Scheme contribution rate over the period until 2039; neither S1 nor S2 reflect these increases.

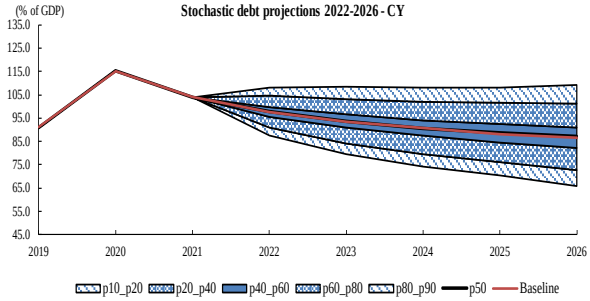
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

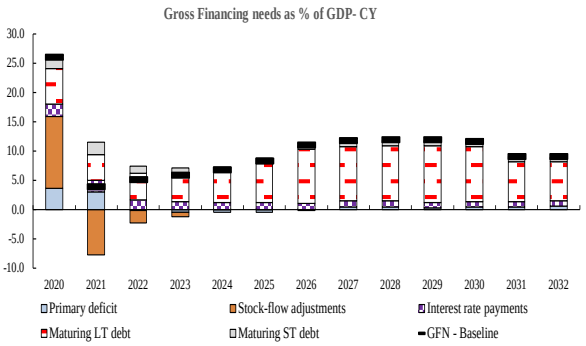
CY - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	**91.1**	**115.3**	**104.1**	**97.6**	**93.4**	**90.7**	**88.3**	**86.6**	**86.0**	**84.4**	**82.6**	**80.9**	**79.3**	**77.8**
Changes in the ratio (-1+2+3)	*-7.3*	*24.2*	*-11.3*	*-6.5*	*-4.2*	*-2.7*	*-2.4*	*-1.8*	*-0.6*	*-1.5*	*-1.9*	*-1.7*	*-1.6*	*-1.5*
of which														
(1) Primary balance (1.1+1.2+1.3)	**3.5**	**-3.6**	**-3.0**	**0.2**	**0.4**	**0.5**	**0.5**	**0.2**	**-0.4**	**-0.5**	**-0.2**	**-0.4**	**-0.5**	**-0.6**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***1.9***	***-2.3***	***-2.9***	***-0.2***	***-0.2***	***-0.3***	***-0.3***	***-0.4***	***-0.4***	***-0.5***	***-0.2***	***-0.4***	***-0.5***	***-0.6***
(1.1.1) Structural primary balance (bef. CoA)	*1.9*	*-2.3*	*-2.9*	*-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						*0.1*	*0.1*	*0.2*	*0.2*	*0.2*	*-0.1*	*0.1*	*0.1*	*0.2*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*
(1.2) Cyclical component	***2.9***	***-1.3***	***-0.2***	***0.4***	***0.6***	***0.8***	***0.8***	***0.6***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***-1.2***	***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***
(2) Snowball effect (2.1+2.2+2.3+2.4)	**-3.8**	**8.3**	**-6.5**	**-4.2**	**-3.0**	**-2.1**	**-1.9**	**-1.6**	**-1.0**	**-2.0**	**-2.1**	**-2.0**	**-2.0**	**-2.0**
(2.1) Interest expenditure	*2.2*	*2.1*	*1.9*	*1.6*	*1.3*	*1.2*	*1.1*	*1.1*	*1.0*	*1.0*	*1.0*	*0.9*	*0.9*	*0.9*
(2.2) Growth effect	*-4.9*	*5.1*	*-5.7*	*-4.1*	*-3.3*	*-2.3*	*-1.9*	*-1.4*	*-0.7*	*-1.6*	*-1.6*	*-1.4*	*-1.4*	*-1.4*
(2.3) Inflation effect	*-1.1*	*1.1*	*-2.7*	*-1.7*	*-1.0*	*-1.1*	*-1.2*	*-1.2*	*-1.3*	*-1.4*	*-1.5*	*-1.5*	*-1.6*	*-1.6*
(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	**0.0**	**12.4**	**-7.7**	**-2.0**	**-0.8**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*0.0*	*12.4*	*-7.7*	*-2.0*	*-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	-0.3	-4.4	-4.8	-1.8	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.2	-1.3	-1.4	-1.5
Gross financing needs	5.8	25.9	3.8	5.1	5.8	6.7	8.2	10.9	11.7	11.8	11.8	11.5	9.0	9.0

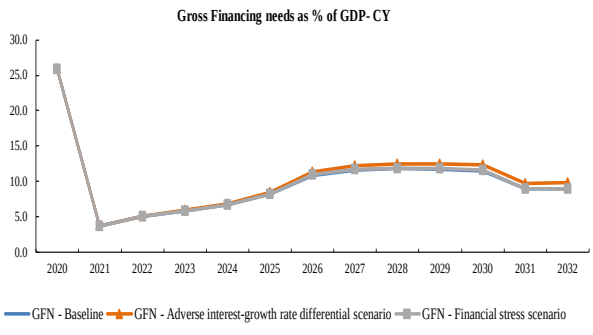












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
				Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM			
			Debt level (2032)	77.8	67.8	83.6	78.1	90.3				
			Debt peak year	2021	2021	2021	2021	2021				
			Percentile rank	42.3%	28.8%	42.3%	42.3%	75.3%				
			Probability debt higher						15.9%			
			Dif. between percentiles						43.7			
HIGH (S0 = 0.5)	MEDIUM	MEDIUM (S1 = 1)								MEDIUM	LOW (S2 = 1.9)	MEDIUM

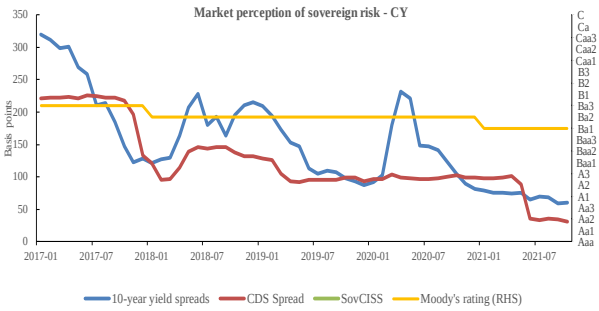
2.2. Sustainability indicators

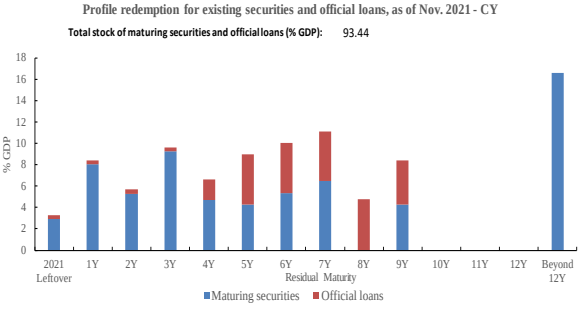
S0 indicator	2009	2021	Critical threshold
Overall index	**0.71**	**0.47**	**0.46**
Fiscal sub-index	0.56	0.41	0.36
Financial competitiveness sub-index	0.77	0.51	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**-0.6**	**1.0**	**1.1**	**1.3**
of which *Initial budgetary position*	*-3.3*	*-2.0*	*-2.0*	*-2.0*
Cost of delaying adjustment	*-0.1*	*0.1*	*0.1*	*0.1*
Debt requirement	*2.2*	*2.7*	*2.6*	*2.7*
Ageing costs	*0.6*	*0.3*	*0.3*	*0.5*
Required structural primary balance related to S1	**1.4**	**0.8**	**0.9**	**1.1**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**0.2**	**1.9**	**2.2**	**4.5**
of which Initial Budgetary position	-1.7	0.7	0.8	0.8
Ageing costs	1.9	1.1	1.3	3.7
of which Pensions	*1.8*	*1.0*	*1.3*	*1.0*
Health care	*0.2*	*0.3*	*0.3*	*0.7*
Long-term care	*0.2*	*0.2*	*0.2*	*2.5*
Others	*-0.4*	*-0.4*	*-0.4*	*-0.4*
Required structural primary balance related to S2	**2.1**	**1.7**	**2.0**	**4.3**

3. Financial information





Sovereign Ratings as of Nov. 2021, CY	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Ba1	NP	(P)Ba1	NP
S&P	BBB-	A-3	BBB-	A-3
Fitch	BBB-		BBB-	F3

Sovereign yield spreads (bp)* - as of October 2021	10-year	60.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - CY (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	6.6	0.0	81.9

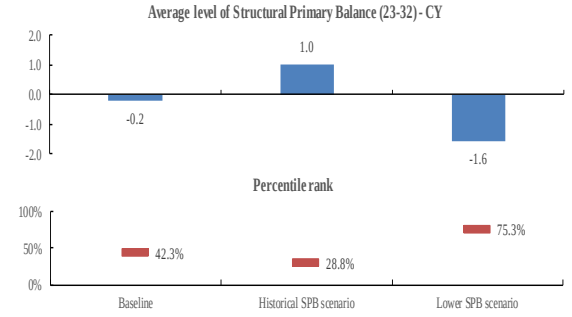
Net International Investment Position (IIP) - CY (2020)	Net IIP (% GDP):
	-136.7

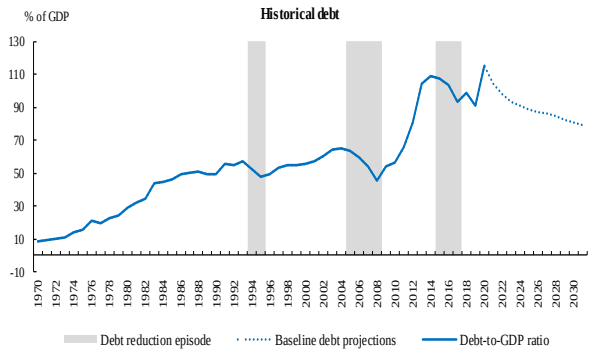
5. Risks related to government's contingent liabilities

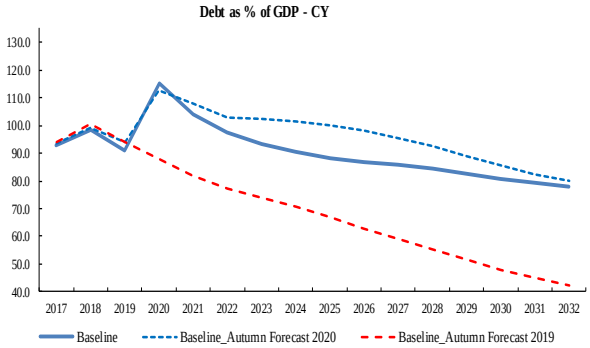
General government contingent liabilities		CY					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		9.0	8.4	7.8	7.2	7.3	8.1
of which One-off guarantees		*8.7*	*8.1*	*7.8*	*7.2*	*7.3*	*7.1*
Standardised guarantees		*0.3*	*0.2*	*0.0*	*0.0*	*0.0*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.3*
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.0	0.0	10.3	8.7	8.8	0.9
	Securities issued under liquidity schemes	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
	Total	0.0	0.0	10.3	8.7	8.8	0.9

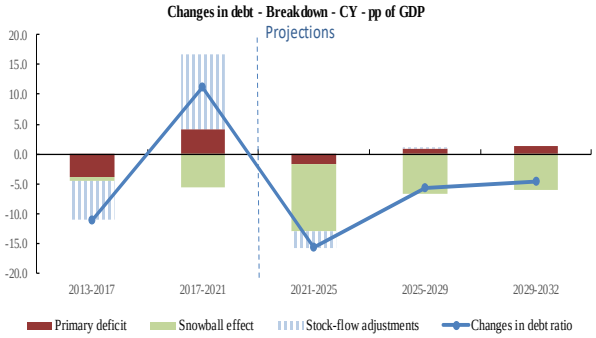
Government's contingent liability risks from banking sector - CY (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	-2.6	-0.2	54.8	9.1	-6.4	44.4	0.19%	4.49%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Cyprus	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	104.1	97.6	93.4	84.4	80.9	77.8	98.3	84.1	87.6
Primary balance	-3.0	0.2	0.4	-0.5	-0.4	-0.6	-0.8	-0.1	-0.3
Structural primary balance (before CoA)	-2.9	-0.2	-0.2	-0.2	-0.2	-0.2	-1.1	-0.2	-0.4
Real GDP growth	5.4	4.2	3.5	1.9	1.8	1.8	4.3	1.8	2.5
Potential GDP growth	3.0	3.0	3.0	1.9	1.8	1.8	3.0	2.0	2.2
Inflation rate	2.4	1.6	1.0	1.6	1.9	2.0	1.7	1.6	1.6
Implicit interest rate (nominal)	1.8	1.6	1.4	1.2	1.2	1.2	1.6	1.2	1.3
Gross financing needs	3.8	5.1	5.8	11.8	11.5	9.0	4.9	10.1	8.8
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	104.1	97.6	93.4	78.8	72.9	67.6	98.3	78.7	83.6
Primary balance	-3.0	0.2	0.6	0.9	1.0	0.8	-0.7	1.1	0.6
Structural primary balance (before CoA)	-2.9	-0.2	0.0	1.1	1.1	1.1	-1.0	1.1	0.6
Real GDP growth	5.4	4.2	3.3	1.9	1.8	1.8	4.3	1.9	2.5
Gross financing needs	3.8	5.1	5.7	9.8	9.1	6.5	4.8	8.2	7.4
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	104.1	97.6	93.4	80.6	73.7	67.8	98.3	79.7	84.4
Primary balance	-3.0	0.2	0.4	0.9	1.3	1.1	-0.8	1.1	0.6
Structural primary balance (before CoA)	-2.9	-0.2	-0.2	1.4	1.4	1.4	-1.1	1.2	0.6
Real GDP growth	5.4	4.2	3.5	2.2	2.1	1.8	4.3	1.8	2.5
Gross financing needs	3.8	5.1	5.8	10.1	9.1	6.3	4.9	8.4	7.5
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	104.1	97.7	93.5	84.7	81.1	78.1	98.4	84.3	87.8
Implicit interest rate (nominal)	1.8	1.7	1.4	1.2	1.2	1.2	1.6	1.3	1.4
Gross financing needs	3.8	5.1	5.9	11.9	11.6	9.0	4.9	10.1	8.8
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	104.1	97.4	95.3	92.6	91.3	90.3	98.9	92.1	93.8
Primary balance	-3.0	-1.1	-0.7	-1.8	-1.7	-1.9	-1.6	-1.5	-1.5
Structural primary balance (before CoA)	-2.9	-2.2	-1.6	-1.6	-1.6	-1.6	-2.2	-1.6	-1.7
Real GDP growth	5.4	5.7	2.5	1.9	1.8	1.8	4.5	1.8	2.5
Gross financing needs	3.8	7.0	7.1	14.2	14.3	11.7	6.0	12.3	10.7
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	104.1	97.6	93.4	84.4	80.9	77.8	98.3	84.1	87.6
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	3.8	5.1	5.8	11.8	11.5	9.0	4.9	10.1	8.8
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	104.1	98.1	94.4	88.0	85.5	83.6	98.8	87.6	90.4
Implicit interest rate (nominal)	1.8	1.6	1.4	1.4	1.5	1.6	1.6	1.4	1.5
Real GDP growth	5.4	3.7	3.0	1.4	1.3	1.3	4.0	1.3	2.0
Gross financing needs	3.8	5.1	6.0	12.5	12.4	9.8	4.9	10.7	9.2

LATVIA

Short-term risks: low. *Latvia does not display major short-term vulnerabilities according to the S0 indicator. Yet, government gross financing needs are expected to remain well above their pre-crisis levels in 2022. Financing conditions should remain favourable, notably supported by the Eurosystem's interventions.*

Medium-term risks: low. *Over the medium term, fiscal sustainability risks are low overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, currently at 48% of GDP, is projected to linger at just below 50% of GDP over the next decade. Sensitivity tests show that some uncertainty surrounds the baseline projections.*

Long-term risks: low. *Over the long term, both the sustainability gap indicator S2 and the DSA point to low risks, considering the limited debt level and the projected decline in age-related spending.*

Short-term fiscal sustainability risks: low

The S0 indicator, aimed at the early detection of fiscal stress, does not signal overall short-term risks, with both the financial-competitiveness and the fiscal sub-indices below their critical thresholds. The 2021 primary deficit is estimated at 8.9% of GDP, one of the largest of all Member States, but is expected to fall considerably.

As a result, gross financing needs would remain significant in 2022, at around 11% of GDP, well above their pre-crisis levels. Financing conditions should remain favourable, in particular supported by the Eurosystem's interventions. Financial markets perceive Latvian sovereign risk as low, as confirmed by the small CDS spread and the 'A' rating from major rating agencies.

Medium-term fiscal sustainability risks: low

Debt Sustainability Analysis (DSA): low risk

The DSA, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to a low risk.

Baseline results: broadly stable debt ratio at unchanged policies

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with average real GDP growth of 1.8% in 2024-2032. Under the baseline 'no-fiscal policy change' assumption, government debt is projected to stay broadly stable. Debt would decline from 50% of GDP in 2023 to 47.5% in 2026, followed by a modest increase with the debt-to-GDP ratio rising to 49% in 2032. The baseline projections assume a constant structural primary balance (SPB) before ageing costs at the forecast deficit for 2023, namely -1.6% of GDP. This is rather low by historical standards. ([65]) Gross financing needs are projected to fall to around 6% of GDP in the decade to 2032, close to the pre-pandemic average of about 5%.

Stochastic simulations: some uncertainty surrounds the baseline projections

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was carried out, based on the Latvian economy's historical volatility. In half of the cases, these stochastic simulations produce a debt ratio that is higher in 2026 than in 2021, opposite to the baseline projections that show a slight decrease in 2026 compared to 2021. As a result, the simulations point to some uncertainty around the baseline projections, as shown by the debt distribution cone. ([66])

Alternative and stress-test scenarios: baseline projection hinges on primary deficit reduction

If the SPB gradually converged to the average of the last 15 years – a deficit of 1.4% of GDP – the debt ratio would follow a trajectory similar to the

([65]) Based on available historical data, Latvia recorded an SPB greater than -1.6% of GDP in 72% of the cases so that achieving a higher SPB appears feasible.

([66]) The difference between the 10th and 90th percentile is 35 pps. of GDP in 2026.

baseline, which assumes a deficit of 1.5% of GDP. Under this historical SPB scenario, government debt would be 48% of GDP in 2032, compared to 49% under the baseline.

Considering the moderate debt level, the impact of a less favourable interest-growth rate differential is limited. A 1 pp. higher 'r-g' difference throughout the projection period results in an estimated debt-to-GDP ratio of about 53% in 2032, 4 pps. above the baseline.

If a temporary (one-year) episode of financial stress lifted interest rates by 1 pp. in 2022, the debt ratio would be about 0.5 pps. of GDP higher in 2032. If only half of the projected improvement in the SPB in 2022-2023 were to occur, the 2032 projected debt would reach 77% of GDP, some 29 pps. of GDP above the baseline. In this case, the debt trajectory would be on an increasing path over the medium term. Hence, this scenario underscores the high sensitivity of the baseline projections to the expected primary deficit reduction in 2022-2023.

S1 indicator: low risk

The S1 indicator shows that a deterioration of the SPB by 0.9 pps. of GDP is compatible with government debt reaching the reference value of 60% of GDP by 2038. This corresponds to an SPB of -2.5% of GDP, which seems quite feasible by historical standards. ([67]) A deterioration in the SPB by 0.8 pps. of GDP could be tolerated considering the current gap to the 60% of GDP target. Because of a projected decline in pension expenditure at unchanged policies, total ageing costs are projected to fall for Latvia, thus creating additional fiscal space equal to about 0.2 pps. of GDP.

([67]) 80% of past Latvian SPBs were greater.

Long-term fiscal sustainability risks: low

S2 indicator: low risk

A fiscal adjustment of 0.7 pps. of GDP would suffice to stabilise the debt-to-GDP ratio over the long term. This adjustment corresponds to an SPB of -0.8% of GDP, which appears feasible based on historical fiscal performance. ([68]) The small sustainability gap is composed of an adjustment of 1.7 pps. of GDP to correct for the initial budgetary position, while the projected fall in ageing costs would allow the SPB to deteriorate by 1 pp. of GDP without putting debt on an ever-increasing path. Falling ageing costs are primarily driven by the projected decline of spending on public pensions at unchanged policy. ([69])

In sum, based on the sustainability gap indicator S2 and the DSA risk assessment discussed higher, overall long-term fiscal sustainability risks are low.

Additional mitigating and aggravating risk factors

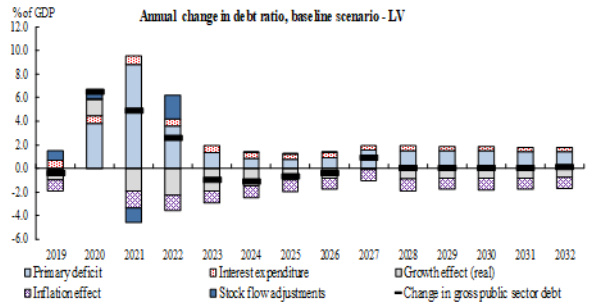
Even though non-residents hold most of the Latvian debt stock, the latter is relatively small and fully denominated in euro. At the end of 2020, 21% of total government debt was held by the Eurosystem. Short-term debt is only a fraction of total debt. State guarantees remain limited, at 1.8% of GDP at the end of 2020, compared to 1.4% at the end of 2019. Implicit contingent liabilities linked to the banking sector appear also limited (based on SYMBOL simulations). The negative net international investment position could be seen as a risk factor but does not fundamentally change the generally low fiscal vulnerabilities for Latvia.

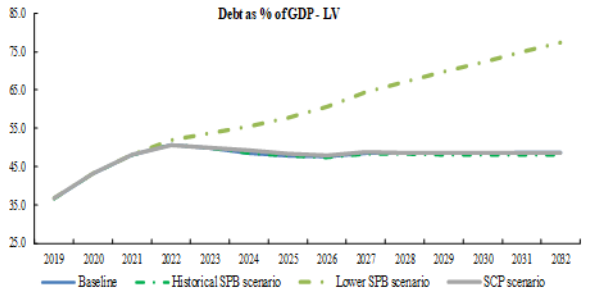
([68]) 46% of past Latvian SPBs were greater.

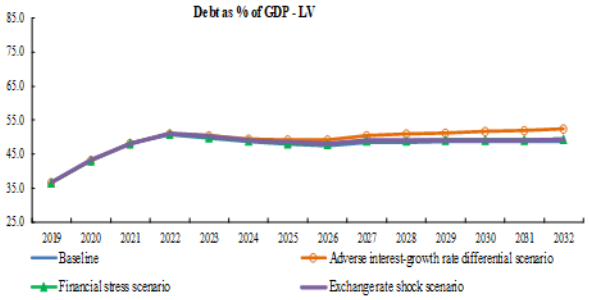
([69]) Spending on age-related items is expected to decline by 0.6 pps. of GDP between 2019 and 2070, driven by a fall in public pensions expenditure of 1.2 pps. – see 2021 Ageing Report.

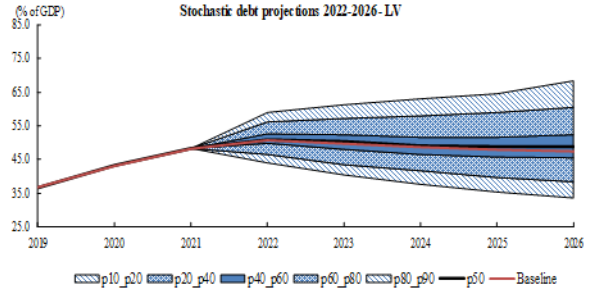
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

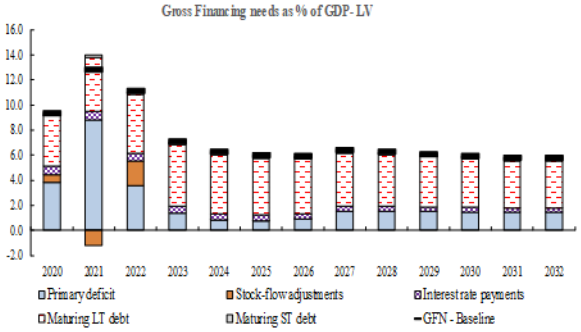
LV - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	36.7	43.2	48.2	50.7	49.8	48.6	47.9	47.5	48.5	48.5	48.6	48.6	48.7	48.8
Changes in the ratio (-1+2+3)	*-0.4*	*6.5*	*4.9*	*2.6*	*-1.0*	*-1.1*	*-0.7*	*-0.4*	*0.9*	*0.0*	*0.1*	*0.0*	*0.1*	*0.1*
of which														
(1) Primary balance (1.1+1.2+1.3)	0.1	-3.8	-8.9	-3.6	-1.4	-0.8	-0.8	-0.9	-1.6	-1.5	-1.5	-1.5	-1.5	-1.4
(1.1) Structural primary balance (1.1.1-1.1.2+1.1.3)	*-0.8*	*-2.5*	*-7.9*	*-3.4*	*-1.6*	*-1.5*	*-1.5*	*-1.6*	*-1.6*	*-1.5*	*-1.5*	*-1.5*	*-1.5*	*-1.4*
(1.1.1) Structural primary balance (bef. CoA)	-0.8	-2.5	-7.9	-3.4	-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						-0.1	-0.1	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1
(1.1.3) Others (taxes and property incomes)						0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(1.2) Cyclical component	*0.9*	*-1.5*	*-0.9*	*-0.2*	*0.2*	*0.6*	*0.7*	*0.6*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(1.3) One-off and other temporary measures	*0.0*	*0.1*	*0.0*	*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)	-1.1	2.1	-2.7	-3.0	-2.3	-2.0	-1.5	-1.3	-0.6	-1.5	-1.4	-1.4	-1.4	-1.3
(2.1) Interest expenditure	*0.7*	*0.7*	*0.7*	*0.6*	*0.6*	*0.5*	*0.5*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*
(2.2) Growth effect	*-0.9*	*1.4*	*-1.9*	*-2.2*	*-1.9*	*-1.5*	*-1.0*	*-0.8*	*-0.1*	*-0.9*	*-0.8*	*-0.8*	*-0.8*	*-0.8*
(2.3) Inflation effect	*-0.9*	*0.0*	*-1.5*	*-1.4*	*-1.0*	*-1.0*	*-1.0*	*-0.9*	*-0.9*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.0*
(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	0.6	-1.2	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(3.1) Base	*0.8*	*0.6*	*-1.2*	*2.0*	*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	*0.0*	*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	-3.1	-8.6	-4.0	-2.1	-2.0	-2.0	-2.0	-1.9	-1.9	-1.9	-1.8	-1.8	-1.8
Gross financing needs	4.6	9.4	12.8	11.1	7.1	6.3	6.0	5.9	6.4	6.2	6.1	5.9	5.8	5.8

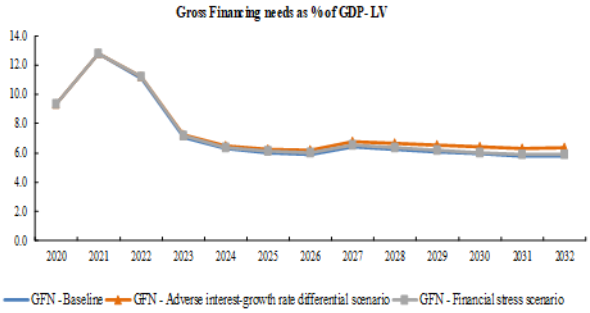












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
			Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	LOW	LOW	LOW	LOW	MEDIUM	LOW		
			Debt level (2032)	48.8	48.1	52.5	49.3	77.4			
			Debt peak year	2022	2022	2032	2022	2032			
			Percentile rank	71.6%	69.1%	71.6%	71.6%	99.8%			
			Probability debt higher						51.9%		
			Dif. between percentiles						34.6		
LOW (S0 = 0.3)	LOW	LOW (S1 = -0.9)							LOW	LOW (S2 = 0.7)	LOW

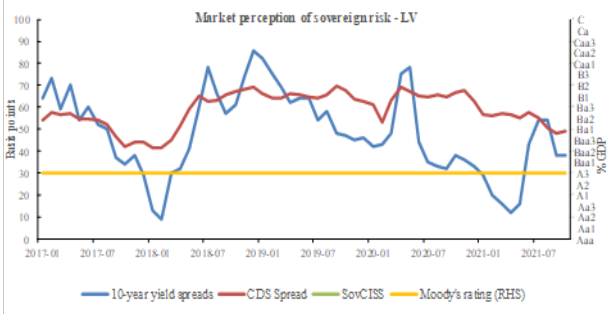
2.2. Sustainability indicators

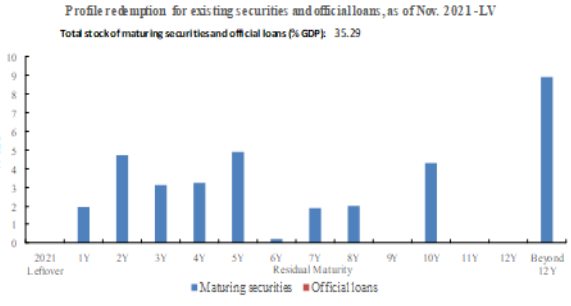
S0 indicator	2009	2021	Critical threshold
Overall index	**0.65**	**0.26**	**0.46**
Fiscal sub-index	0.45	0.32	0.36
Financial competitiveness sub-index	0.76	0.22	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**-1.8**	**-0.9**	**-0.8**	**-0.2**
of which *Initial budgetary position*	*-0.8*	*0.1*	*0.2*	*0.2*
Cost of delaying adjustment	*-0.2*	*-0.1*	*-0.1*	*0.0*
Debt requirement	*-1.0*	*-0.8*	*-0.8*	*-0.8*
Ageing costs	*0.3*	*-0.2*	*-0.1*	*0.4*
Required structural primary balance related to S1	**-2.1**	**-2.5**	**-2.4**	**-1.8**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**-0.3**	**0.7**	**1.0**	**4.8**
of which Initial Budgetary position	0.5	1.7	1.8	1.8
Ageing costs	-0.8	-1.0	-0.9	2.9
of which Pensions	*-1.3*	*-1.3*	*-1.1*	*-1.3*
Health care	*0.2*	*0.2*	*0.2*	*1.3*
Long-term care	*0.1*	*0.1*	*0.1*	*3.0*
Others	*0.2*	*-0.1*	*-0.1*	*-0.1*
Required structural primary balance related to S2	**-0.6**	**-0.8**	**-0.6**	**3.2**

3. Financial information





Sovereign Ratings as of Nov. 2021, LV	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	A3		A3	
S&P	A+	A-1	A+	A-1
Fitch	A-		A-	F1

Sovereign yield spreads (bp)* - as of October 2021	10-year	38.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - LV (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	3.0	0.0	66.8

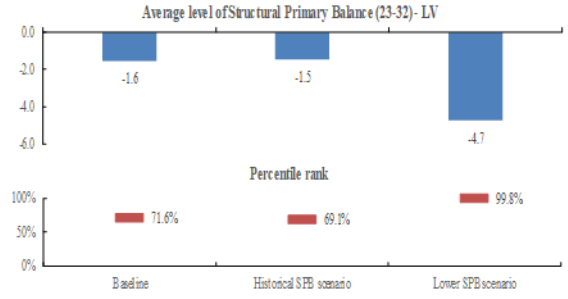
Net International Investment Position (IIP) - LV (2020)	Net IIP (% GDP):
	-34.7

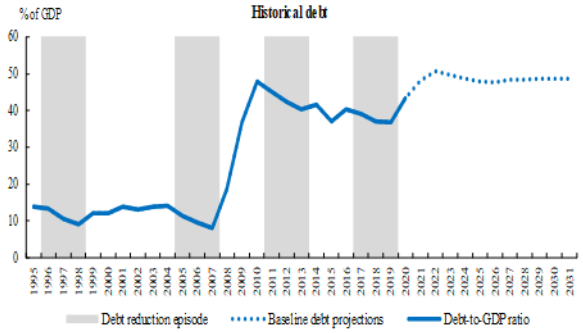
5. Risks related to government's contingent liabilities

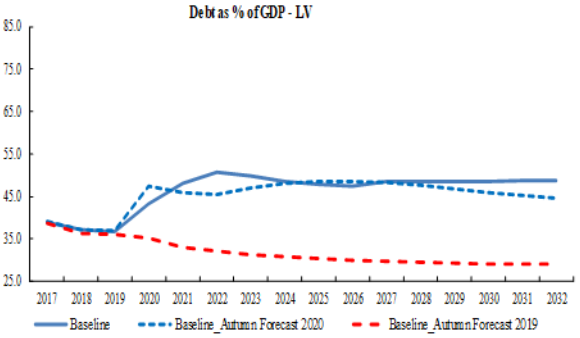
General government contingent liabilities		LV					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		1.4	1.3	1.4	1.4	2.0	8.1
of which	*One-off guarantees*	*0.4*	*0.3*	*0.3*	*0.3*	*0.5*	*7.1*
	Standardised guarantees	*1.0*	*1.0*	*1.1*	*1.2*	*1.5*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.0	0.0	0.0	0.0	0.0	0.9
	Securities issued under liquidity schemes	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
	Total	0.0	0.0	0.0	0.0	0.0	0.9

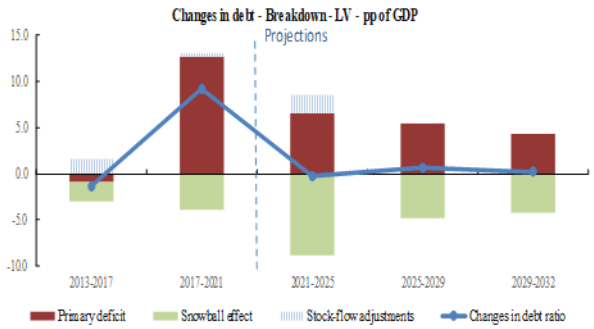
Government's contingent liability risks from banking sector - LV (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	-1.8	3.5	68.0	1.7	-0.1	30.9	0.00%	0.01%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Latvia	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	48.2	50.7	49.8	48.5	48.6	48.8	49.5	48.4	48.7
Primary balance	-8.9	-3.6	-1.4	-1.5	-1.5	-1.4	-4.6	-1.3	-2.1
Structural primary balance (before CoA)	-7.9	-3.4	-1.6	-1.6	-1.6	-1.6	-4.3	-1.6	-2.2
Real GDP growth	4.7	5.0	4.0	2.0	1.8	1.6	4.6	1.8	2.5
Potential GDP growth	3.1	3.1	2.9	2.0	1.8	1.6	3.0	1.8	2.1
Inflation rate	3.5	2.9	2.0	2.0	2.0	2.0	2.8	2.0	2.2
Implicit interest rate (nominal)	1.7	1.4	1.2	0.8	0.8	0.8	1.4	0.9	1.0
Gross financing needs	12.8	11.1	7.1	6.2	5.9	5.8	10.3	6.0	7.1
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	48.2	50.7	50.0	48.7	48.6	48.6	49.6	48.6	48.9
Primary balance	-8.9	-3.6	-1.9	-1.4	-1.4	-1.3	-4.8	-1.2	-2.1
Structural primary balance (before CoA)	-7.9	-3.4	-2.3	-1.5	-1.5	-1.5	-4.5	-1.5	-2.2
Real GDP growth	4.7	5.0	4.6	2.0	1.8	1.6	4.8	1.7	2.5
Gross financing needs	12.8	11.1	7.6	6.2	5.9	5.7	10.5	6.0	7.1
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	48.2	50.7	49.8	48.2	48.1	48.1	49.5	48.1	48.4
Primary balance	-8.9	-3.6	-1.4	-1.4	-1.4	-1.3	-4.6	-1.2	-2.0
Structural primary balance (before CoA)	-7.9	-3.4	-1.6	-1.4	-1.4	-1.4	-4.3	-1.5	-2.2
Real GDP growth	4.7	5.0	4.0	2.0	1.8	1.6	4.6	1.8	2.5
Gross financing needs	12.8	11.1	7.1	6.1	5.8	5.6	10.3	5.9	7.0
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	48.2	50.8	50.0	49.0	49.1	49.3	49.7	48.9	49.1
Implicit interest rate (nominal)	1.7	1.7	1.4	0.9	0.9	0.9	1.6	1.0	1.1
Gross financing needs	12.8	11.2	7.2	6.3	6.0	5.9	10.4	6.1	7.2
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	48.2	52.0	53.8	67.1	72.3	77.4	51.3	66.7	62.8
Primary balance	-8.9	-5.8	-4.0	-4.7	-4.7	-4.6	-6.2	-4.4	-4.8
Structural primary balance (before CoA)	-7.9	-6.3	-4.7	-4.7	-4.7	-4.7	-6.3	-4.7	-5.1
Real GDP growth	4.7	7.3	3.4	2.0	1.8	1.6	5.1	1.6	2.5
Gross financing needs	12.8	13.9	9.8	10.9	11.0	11.3	12.2	10.6	11.0
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	48.2	51.0	50.3	49.0	49.1	49.2	49.8	48.9	49.1
Exchange rate depreciation	0.0%	0.6%	0.6%	0.0%	0.0%	0.0%	0.4%	0.0%	0.1%
Gross financing needs	12.8	11.1	7.1	6.3	6.0	5.8	10.4	6.1	7.2
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	48.2	51.0	50.4	50.8	51.6	52.5	49.8	50.7	50.5
Implicit interest rate (nominal)	1.7	1.5	1.4	1.2	1.2	1.2	1.5	1.2	1.3
Real GDP growth	4.7	4.5	3.5	1.5	1.3	1.1	4.3	1.3	2.0
Gross financing needs	12.8	11.2	7.2	6.6	6.4	6.3	10.4	6.4	7.4

LITHUANIA

Short-term risks: low. *The S0 indicator does not detect major short-term vulnerabilities. Gross financing needs have come down from their peak in 2020 and financing conditions should remain favourable, notably supported by the Eurosystem's interventions.*

Medium-term risks: low. *Over the medium term, fiscal sustainability risks are low overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, currently at 45% of GDP, is projected to decrease to 39% of GDP over the next decade. Sensitivity tests show that some uncertainty surrounds the baseline projections.*

Long-term risks: low. *Over the long term, both the sustainability gap indicator S2 and the DSA point to low risks, despite the projected increase in spending linked to population ageing.*

Short-term fiscal sustainability risks: low

The S0 indicator, aimed at the early detection of fiscal stress, does not signal overall short-term risks, with both the financial-competitiveness and the fiscal sub-indices being below their critical thresholds. The primary deficit was the main flashing indicator in 2021 but is projected to fall quickly over the next few years.

Gross financing needs peaked at over 15% of GDP in 2020 and fell back to about 6% in 2021, with a comparable level expected in 2022. Financing conditions should remain favourable, in particular because of the Eurosystem's interventions. Financial markets perceive Lithuanian sovereign risk as low, as confirmed by the small CDS spread and the 'A' rating from major rating agencies.

Medium-term fiscal sustainability risks: low

Debt Sustainability Analysis (DSA): low risk

The DSA, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to a low risk.

Baseline results: declining debt ratio at unchanged policies

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with average real GDP growth of 2.3% in 2024-2032. Under the baseline 'no-fiscal-policy-change' assumption, government debt is projected to decline over the next decade. The debt ratio would fall from 46% of GDP in 2023 to 39% in 2029 and stay at that level until the end of the projections in 2032. This pattern reflects how the primary deficit falls until 2026 before staging a comeback as of 2027 when ageing costs start materialising. The baseline assumes a structural primary balance (SPB) before future ageing costs of -0.4% of GDP. This value, although close to balance, appears already within the higher range of the historical distribution for the country. ([70]) Gross financing needs are estimated at about 4-5% of GDP on average between 2023 and 2032, similar to the pre-pandemic average.

Stochastic simulations: high probability that debt will not stabilise by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was carried out, based on the Lithuanian economy's historical volatility. These stochastic simulations see a 38% probability of the debt ratio being higher in 2026 than in 2021, with some uncertainty around the baseline projections, as shown by the relatively wide debt distribution cone. ([71])

Alternative and stress-test scenarios: primary deficit reduction determinant of declining debt trajectory

If the SPB gradually converged to the average of the last 15 years – a deficit of 1.3% of GDP – the debt ratio would trend upward as of 2027, with

([70]) Based on available historical data, Lithuania recorded an SPB greater than -0.4% of GDP in 35% of the cases.

([71]) The difference between the 10th and 90th percentile is 30 pps. of GDP in 2026.

government debt projected at 45% of GDP in 2032 under this scenario, 6 pps. above the baseline.

Considering the moderate debt level, the impact of a less favourable interest-growth rate differential is limited. A 1 pp. higher 'r-g' difference throughout the projection period results in an estimated debt-to-GDP ratio of 42% in 2032, only 3 pps. above the baseline.

Assuming that a temporary (one-year) episode of financial stress lifts market interest rates by 1 pp. in 2022 leaves the 2032 debt projection virtually unchanged. However, if only half of the projected improvement in the SPB in 2022-2023 were to occur, debt would be projected at 53% of GDP in 2032, 14 pps. above the baseline, and be on an increasing path. This scenario highlights the importance of the expected reduction in the primary deficit in 2022-2023 for the subsequent debt trajectory.

S1 indicator: low risk

The S1 indicator shows that a deterioration of the SPB by 1.4 pps. of GDP is compatible with government debt reaching the reference value of 60% of GDP by 2038. This corresponds to an SPB of -1.8% of GDP, which seems feasible by historical standards. ([72]) On the one hand, rising ageing costs imply that a fiscal adjustment of 0.8 pps. of GDP would be needed if debt is allowed to increase but not beyond 60% of GDP. On the other hand, a deterioration in the SPB of about 2 pps. of GDP could be tolerated considering the SPB forecast for 2023 and the current gap to the 60% benchmark.

([72]) 62% of past Lithuanian SPBs were greater.

Long-term fiscal sustainability risks: low

S2 indicator: low risk

A fiscal adjustment of 1.7 pps. of GDP is required to stabilise the debt-to-GDP ratio over the long term. This adjustment corresponds to an SPB of 1.4% of GDP, which appears very ambitious based on historical fiscal performance. ([73]) This sustainability gap is composed of 1.2 pps. to offset the impact of a projected increase in ageing costs – in particular for health care and long-term care – and 0.6 pps. to correct for the initial budgetary position. ([74])

In sum, based on the sustainability gap indicator S2 and the DSA risk assessment discussed previously, overall long-term fiscal sustainability risks are low.

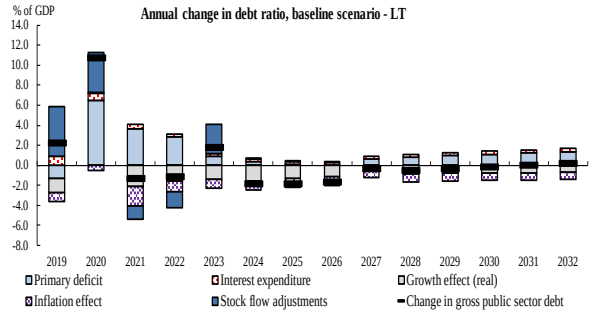
Additional mitigating and aggravating risk factors

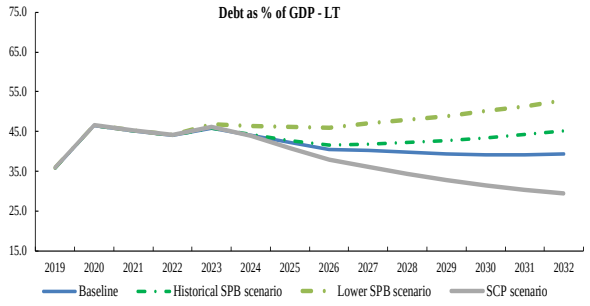
Even though non-residents hold most of the Lithuanian debt stock, the latter is relatively small and fully denominated in euro. At the end of 2020, 21% of total government debt was held by the Eurosystem. State guarantees remain limited, at 1.2% of GDP at the end of 2020, compared to 0.8% at the end of 2019. Implicit contingent liabilities linked to the banking sector appear also contained (based on the SYMBOL simulations). The negative net international investment position could be seen as a risk factor but does not fundamentally change the generally low fiscal vulnerabilities for Lithuania.

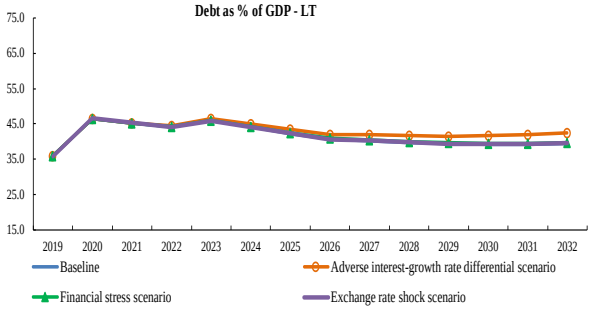
([73]) None of the past Lithuanian SPBs reached this value.
([74]) Spending on age-related items is expected to increase by 1.6 pps. of GDP between 2019 and 2070, driven by long-term care and healthcare expenditure, with respective increases of 0.8 and 0.6 pps. – see 2021 Ageing Report.

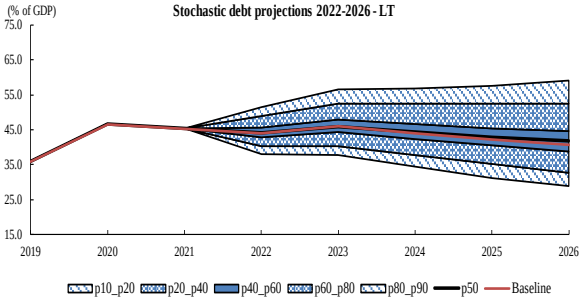
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

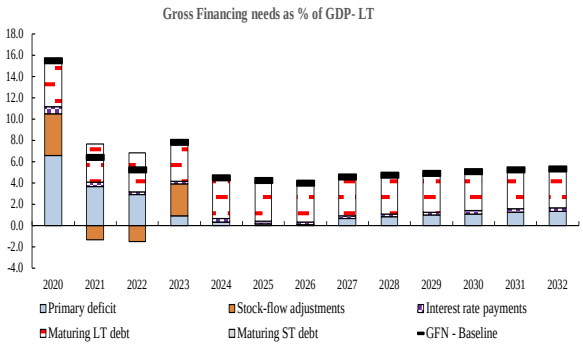
LT - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	**35.9**	**46.6**	**45.3**	**44.1**	**46.0**	**44.1**	**42.3**	**40.6**	**40.3**	**39.7**	**39.4**	**39.2**	**39.2**	**39.4**
Changes in the ratio (-1+2+3)	*2.2*	*10.7*	*-1.3*	*-1.1*	*1.8*	*-1.8*	*-1.8*	*-1.7*	*-0.3*	*-0.5*	*-0.4*	*-0.1*	*0.0*	*0.2*
of which														
(1) Primary balance (1.1+1.2+1.3)	**1.3**	**-6.5**	**-3.7**	**-2.9**	**-0.9**	**-0.3**	**-0.1**	**-0.1**	**-0.7**	**-0.8**	**-1.0**	**-1.1**	**-1.2**	**-1.3**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***0.0***	***-6.1***	***-3.6***	***-2.5***	***-0.4***	***-0.2***	***-0.4***	***-0.5***	***-0.7***	***-0.8***	***-1.0***	***-1.1***	***-1.2***	***-1.3***
(1.1.1) Structural primary balance (bef. CoA)	*0.0*	*-6.1*	*-3.6*	*-2.5*	*-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						*-0.1*	*0.0*	*0.1*	*0.3*	*0.5*	*0.6*	*0.7*	*0.8*	*0.9*
(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*
(1.2) Cyclical component	***1.3***	***-0.5***	***-0.1***	***-0.3***	***-0.5***	***-0.1***	***0.2***	***0.4***	***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)	**-1.4**	**0.2**	**-3.6**	**-2.4**	**-2.0**	**-2.2**	**-2.0**	**-1.7**	**-1.0**	**-1.4**	**-1.3**	**-1.2**	**-1.2**	**-1.1**
(2.1) Interest expenditure	*0.9*	*0.7*	*0.4*	*0.3*	*0.3*	*0.3*	*0.2*	*0.2*	*0.2*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*
(2.2) Growth effect	*-1.4*	*0.0*	*-2.1*	*-1.6*	*-1.4*	*-1.5*	*-1.4*	*-1.2*	*-0.5*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.7*
(2.3) Inflation effect	*-0.9*	*-0.5*	*-1.9*	*-1.1*	*-0.9*	*-0.9*	*-0.9*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-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	**5.0**	**4.0**	**-1.3**	**-1.6**	**3.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*5.0*	*4.0*	*-1.3*	*-1.6*	*3.0*	*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	-0.9	-6.8	-4.0	-2.8	-0.6	-0.5	-0.6	-0.7	-0.9	-1.1	-1.2	-1.4	-1.5	-1.7
Gross financing needs	6.1	15.5	6.3	5.2	7.8	4.4	4.1	4.0	4.5	4.7	4.8	5.0	5.2	5.3

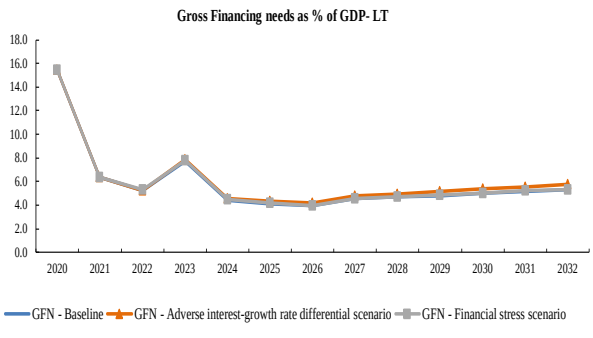












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
				Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2032)	39.4	45.3	42.4	39.7	52.9				
			Debt peak year	2023	2023	2023	2023	2032				
LOW (S0 = 0.2)	LOW	LOW (S1 = -1.4)	Percentile rank	34.7%	53.1%	34.7%	34.7%	63.7%		LOW	LOW (S2 = 1.7)	LOW
			Probability debt higher						38.3%			
			Dif. between percentiles						30.4			

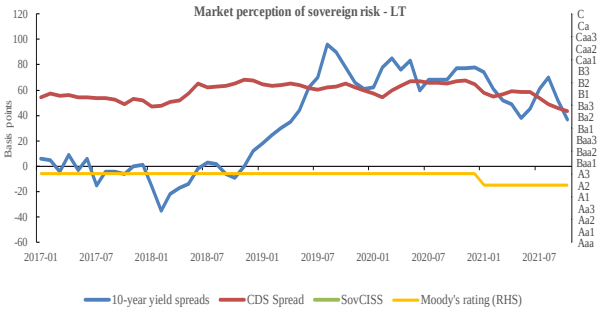
2.2. Sustainability indicators

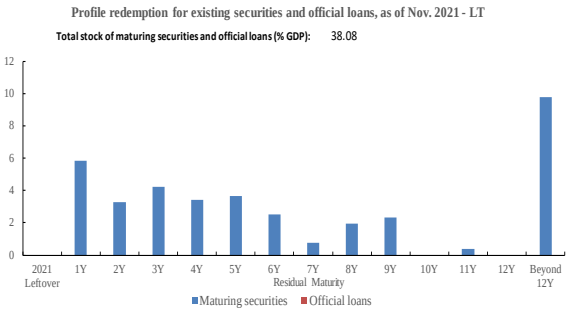
S0 indicator	2009	2021	Critical threshold
Overall index	**0.58**	**0.17**	**0.46**
Fiscal sub-index	0.58	0.26	0.36
Financial competitiveness sub-index	0.57	0.13	0.49

S1 indicator	2020 DSM	2021 FSR		
		Baseline	Lower TFP growth	AWG risk scenario
Overall index	**-1.0**	**-1.4**	**-1.3**	**-0.7**
of which *Initial budgetary position*	*-0.8*	*-1.0*	*-0.9*	*-0.9*
Cost of delaying adjustment	*-0.1*	*-0.2*	*-0.1*	*-0.1*
Debt requirement	*-1.0*	*-1.1*	*-1.1*	*-1.1*
Ageing costs	*1.0*	*0.8*	*0.8*	*1.4*
Required structural primary balance related to S1	**-1.2**	**-1.8**	**-1.7**	**-1.0**

S2 indicator	2020 DSM	2021 FSR		
		Baseline	Lower TFP growth	AWG risk scenario
Overall index	**0.3**	**1.7**	**1.8**	**6.3**
of which Initial Budgetary position	0.3	0.6	0.6	0.6
Ageing costs	-0.1	1.2	1.2	5.7
of which Pensions	*-1.6*	*0.0*	*0.1*	*0.1*
Health care	*0.2*	*0.5*	*0.4*	*1.4*
Long-term care	*0.9*	*0.7*	*0.6*	*4.3*
Others	*0.5*	*0.0*	*0.0*	*0.0*
Required structural primary balance related to S2	**0.0**	**1.4**	**1.5**	**6.0**

3. Financial information





Sovereign Ratings as of Nov. 2021, LT	Local currency		Foreign currency	
	long term	short term	long term	short term
Moody's	A2		A2	WR
S&P	A+	A-1	A+	A-1
Fitch	A		A	F1+

Sovereign yield spreads (bp)* - as of October 2021	10-year	37.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - LT (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	0.0	0.0	69.5

Net International Investment Position (IIP) - LT (2020)	Net IIP (% GDP):
	-15.8

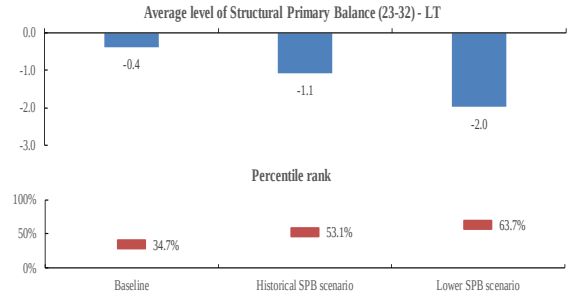
5. Risks related to government's contingent liabilities

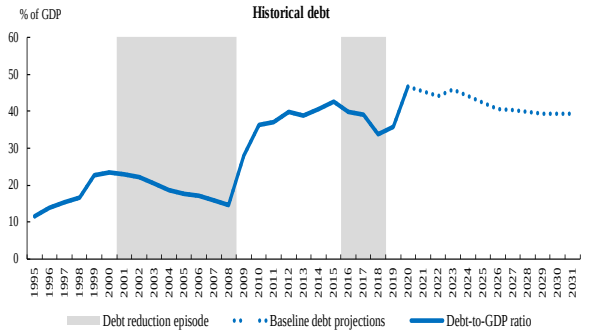
General government contingent liabilities		LT					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		1.0	1.0	0.9	0.8	1.2	8.1
of which	*One-off guarantees*	*0.2*	*0.3*	*0.2*	*0.3*	*0.5*	*7.1*
	Standardised guarantees	*0.8*	*0.8*	*0.7*	*0.6*	*0.7*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.3*

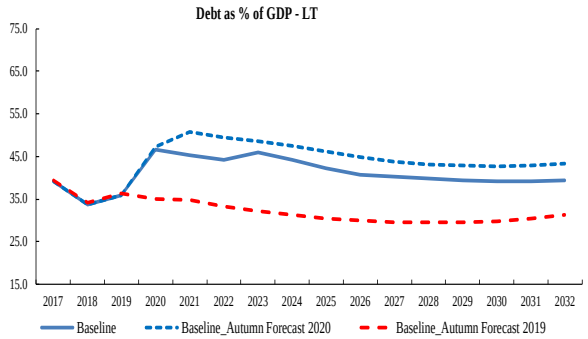
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.0	0.0	0.0	0.0	0.0	0.9
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0
	Total	0.0	0.0	0.0	0.0	0.0	0.9

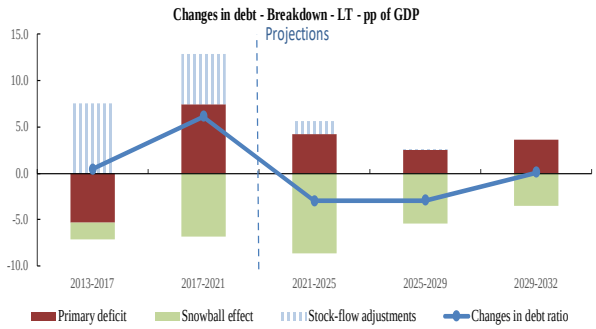
Government's contingent liability risks from banking sector - LT (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	0.3	7.3	63.1	0.9	-0.4	26.8	0.01%	0.10%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Lithuania	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	45.3	44.1	46.0	39.7	39.2	39.4	45.1	40.5	41.6
Primary balance	-3.7	-2.9	-0.9	-0.8	-1.1	-1.3	-2.5	-0.7	-1.2
Structural primary balance (before CoA)	-3.6	-2.5	-0.4	-0.4	-0.4	-0.4	-2.2	-0.4	-0.8
Real GDP growth	5.0	3.6	3.4	2.2	2.0	1.8	4.0	2.3	2.7
Potential GDP growth	4.0	4.3	3.9	2.2	2.0	1.8	4.0	2.2	2.6
Inflation rate	4.3	2.6	2.0	2.0	2.0	2.0	3.0	2.0	2.2
Implicit interest rate (nominal)	1.0	0.6	0.6	0.7	0.8	0.9	0.7	0.7	0.7
Gross financing needs	6.3	5.2	7.8	4.7	5.0	5.3	6.4	4.7	5.1
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	45.3	44.1	46.1	34.4	31.5	29.5	45.2	35.3	37.8
Primary balance	-3.7	-2.9	-1.1	0.5	0.3	0.0	-2.6	0.5	-0.2
Structural primary balance (before CoA)	-3.6	-2.5	-0.7	1.0	1.0	1.0	-2.3	1.0	0.2
Real GDP growth	5.0	3.6	3.6	2.2	2.0	1.8	4.1	2.3	2.7
Gross financing needs	6.3	5.2	8.0	3.0	3.0	3.1	6.5	3.0	3.9
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	45.3	44.1	46.0	42.2	43.4	45.3	45.1	43.1	43.6
Primary balance	-3.7	-2.9	-0.9	-1.7	-2.0	-2.3	-2.5	-1.4	-1.7
Structural primary balance (before CoA)	-3.6	-2.5	-0.4	-1.3	-1.3	-1.3	-2.2	-1.2	-1.4
Real GDP growth	5.0	3.6	3.4	2.1	1.9	1.8	4.0	2.3	2.7
Gross financing needs	6.3	5.2	7.8	5.7	6.3	6.8	6.4	5.6	5.8
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	45.3	44.2	46.1	40.0	39.5	39.7	45.2	40.7	41.8
Implicit interest rate (nominal)	1.0	0.8	0.7	0.7	0.8	1.0	0.8	0.8	0.8
Gross financing needs	6.3	5.3	7.8	4.7	5.0	5.4	6.5	4.7	5.2
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	45.3	44.2	46.8	48.0	50.1	52.9	45.4	48.6	47.8
Primary balance	-3.7	-3.0	-2.1	-2.4	-2.7	-2.9	-2.9	-2.3	-2.4
Structural primary balance (before CoA)	-3.6	-2.8	-2.0	-2.0	-2.0	-2.0	-2.8	-2.0	-2.2
Real GDP growth	5.0	3.8	4.3	2.2	2.0	1.8	4.4	2.2	2.7
Gross financing needs	6.3	5.5	8.9	6.9	7.6	8.2	6.9	6.9	6.9
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	45.3	44.1	46.0	39.7	39.2	39.4	45.1	40.5	41.6
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	6.3	5.2	7.8	4.7	5.0	5.3	6.4	4.7	5.1
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	45.3	44.4	46.5	41.6	41.6	42.4	45.4	42.3	43.1
Implicit interest rate (nominal)	1.0	0.7	0.7	1.0	1.1	1.3	0.8	1.0	1.0
Real GDP growth	5.0	3.1	2.9	1.7	1.5	1.3	3.7	1.8	2.3
Gross financing needs	6.3	5.3	7.9	5.0	5.4	5.8	6.5	5.0	5.3

LUXEMBOURG

Short-term risks: low. *No overall short-term vulnerabilities are identified for Luxembourg, according to the S0 indicator. Moreover, gross financing needs should remain modest in the short term. Sovereign financing conditions are expected to remain favourable, notably supported by the Eurosystem's interventions and the country's AAA-rating.*

Medium-term risks: low. *Medium-term fiscal sustainability risks appear low overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, currently at 26% of GDP, is projected to decline, reaching around 18% of GDP in 2032 in the baseline. Low sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

Long-term risks: high. *Long-term fiscal sustainability risks appear high overall, combining the high risk according to the sustainability gap indicator S2 and the low risk from a DSA perspective. The S2 long-term sustainability gap indicator points to risk linked to budgetary pressures stemming from population ageing.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator (and the sub-indexes), is below its critical threshold, signalling no overall short-term vulnerabilities.

Government financing needs are expected to be modest in the short term (about 3% of GDP in 2021-2022), down from their peak recorded in 2020. Financing conditions should remain favourable, notably supported by the Eurosystem's interventions. Financial markets' perceive sovereign risk to be low, as confirmed by the 'AAA' rating that the three major rating agencies assigned to Luxembourg's government debt.

Medium-term fiscal sustainability risks: low

Debt Sustainability Analysis (DSA): low risk

The debt sustainability analysis, based on the baseline, both the level of debt and its projected path, the stochastic simulations, and alternative and stress-test scenarios, all point to a low risk.

Baseline results: low declining debt

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with real GDP growth hovering around 2% in 2024-2032). Under a 'no-fiscal policy change' assumption, government debt would decline to around 18% of GDP in 2032. These baseline projections assume a constant structural primary balance (SPB), before future ageing costs, at its forecast surplus for 2023, namely 0.8% of GDP. Based on past fiscal performance, this level appears plausible ([75]). The projections rely on the horizontal assumption of zero stock-flow adjustments as from 2024, although historical patterns show that Luxembourg's public pension surpluses are used to draw up public pension reserve funds rather than to reduce debt and are therefore recorded as debt-increasing stock-flow adjustments ([76]). Government gross financing needs are projected to slightly decrease, reaching less than 2% of GDP in 2032.

Stochastic simulations: limited probability that the low debt will not stabilise by 2026, yet significant uncertainty surrounding the baseline

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the Luxembourg's economy. These stochastic simulations point to a 31% probability of the debt ratio in 2026 being greater than in 2021, entailing low risk also given the current level of 26% of GDP. Such shocks point to significant uncertainty surrounding the baseline

([75]) Based on available historical data, LU recorded a SPB greater than 0.8% of GDP in 83% of the cases.

([76]) Assuming positive SFA in the projections, to reflect the building up of public pension reserve funds in line with past historical trends, would lead to projecting a higher debt by 2032 (see Box I.2.3 "Possible paths to review the SFA projection assumptions" in Part I, Chapter 2).

projections, as can be seen from the relatively wide debt distribution cone ([77]).

Alternative and stress-test scenarios: low vulnerabilities to various shocks

Fiscal policy reverting to historical behaviour would bring a more sizeable reduction of the debt ratio. Indeed, if the SPB gradually converged to its historical average of the last 15 years (a surplus of 2% of GDP), the debt ratio would be about 7 pps. of GDP lower than in the baseline in 2032.

More adverse developments of the interest-growth rate differential than assumed under the baseline would have a moderate impact on the debt-GDP ratio, given its current low value. A permanently higher 'r-g' differential (by 1 pp.) than in the baseline would entail a debt ratio in 2032 about 1 pp. of GDP higher than in the baseline.

Assuming temporary (one year) financial stress or a negative shock on the structural primary balance would result in a negligible impact on debt to GDP ratio by 2032. In particular, negative sensitivity tests on interest rates (a higher 1 pp. market interest rate in 2022) or on the structural primary balance (reduced forecasted increase by 50%) would both entail a debt ratio in 2032 unchanged compared with the baseline.

S1 indicator: low risk

The S1 indicator shows that, compared to the baseline, the structural primary balance (SPB) could deteriorate -3.6 pp. of GDP, in cumulated terms over 5 years, while still keeping debt-to-GDP ratio at the reference value of 60% by 2038. This low value of S1 is due to the favourable initial budgetary position (contribution by -1.8 pp. of GDP) and a debt ratio already lower than the 60% reference value (contribution by -2.8 pp. of GDP), partly offset by projected increases in age-related public spending (contribution by 1.4 pp. of GDP).

([77]) The difference between the 10th and 90th percentile in 2026 is around 28 pps. of GDP.

Long-term fiscal sustainability risks: high

S2 indicator: high risk

The S2 indicator shows that, relative to the baseline, the SPB would need to improve by 7.1 pps. of GDP to stabilise the debt ratio over the long term. Such adjustment would bring the SPB to 7.9% of GDP, very ambitious by Luxembourg's standards ([78]). This sustainability gap is driven by the projected increase of ageing costs (contribution of 7.7 pps. of GDP). Ageing costs are driven by a projected increase of public pension expenditure (contribution of 6.1 pps.) and long-term care spending (contribution of 1.3 pps.) ([79]).

In sum, based on the sustainability gap indicator S2 and the DSA risk assessment discussed higher, overall long-term fiscal sustainability risks are high.

Additional mitigating and aggravating risk factors

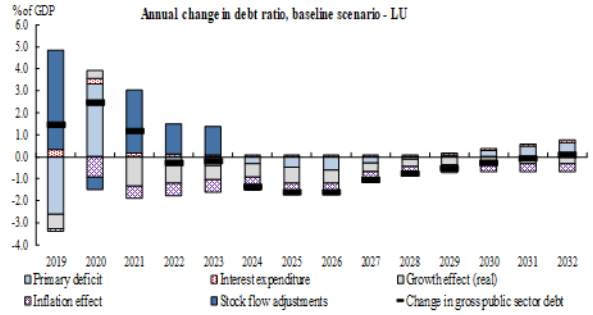
Several factors mitigate the risks. These include the lengthening of debt maturity in recent years, relatively stable financing sources (with a diversified and large investor base), the currency denomination of debt, historically low borrowing costs supported by the Eurosystem's interventions and the AAA-rating. In 2020, 20% of government debt was held by the Eurosystem. Luxembourg's positive net international investment position also mitigates vulnerabilities, as well as the positive net financial asset position of the government.

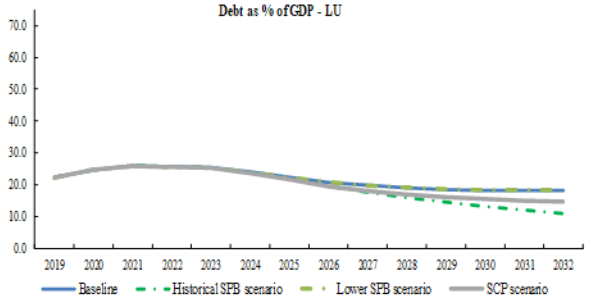
Risk-increasing factors are related to contingent liability risks stemming from the private sector. The possible materialisation of state guarantees granted to firms and self-employed during the COVID-19 crisis remains currently limited due to relatively low take-up. However, overall contingent liability appear significant, including those stemming from the banking sector (as evidenced by SYMBOL simulations). Moreover, the debt reduction may be more limited if pension fund surpluses continue to regularly feed stock-flow adjustments.

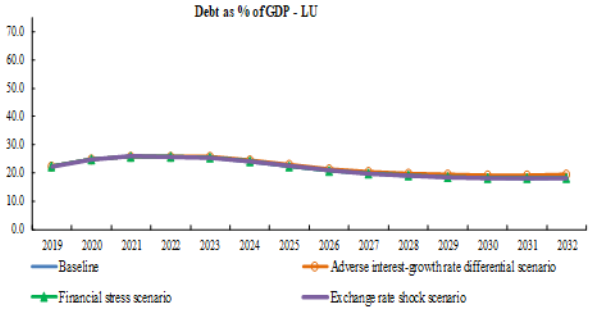
([78]) Such SPB was never reached over the past decades.
([79]) Between 2019 and 2070 total ageing costs are estimated to increase by 10.4 pps. of GDP (among which public pensions by 8.7 pps. of GDP) – see 2021 Ageing Report.

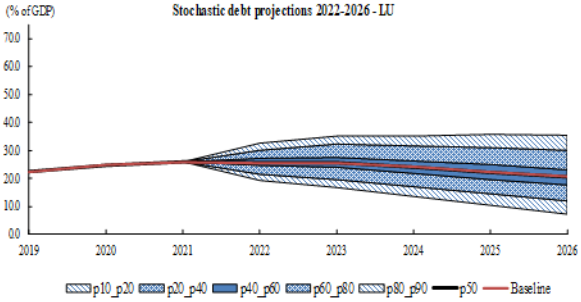
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

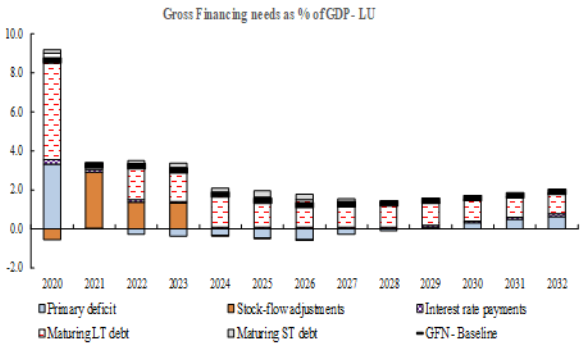
LU - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	22.3	24.8	25.9	25.6	25.4	24.1	22.4	20.8	19.8	19.0	18.5	18.2	18.1	18.2
Changes in the ratio (-1+2+3)	*1.4*	*2.5*	*1.2*	*-0.3*	*-0.2*	*-1.4*	*-1.6*	*-1.6*	*-1.0*	*-0.8*	*-0.5*	*-0.3*	*-0.1*	*0.1*
of which														
(1) Primary balance (1.1+1.2+1.3)	2.6	-3.3	0.0	0.3	0.4	0.3	0.5	0.6	0.3	0.1	-0.1	-0.3	-0.5	-0.6
(1.1) Structural primary balance (1.1.1-1.1.2+1.1.3)	2.7	*-1.3*	*0.8*	*0.7*	*0.8*	*0.8*	*0.6*	*0.5*	*0.3*	*0.1*	*-0.1*	*-0.3*	*-0.5*	*-0.6*
(1.1.1) Structural primary balance (bef. CoA)	2.7	-1.3	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
(1.1.2) Cost of ageing						0.1	0.3	0.5	0.7	0.9	1.1	1.4	1.6	1.8
(1.1.3) Others (taxes and property incomes)						0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3
(1.2) Cyclical component	*-0.1*	*-2.1*	*-0.8*	*-0.4*	*-0.5*	*-0.4*	*-0.1*	*0.1*	*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)	-0.4	-0.3	-1.7	-1.3	-1.1	-1.1	-1.1	-1.0	-0.8	-0.7	-0.6	-0.6	-0.6	-0.6
(2.1) Interest expenditure	*0.3*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*
(2.2) Growth effect	*-0.7*	*0.4*	*-1.3*	*-0.9*	*-0.7*	*-0.6*	*-0.7*	*-0.6*	*-0.4*	*-0.4*	*-0.3*	*-0.3*	*-0.3*	*-0.3*
(2.3) Inflation effect	*-0.1*	*-0.9*	*-0.6*	*-0.6*	*-0.5*	*-0.5*	*-0.5*	*-0.5*	*-0.4*	*-0.4*	*-0.4*	*-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	4.5	-0.6	2.9	1.4	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(3.1) Base	*4.5*	*-0.6*	*2.9*	*1.4*	*1.3*	*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	2.4	-1.5	0.6	0.5	0.7	0.7	0.5	0.4	0.2	0.0	-0.2	-0.4	-0.6	-0.8
Gross financing needs	3.1	8.6	3.3	3.2	3.0	1.7	1.4	1.2	1.2	1.3	1.4	1.5	1.7	1.9

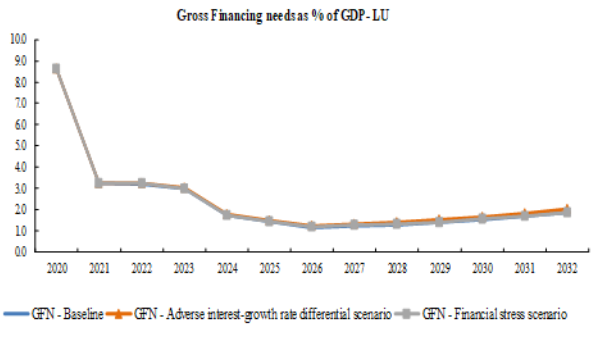












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
				Baseline	Historical SPB	Adverse r-g scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW			
			Debt level (2032)	18.2	11.1	19.5	18.3	18.4				
			Debt peak year	2021	2021	2021	2021	2021				
			Percentile rank	83.1%	72.8%	83.1%	83.1%	83.2%				
			Probability debt higher						31.4%			
			Dif. between percentiles						28.2			
LOW (S0 = 0.3)	LOW	LOW (S1 = -3.6)								LOW	HIGH (S2 = 7.1)	HIGH

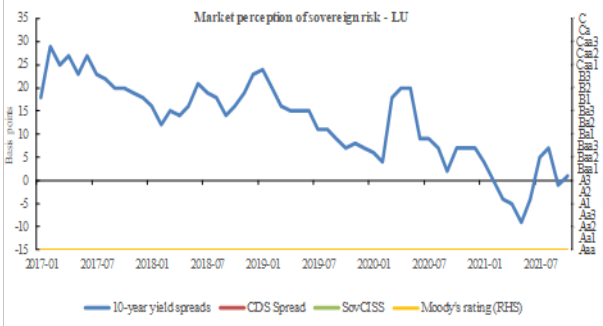
2.2. Sustainability indicators

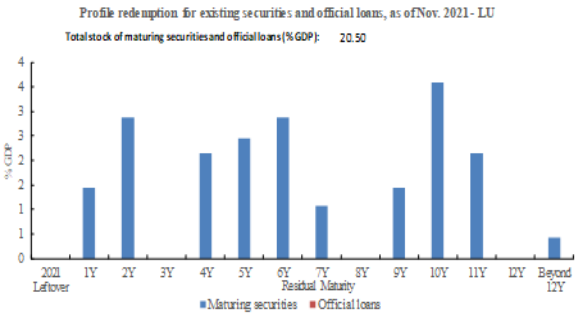
S0 indicator	2009	2021	Critical threshold
Overall index	**0.23**	**0.30**	**0.46**
Fiscal sub-index	0.26	0.08	0.36
Financial competitiveness sub-index	0.22	0.41	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**-3.9**	**-3.6**	**-3.5**	**-3.3**
of which *Initial budgetary position*	*-2.3*	*-1.8*	*-1.8*	*-1.8*
Cost of delaying adjustment	*-0.4*	*-0.4*	*-0.4*	*-0.4*
Debt requirement	*-2.6*	*-2.8*	*-2.8*	*-2.8*
Ageing costs	*1.4*	*1.4*	*1.5*	*1.7*
Required structural primary balance related to S1	**-2.7**	**-2.8**	**-2.6**	**-2.4**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**10.7**	**7.1**	**7.1**	**9.3**
of which Initial Budgetary position	-0.7	-0.7	-0.7	-0.7
Ageing costs	11.4	7.7	7.8	10.0
of which Pensions	*7.4*	*6.1*	*6.3*	*6.1*
Health care	*1.0*	*0.9*	*0.8*	*1.4*
Long-term care	*2.6*	*1.3*	*1.2*	*3.0*
Others	*0.3*	*-0.5*	*-0.5*	*-0.5*
Required structural primary balance related to S2	**11.9**	**7.9**	**8.0**	**10.2**

3. Financial information





Sovereign Ratings as of Nov. 2021, LU	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Aaa		Aaa	
S&P	AAA	A-1+	AAA	A-1+
Fitch	AAA		AAA	F1+

Sovereign yield spreads (bp)* - as of October 2021	10-year	1.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - LU (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	2.6	0.0	50.0

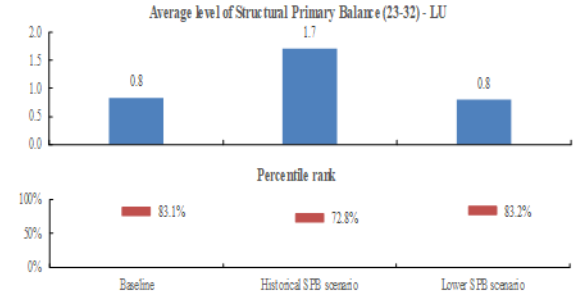
Net International Investment Position (IIP) LU (2020)	Net IIP (% GDP):
	39.9

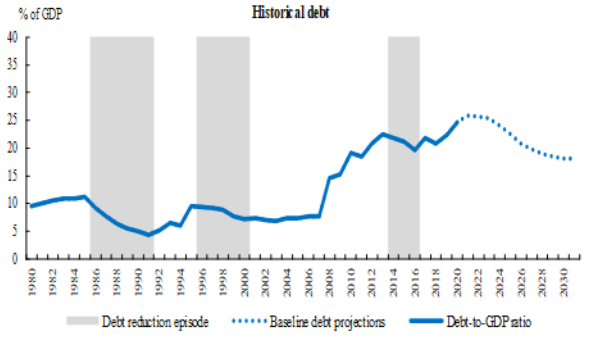
5. Risks related to government's contingent liabilities

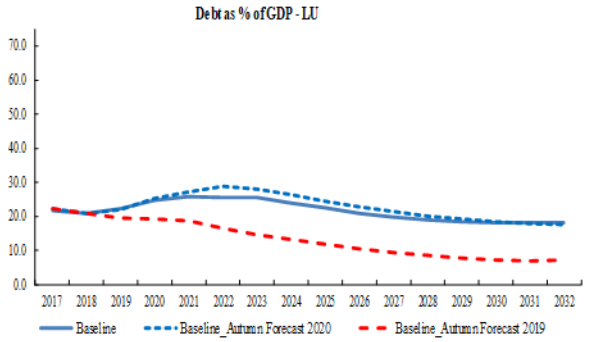
General government contingent liabilities		LU					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		12.2	11.6	11.1	10.6	11.1	8.1
of which	*One-off guarantees*	*11.3*	*10.7*	*10.2*	*9.7*	*9.7*	*7.1*
	Standardised guarantees	*0.8*	*0.8*	*0.9*	*0.9*	*1.4*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	3.8	3.5	3.3	2.9	2.6	0.9
	Securities issued under liquidity schemes	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
	Total	3.8	3.5	3.3	2.9	2.6	0.9

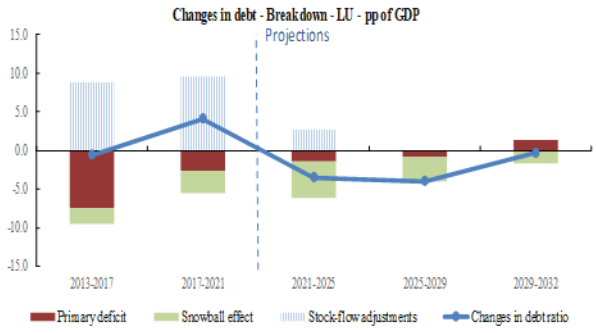
Government's contingent liability risks from banking sector - LU (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	44.1	14.5	156.2	1.5	0.4	36.7	0.39%	2.53%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Luxembourg	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	25.9	25.6	25.4	19.0	18.2	18.2	25.7	19.9	21.3
Primary balance	0.0	0.3	0.4	0.1	-0.3	-0.6	0.2	0.0	0.1
Structural primary balance (before CoA)	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Real GDP growth	5.8	3.7	2.7	1.9	1.7	1.8	4.1	2.2	2.7
Potential GDP growth	2.9	2.8	2.9	1.9	1.7	1.8	2.9	2.1	2.3
Inflation rate	2.3	2.2	2.2	2.1	2.0	2.0	2.2	2.1	2.1
Implicit interest rate (nominal)	0.7	0.5	0.4	0.4	0.5	0.7	0.5	0.5	0.5
Gross financing needs	3.3	3.2	3.0	1.3	1.5	1.9	3.1	1.5	1.9
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	25.9	25.6	25.3	17.0	15.4	14.7	25.6	17.9	19.8
Primary balance	0.0	0.3	0.6	0.5	0.1	-0.2	0.3	0.4	0.4
Structural primary balance (before CoA)	0.8	0.7	1.2	1.3	1.3	1.3	0.9	1.3	1.2
Real GDP growth	5.8	3.7	2.5	1.9	1.7	1.8	4.0	2.2	2.7
Gross financing needs	3.3	3.2	2.8	0.7	0.9	1.2	3.1	1.0	1.5
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	25.9	25.6	25.4	16.0	13.1	11.1	25.7	16.7	18.9
Primary balance	0.0	0.3	0.4	1.1	0.9	0.5	0.2	0.9	0.7
Structural primary balance (before CoA)	0.8	0.7	0.8	2.0	2.0	2.0	0.8	1.8	1.5
Real GDP growth	5.8	3.7	2.7	2.1	1.9	1.8	4.1	2.2	2.7
Gross financing needs	3.3	3.2	3.0	0.1	0.1	0.2	3.1	0.4	1.1
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	25.9	25.7	25.5	19.1	18.3	18.3	25.7	20.0	21.4
Implicit interest rate (nominal)	0.7	0.7	0.5	0.5	0.6	0.7	0.6	0.5	0.6
Gross financing needs	3.3	3.2	3.0	1.3	1.6	1.9	3.2	1.5	1.9
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	25.9	25.6	25.3	19.1	18.3	18.4	25.6	20.0	21.4
Primary balance	0.0	0.4	0.4	0.1	-0.3	-0.7	0.2	0.0	0.1
Structural primary balance (before CoA)	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Real GDP growth	5.8	3.6	2.9	1.9	1.7	1.8	4.1	2.2	2.7
Gross financing needs	3.3	3.1	3.0	1.3	1.6	1.9	3.1	1.5	1.9
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	25.9	25.6	25.4	19.0	18.2	18.2	25.7	19.9	21.3
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	3.3	3.2	3.0	1.3	1.5	1.9	3.1	1.5	1.9
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	25.9	25.8	25.7	19.9	19.3	19.5	25.8	20.8	22.1
Implicit interest rate (nominal)	0.7	0.6	0.5	0.7	0.8	1.0	0.6	0.7	0.7
Real GDP growth	5.8	3.2	2.2	1.4	1.2	1.3	3.8	1.7	2.2
Gross financing needs	3.3	3.2	3.0	1.4	1.7	2.0	3.2	1.6	2.0

HUNGARY

Short-term risks: low. *No overall short-term vulnerabilities are identified for Hungary, according to the S0 indicator. However, gross financing needs remain large in the short term (and relatively high beyond the short term). Sovereign financing conditions are relatively unfavourable.*

Medium-term risks: medium. *Medium-term fiscal sustainability risks appear medium overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, currently at 79% of GDP, is projected to decline, reaching around 68% of GDP in 2032 in the baseline. However, significant sensitivity to possible macro-fiscal shocks contributes to the medium risk assessment.*

Long-term risks: high. *Long-term fiscal sustainability risks appear high overall, combining the high risk according to the sustainability gap indicator S2 and the low risk from a DSA perspective. The S2 long-term sustainability gap indicator points to risk linked to budgetary pressures stemming from population ageing and the initial budgetary position.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling no overall short-term vulnerabilities. However, the fiscal sub-index points to short-term vulnerabilities (notably due to government gross financing needs, the cyclically-adjusted balance and net government debt being all above their critical threshold).

Government financing needs are expected to decline in the short term (about 18% of GDP in 2022), compared with 2020-2021. Financing conditions are relatively less favourable than other EU countries, but financial markets' perceptions of sovereign risk remain at investment grade, as confirmed by the CDS spread and the 'BBB' rating that the three major rating agencies assigned to Hungarian government debt.

Medium-term fiscal sustainability risks: medium

Debt Sustainability Analysis (DSA): medium risk

The debt sustainability analysis, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to a medium risk.

Baseline results: declining debt under unchanged policies

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with real GDP growth hovering around 3% in 2024-2032. Under a 'no-fiscal policy change' assumption, government debt would decline throughout the projection horizon to reach around 68% of GDP in 2032. The baseline assumptions assume that the structural primary balance (SPB) before costs of ageing remains constant at the forecast deficit for 2023, namely 1.3% of GDP. This value appears plausible by historical standards ([80]). Government gross financing needs are projected to slightly decrease over the next 10 years, remaining however significant at close to 16% of GDP in 2032.

Stochastic simulations: significant probability that debt will not stabilise by 2026 and significant uncertainty surrounding the baseline

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the Hungarian economy. These stochastic simulations point to a 31% probability of the debt ratio in 2026 being greater than in 2021, entailing medium risk given the

([80]) Based on available historical data, Hungary recorded a SPB greater than -1.3% of GDP in 67% of the cases. Therefore, the country has room to improve its fiscal position and further lower its debt-to-GDP ratio.

current level of 79% of GDP. Moreover, such shocks point to significant uncertainty surrounding the baseline projections, as can be seen from the wide debt distribution cone ([81]).

Alternative and stress-test scenarios: medium risks, as weaker improvement of the primary balance would entail risks

Fiscal policy reverting to historical behaviour would bring a more sizeable reduction of the debt ratio. Indeed, if the SPB gradually converged to its historical average of the last 15 years (a deficit of 0.1% of GDP), the debt ratio would be about 7 pps. of GDP lower than in the baseline in 2032.

On the other hand, more adverse developments of the interest-growth rate differential than assumed under the baseline would have a noticeable impact on the debt-GDP ratio. A permanently higher 'r-g' differential (by 1 pp.) than in the baseline would entail a debt ratio in 2032 about 6 pps. of GDP higher than in the baseline by 2032.

Assuming a negative shock on the structural primary balance would have a sizeable impact on the debt-to-GDP ratio trajectory. In particular, if only half of the projected improvement in the SPB in 2022-2023 were to occur, the projected debt ratio would be higher in 2032 by around 14 pps. of GDP compared to the baseline. Assuming temporary financial stress (+1pp interest rate in 2022) would have a marginal impact on the debt ratio by 2032.

S1 indicator: medium risk

The S1 indicator shows that, compared to the baseline, the structural primary balance (SPB) would need to improve by 1.3 pp. of GDP, in cumulated terms over 5 years, to bring the debt-to-GDP ratio to the reference value of 60% by 2038. This would result in a balanced SPB, which is plausible by Hungarian standards ([82]). This value of S1 is entirely driven by the distance of the debt ratio from the 60% (contribution of 1.2 pps. of GDP).

([81]) The difference between the 10th and 90th percentile in 2026 is around 44 pps. of GDP.

([82]) 56% of the SPBs recorded for the country over the past decades were greater than this value.

Long-term fiscal sustainability risks: high

S2 indicator: high risk

The S2 indicator shows that, relative to the baseline, the SPB would need to improve by 6.1 pps. of GDP to stabilise the debt-to-GDP ratio over the long term. Such an adjustment would bring the SPB to 4.8% of GDP, which is very ambitious by Hungarian standards ([83]). This sustainability gap is driven by the projected increase of ageing costs (contribution of 4.5 pps. of GDP) and the unfavourable initial budgetary position (1.6 pp. of GDP). Ageing costs are primarily related to the projected increase of public pension expenditure (contribution of 3.3 pps. of GDP) ([84]).

In sum, based on the sustainability gap indicator S2 and the DSA risk assessment discussed higher, overall long-term fiscal sustainability risks are high.

Additional mitigating and aggravating risk factors

Several factors mitigate the risks. These include the lengthening of debt maturity in recent years (although it remains relatively low), relatively stable financing sources (with a diversified and large investor base) and a stable and moderate share of government debt denominated in foreign currency.

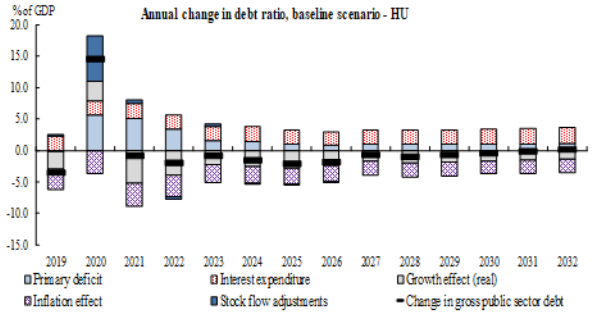
Risk-increasing factors are related to contingent liability risks stemming from the private sector, including via the possible materialisation of state guarantees granted to firms and self-employed during the COVID-19 crisis. Yet, contingent liability risks stemming from the banking sector are low (based on the SYMBOL simulations).

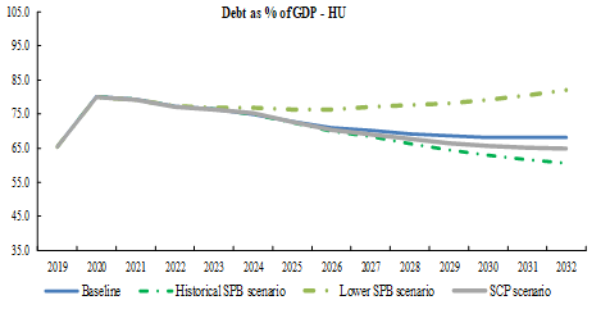
([83]) Such an SPB was never reached for the country over the past decades.

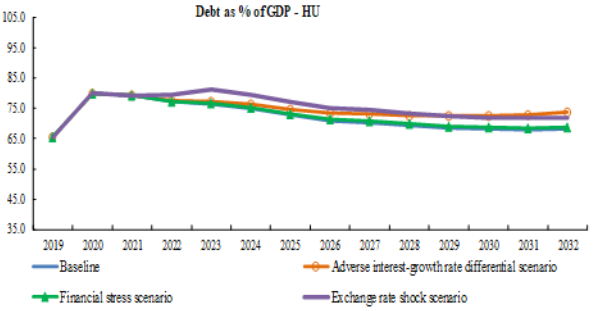
([84]) Between 2019 and 2070 total ageing costs are estimated to increase by 5.5 pps. of GDP (among which public pensions by 4.1 pps. of GDP) – see 2021 Ageing Report.

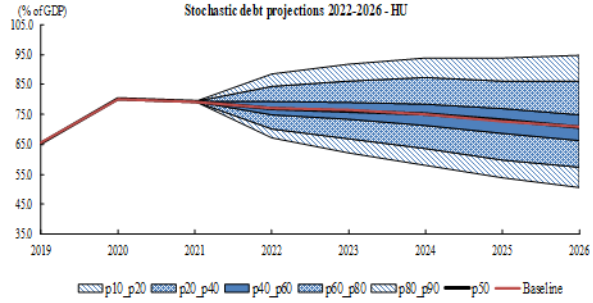
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

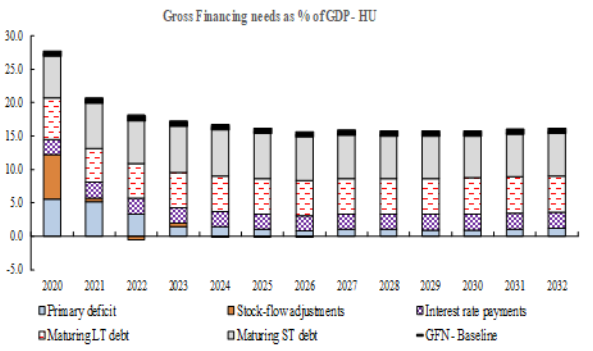
HU - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	65.5	80.1	79.2	77.2	76.4	74.9	72.8	71.0	70.3	69.3	68.5	68.2	68.0	68.1
Changes in the ratio (-1+2+3)	-3.6	14.6	-0.8	-2.0	-0.8	-1.5	-2.1	-1.9	-0.7	-1.0	-0.8	-0.4	-0.2	0.1
of which														
(1) Primary balance (1.1+1.2+1.3)	0.1	-5.6	-5.1	-3.3	-1.5	-1.5	-1.1	-0.8	-1.0	-1.0	-1.0	-1.0	-1.0	-1.1
(1.1) Structural primary balance (1.1.1-1.1.2+1.1.3)	*-1.3*	*-3.4*	*-4.5*	*-3.3*	*-1.3*	*-1.3*	*-1.2*	*-1.1*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.0*	*-1.1*
(1.1.1) Structural primary balance (bef. CoA)	-1.3	-3.4	-4.5	-3.3	-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						0.0	-0.1	-0.2	-0.3	-0.3	-0.3	-0.3	-0.3	-0.2
(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
(1.2) Cyclical component	*1.6*	*-2.2*	*-0.7*	*0.0*	*-0.2*	*-0.1*	*0.2*	*0.3*	*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)	-3.8	1.7	-6.5	-5.0	-2.7	-2.9	-3.2	-2.7	-1.7	-2.0	-1.7	-1.4	-1.2	-1.0
(2.1) Interest expenditure	2.2	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.2	2.3	2.3	2.4	2.4	2.5
(2.2) Growth effect	-2.9	3.0	-5.3	-3.9	-2.3	-2.6	-2.8	-2.5	-1.6	-2.0	-1.9	-1.6	-1.6	-1.5
(2.3) Inflation effect	-3.1	-3.7	-3.6	-3.4	-2.7	-2.7	-2.6	-2.4	-2.3	-2.3	-2.2	-2.1	-2.1	-2.0
(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	7.2	0.6	-0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(3.1) Base	-0.3	6.5	0.6	-0.6	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	0.7	0.7	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Pro memoria														
Structural balance	-3.5	-5.8	-6.8	-5.7	-3.6	-3.6	-3.5	-3.4	-3.3	-3.3	-3.3	-3.4	-3.5	-3.6
Gross financing needs	18.1	27.3	20.3	17.6	16.8	16.3	15.7	15.2	15.4	15.3	15.3	15.4	15.5	15.7

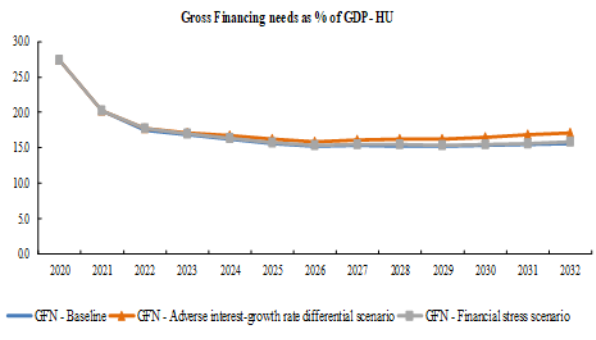












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
			Baseline	Historical SPB	Adverse r-g scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	LOW	LOW	LOW	LOW	MEDIUM	MEDIUM		
			Debt level (2032)	68.1	60.7	73.7	68.7	82.0			
			Debt peak year	2021	2021	2021	2021	2032			
LOW (S0 = 0.3)	MEDIUM	MEDIUM (S1 = 1.3)	Percentile rank	67.1%	59.1%	67.1%	67.1%	74.0%		MEDIUM	HIGH (S2 = 6.1)	HIGH
			Probability debt higher						31.4%		
			Dif. between percentiles						43.9		

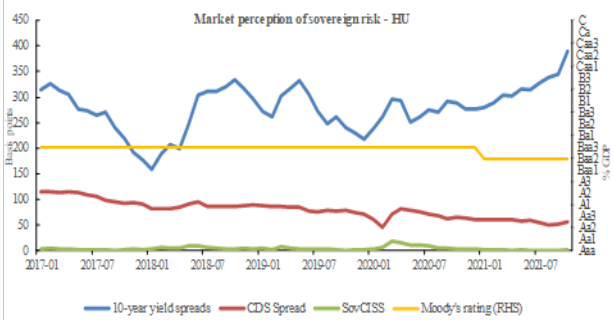
2.2. Sustainability indicators

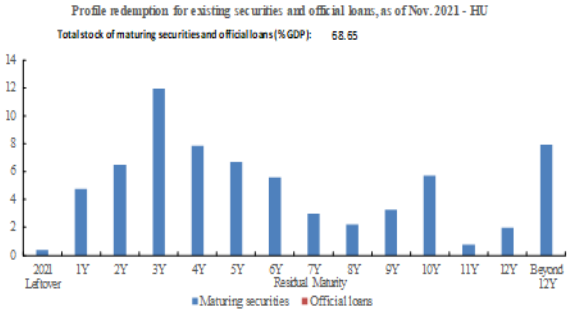
S0 indicator	2009	2021	Critical threshold
Overall index	**0.74**	**0.34**	**0.46**
Fiscal sub-index	0.56	0.57	0.36
Financial competitiveness sub-index	0.84	0.22	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**-0.3**	**1.3**	**1.5**	**2.0**
of which *Initial budgetary position*	*-1.8*	*-0.1*	*0.0*	*-0.1*
Cost of delaying adjustment	*0.0*	*0.1*	*0.2*	*0.2*
Debt requirement	*0.6*	*1.2*	*1.2*	*1.2*
Ageing costs	*0.9*	*0.0*	*0.1*	*0.6*
Required structural primary balance related to S1	**0.6**	**0.0**	**0.2**	**0.7**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**3.3**	**6.1**	**6.5**	**9.8**
of which Initial Budgetary position	-1.1	1.6	1.8	1.6
Ageing costs	4.3	4.5	4.7	8.1
of which Pensions	*2.9*	*3.3*	*3.5*	*3.2*
Health care	*0.5*	*0.7*	*0.6*	*1.7*
Long-term care	*0.4*	*0.6*	*0.5*	*3.2*
Others	*0.6*	*0.0*	*0.0*	*0.0*
Required structural primary balance related to S2	**4.2**	**4.8**	**5.2**	**8.5**

3. Financial information





Sovereign Ratings as of Nov. 2021, HU	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Baa2		Baa2	
S&P	BBB	A-2	BBB	A-2
Fitch	BBB		BBB	F2

Sovereign yield spreads (bp)* - as of October 2021	10-year	330.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - HU (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	8.2	22.0	33.2

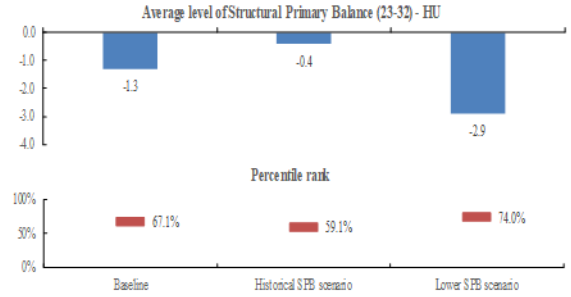
Net International Investment Position (IIP) HU (2020)	Net IIP (% GDP):
	-48.1

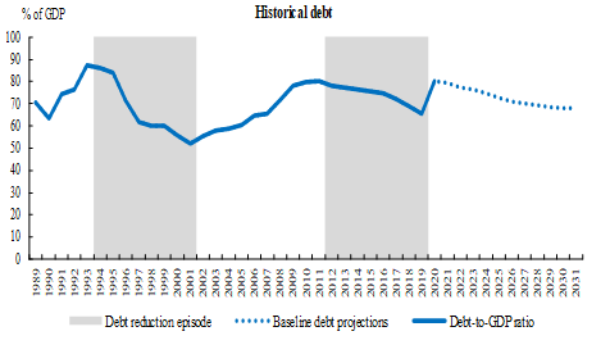
5. Risks related to government's contingent liabilities

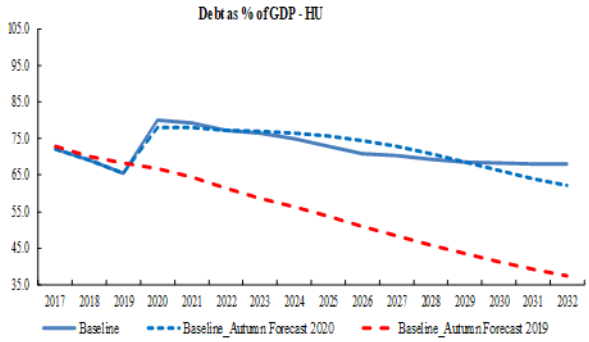
General government contingent liabilities		HU					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		5.8	5.0	5.1	6.4	8.2	8.1
of which	One-off guarantees	5.6	4.8	5.0	5.4	6.0	7.1
	Standardised guarantees	0.2	0.1	0.1	1.0	2.2	1.1
Public-private partnerships (PPPs) (% GDP)		1.6	1.5	1.3	1.1	1.1	0.3
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.0	0.0	0.0	0.0	0.0	0.9
	Securities issued under liquidity schemes	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
	Total	0.0	0.0	0.0	0.0	0.0	0.9

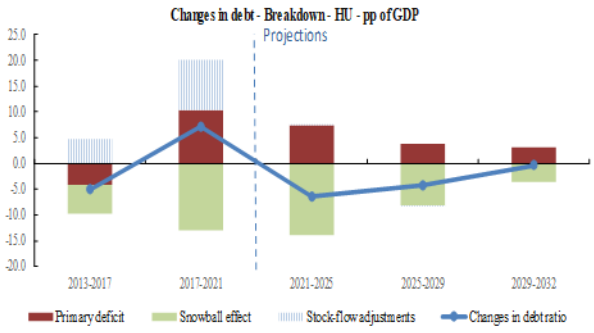
Government's contingent liability risks from banking sector - HU (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	7.7	5.0	77.8	3.6	-0.8	63.8	0.01%	0.06%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Hungary	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	79.2	77.2	76.4	69.3	68.2	68.1	77.6	70.1	72.0
Primary balance	-5.1	-3.3	-1.5	-1.0	-1.0	-1.1	-3.3	-1.1	-1.6
Structural primary balance (before CoA)	-4.5	-3.3	-1.3	-1.3	-1.3	-1.3	-3.0	-1.3	-1.7
Real GDP growth	7.4	5.4	3.2	3.0	2.5	2.3	5.3	3.0	3.6
Potential GDP growth	3.7	3.9	3.7	3.0	2.5	2.3	3.8	2.9	3.1
Inflation rate	4.7	4.5	3.7	3.3	3.2	3.1	4.3	3.3	3.6
Implicit interest rate (nominal)	3.3	3.2	3.2	3.4	3.7	3.9	3.2	3.5	3.4
Gross financing needs	20.3	17.6	16.8	15.3	15.4	15.7	18.2	15.5	16.2
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	79.2	77.2	76.4	67.7	65.7	64.8	77.6	68.6	70.8
Primary balance	-5.1	-3.3	-1.7	-0.5	-0.5	-0.7	-3.4	-0.6	-1.3
Structural primary balance (before CoA)	-4.5	-3.3	-1.6	-0.8	-0.8	-0.8	-3.2	-0.8	-1.4
Real GDP growth	7.4	5.4	3.5	3.0	2.5	2.3	5.4	3.0	3.6
Gross financing needs	20.3	17.6	17.0	14.6	14.5	14.6	18.3	14.8	15.7
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	79.2	77.2	76.4	66.4	62.9	60.7	77.6	66.9	69.6
Primary balance	-5.1	-3.3	-1.5	0.0	0.2	0.0	-3.3	-0.2	-1.0
Structural primary balance (before CoA)	-4.5	-3.3	-1.3	-0.1	-0.1	-0.1	-3.0	-0.3	-1.0
Real GDP growth	7.4	5.4	3.2	3.2	2.7	2.3	5.3	3.0	3.6
Gross financing needs	20.3	17.6	16.8	13.9	13.3	13.1	18.2	14.1	15.1
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	79.2	77.4	76.7	69.8	68.7	68.7	77.8	70.6	72.4
Implicit interest rate (nominal)	3.3	3.5	3.3	3.5	3.7	3.9	3.4	3.6	3.5
Gross financing needs	20.3	17.7	17.0	15.4	15.5	15.8	18.3	15.7	16.3
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	79.2	77.3	76.9	77.5	79.2	82.0	77.8	78.3	78.1
Primary balance	-5.1	-3.6	-2.6	-2.6	-2.6	-2.7	-3.8	-2.6	-2.9
Structural primary balance (before CoA)	-4.5	-3.7	-2.9	-2.9	-2.9	-2.9	-3.7	-2.9	-3.1
Real GDP growth	7.4	5.7	4.1	3.0	2.5	2.3	5.7	2.9	3.6
Gross financing needs	20.3	17.9	17.8	18.3	19.0	20.0	18.7	18.5	18.5
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	79.2	79.5	81.1	73.3	72.0	71.8	79.9	74.1	75.6
Exchange rate depreciation	0.0%	8.0%	8.0%	0.0%	0.0%	0.0%	5.3%	0.0%	1.3%
Gross financing needs	20.3	18.0	17.8	16.1	16.2	16.5	18.7	16.4	16.9
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	79.2	77.7	77.3	72.7	72.6	73.7	78.1	73.6	74.7
Implicit interest rate (nominal)	3.3	3.4	3.4	3.8	4.0	4.3	3.3	3.8	3.7
Real GDP growth	7.4	4.9	2.7	2.5	2.0	1.8	5.0	2.5	3.1
Gross financing needs	20.3	17.7	17.1	16.2	16.5	17.1	18.4	16.4	16.9

MALTA

Short-term risks: low. *Overall, the S0 indicator does not signal major short-term fiscal risks for Malta. Gross financing needs should decline in 2022, and sovereign financing conditions are expected to remain favourable, notably supported by the Eurosystem's interventions.*

Medium-term risks: high. *Over the medium term, fiscal sustainability risks are high overall, based on medium risks from the sustainability gap indicator S1 and high vulnerabilities from a debt sustainability analysis (DSA) perspective. Government debt, currently at 61% of GDP, is projected to increase steadily, reaching around 73% of GDP in 2032 in the baseline. The main driver of this assessment is the high initial deficit, with sensitivity to possible macro-fiscal shocks also contributing. Reverting to past fiscal positions would reduce risks.*

Long-term risks: high. *High risks from the sustainability gap indicator S2, combined with high vulnerabilities from the DSA, contribute to the overall long-term assessment. S2 captures challenges linked to budgetary pressures stemming from population ageing and to the high initial deficit.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, S0, is below its critical threshold, signalling no overall short-term vulnerabilities. However, the fiscal sub-index points to some short-term vulnerabilities, mainly because gross financing needs and the cyclically-adjusted and primary deficits are above their critical thresholds. Government financing needs are expected to decline to 13% of GDP in 2022, down from the peak reached in 2020-2021 (around 17% of GDP). Financing conditions should remain favourable, notably supported by the Eurosystem's interventions. Financial markets' perceptions of sovereign risk are positive, as confirmed by the CDS spread and the medium-grade 'A2/A-/A+' rating that the three major rating agencies assigned to Maltese government debt.

Medium-term fiscal sustainability risks: high

Overall medium-term fiscal sustainability risks appear to be high, based on the DSA and S1.

Debt sustainability analysis (DSA): high risk

The DSA points to high risk, based on the baseline – in particular the level of debt and its projected path – as well as stochastic simulations, and alternative and stress-test scenarios.

Baseline results: steady debt increase at unchanged policies

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with annual real GDP growth averaging 2.7% in 2024-2032. Under a 'no-fiscal-policy-change' assumption, the structural primary balance (SPB) is expected to remain constant (excluding changes in the cost of ageing) at its level forecast for 2023, namely -3.3% of GDP. Under these assumptions, government debt would steadily increase over the medium term, to reach around 73% of GDP in 2032. Yet, the projected SPB underpinning the baseline is very low by Maltese standards, indicating that the country has significant room for tighter positions ([85]). Government gross financing needs are projected to remain broadly stable over the next 10 years, at around 13% of GDP.

Stochastic simulations: risk of debt not stabilising by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance is performed, based on the historical volatility of the Maltese economy. These stochastic simulations point to a 76% probability of the debt ratio being greater in 2026 than in 2021. This entails a medium risk given the current

([85]) Based on available historical data, Malta recorded a SPB greater than -3.3% of GDP 81% of the time. This suggests that the country has room for manoeuvre to adjust its fiscal position to lower its debt ratio.

level of 61% of GDP. The uncertainty surrounding the baseline projections is contained, as can be seen from the debt distribution cone ([86]).

Alternative and stress-test scenarios: some vulnerabilities, but reverting to historical behaviour would reduce risks

Fiscal policy reverting to historical behaviour would reverse the upward trend of debt and therefore sizeably reduce the debt ratio. Indeed, if the SPB gradually converged to its historical average of the last 15 years (a surplus of 0.3% of GDP), by 2032 the debt ratio would be about 22 pps. of GDP lower than in the baseline, with debt starting to decline as from 2025.

Conversely, assuming a negative shock on the SPB would result in a much higher debt ratio by 2032. In particular, halving the projected reduction in the structural primary deficit in 2022-2023 compared to the baseline would push up debt by around 21 pps. of GDP by 2032. More adverse developments in interest rates than assumed under the baseline would have a more limited impact on the debt ratio, given its current value. In particular, an interest-growth rate differential permanently higher by 1 pp. than in the baseline would increase the debt ratio by about 5 pps. of GDP by 2032. Temporary (one-year) financial stress rising market interest rates by 1 pp. in 2022 would only marginally increase the debt ratio over the medium term.

S1 indicator: medium risk

The S1 indicator shows that, compared to the baseline, the SPB would need to improve by 1.8 pps. of GDP cumulatively over 5 years, to bring the debt ratio to the reference value of 60% by 2038. This would bring the SPB to -1.4% of GDP, which appears plausible by historical Maltese standards. ([87]) The significant value of S1 is mainly due to the unfavourable initial budgetary position (contributing 1.5 pps. of GDP).

Long-term fiscal sustainability risks: high

Overall long-term fiscal sustainability risks appear to be high, based on S2 and the DSA.

S2 indicator: high risk

The S2 indicator shows that, relative to the baseline, the SPB would need to improve by 10.2 pps. of GDP to stabilise the debt ratio over the long term. This would bring the SPB to 6.9% of GDP, which is very ambitious by historical standards ([88]). The sustainability gap is driven by the projected increase in ageing costs (contributing 6.7 pps. of GDP) and the unfavourable initial budgetary position (contributing 3.5 pps.). The increase in ageing costs is primarily related to the expenditure on pensions (+3.1 pps. of GDP) as well as health care and long-term care expenditure, which contribute 2.3 pps. and 1.5 pps of GDP, respectively ([89]).

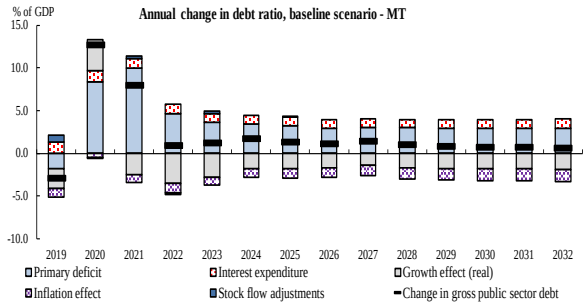
Additional mitigating and aggravating risk factors

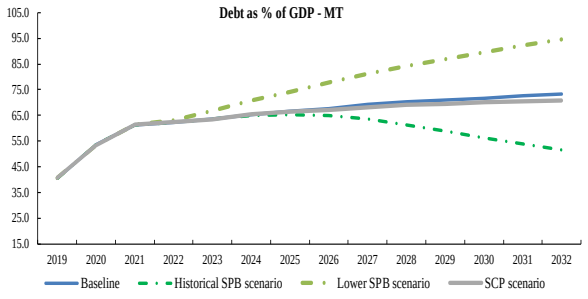
Several factors mitigate the risks. These include Malta's positive net international investment position, relatively stable financing sources (with a diversified and large investor base), the currency denomination of debt, and historically low borrowing costs supported by the Eurosystem's interventions. In 2020, 20% of government debt was held by the Eurosystem. On the other hand, several factors may aggravate sustainability risks. Despite a lengthening of debt maturity in recent years, the share of short-term debt remains above 10% of total debt. Some contingent liability risks stem from the private sector, including via the possible materialisation of state guarantees granted to firms and the self-employed during the COVID-19 crisis. However, this risk remains currently limited due to relatively low take-up so far. The share of non-performing loans is slightly higher than the EU average. Contingent liability risks stemming from the banking sector appear limited, based on the SYMBOL simulations.

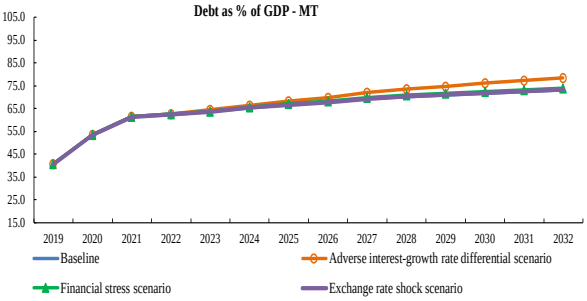
([86]) The difference between the 10th and 90th percentiles in 2026 is of around 28 pps. of GDP.
([87]) 56% of the SPBs recorded in Malta over the past were greater than the required value
([88]) Malta has never recorded such an SPB over the past decades.
([89]) Between 2019 and 2070, total ageing costs are estimated to increase by 8 pps. of GDP (among which public pension spending by 3.8 pps. of GDP, and health care and long-term care spending by 4.5 pps. of GDP together) – see 2021 Ageing Report.

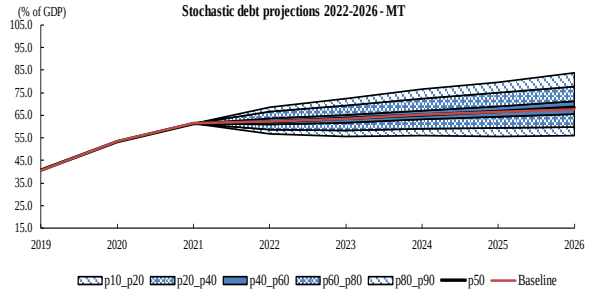
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

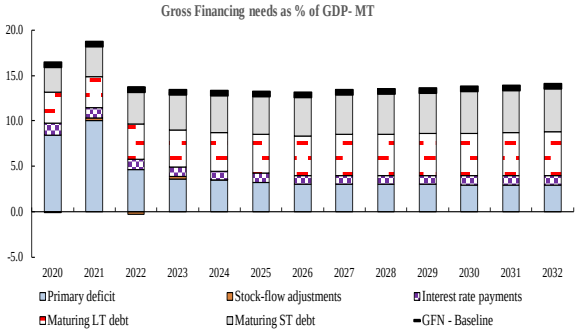
MT - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	**40.7**	**53.4**	**61.4**	**62.4**	**63.6**	**65.3**	**66.6**	**67.8**	**69.2**	**70.2**	**71.0**	**71.8**	**72.5**	**73.2**
Changes in the ratio (-1+2+3)	*-2.9*	*12.7*	*8.0*	*0.9*	*1.2*	*1.7*	*1.3*	*1.1*	*1.4*	*1.0*	*0.8*	*0.8*	*0.7*	*0.7*
of which														
(1) Primary balance (1.1+1.2+1.3)	**1.8**	**-8.4**	**-10.0**	**-4.7**	**-3.6**	**-3.5**	**-3.3**	**-3.0**	**-3.1**	**-3.0**	**-3.0**	**-3.0**	**-2.9**	**-3.0**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-0.9***	***-5.6***	***-8.0***	***-3.9***	***-3.3***	***-3.3***	***-3.3***	***-3.1***	***-3.1***	***-3.0***	***-3.0***	***-3.0***	***-2.9***	***-3.0***
(1.1.1) Structural primary balance (bef. CoA)	*-0.9*	*-5.6*	*-8.0*	*-3.9*	*-3.3*	*-3.3*	*-3.3*	*-3.3*	*-3.3*	*-3.3*	*-3.3*	*-3.3*	*-3.3*	*-3.3*
(1.1.2) Cost of ageing						*0.0*	*0.0*	*-0.2*	*-0.2*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.3*
(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*
(1.2) Cyclical component	***2.6***	***-2.8***	***-2.0***	***-0.8***	***-0.3***	***-0.2***	***0.0***	***0.1***	***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**	**4.4**	**-2.3**	**-3.5**	**-2.7**	**-1.8**	**-1.9**	**-1.8**	**-1.6**	**-2.0**	**-2.1**	**-2.2**	**-2.2**	**-2.3**
(2.1) Interest expenditure	*1.3*	*1.3*	*1.1*	*1.1*	*1.1*	*1.0*	*1.0*	*0.9*	*0.9*	*0.9*	*0.9*	*1.0*	*1.0*	*1.0*
(2.2) Growth effect	*-2.3*	*3.6*	*-2.5*	*-3.5*	*-2.8*	*-1.8*	*-1.8*	*-1.7*	*-1.4*	*-1.7*	*-1.8*	*-1.8*	*-1.8*	*-1.9*
(2.3) Inflation effect	*-1.0*	*-0.5*	*-0.9*	*-1.1*	*-0.9*	*-1.0*	*-1.1*	*-1.1*	*-1.2*	*-1.2*	*-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	**0.9**	**-0.1**	**0.3**	**-0.3**	**0.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*0.9*	*-0.1*	*0.3*	*-0.3*	*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	-2.2	-6.9	-9.1	-5.0	-4.3	-4.3	-4.3	-4.0	-4.0	-4.0	-3.9	-3.9	-3.9	-4.0
Gross financing needs	5.4	16.2	18.4	13.4	13.1	13.0	12.9	12.9	13.1	13.2	13.3	13.5	13.6	13.7

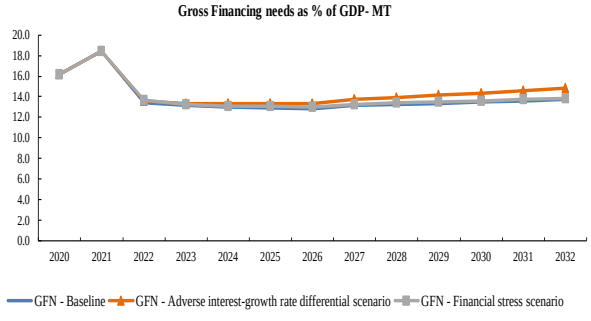












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)							DSA	S2	Long term
				Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
LOW (S0 = 0.3)	HIGH	MEDIUM (S1 = 1.8)	Risk category	MEDIUM	LOW	MEDIUM	MEDIUM	HIGH	LOW	HIGH	HIGH (S2 = 10.2)	HIGH
			Debt level (2032)	73.2	51.5	78.4	73.9	94.5				
			Debt peak year	2032	2025	2032	2032	2032				
			Percentile rank	80.7%	51.6%	80.7%	80.7%	98.9%				
			Probability debt higher						75.6%			
			Dif. between percentiles						27.6			

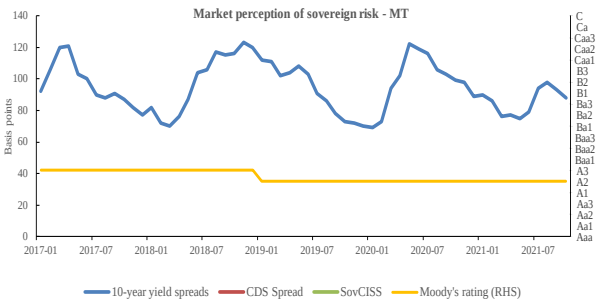
2.2. Sustainability indicators

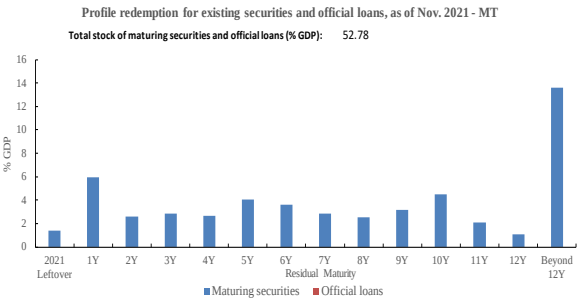
S0 indicator	2009	2021	Critical threshold
Overall index	**0.45**	**0.31**	**0.46**
Fiscal sub-index	0.20	0.45	0.36
Financial competitiveness sub-index	0.58	0.22	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**-3.5**	**1.8**	**2.0**	**2.6**
of which *Initial budgetary position*	*-2.9*	*1.5*	*1.6*	*1.6*
Cost of delaying adjustment	*-0.4*	*0.2*	*0.2*	*0.3*
Debt requirement	*-1.1*	*0.3*	*0.3*	*0.3*
Ageing costs	*0.9*	*-0.2*	*-0.1*	*0.5*
Required structural primary balance related to S1	**-1.6**	**-1.4**	**-1.3**	**-0.7**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**4.6**	**10.2**	**10.2**	**13.7**
of which Initial Budgetary position	-1.7	3.5	3.6	3.5
Ageing costs	6.3	6.7	6.6	10.2
of which Pensions	*3.5*	*3.1*	*3.3*	*3.1*
Health care	*1.5*	*2.3*	*2.1*	*3.5*
Long-term care	*0.9*	*1.5*	*1.4*	*3.8*
Others	*0.4*	*-0.1*	*-0.2*	*-0.1*
Required structural primary balance related to S2	**6.5**	**6.9**	**6.9**	**10.4**

3. Financial information





Sovereign Ratings as of Nov. 2021, MT	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	A2			
S&P	A-	A-2	A-	A-2
Fitch	A+		A+	F1+

Sovereign yield spreads (bp)* - as of October 2021	10-year	88.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - MT (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	10.2	0.0	18.2

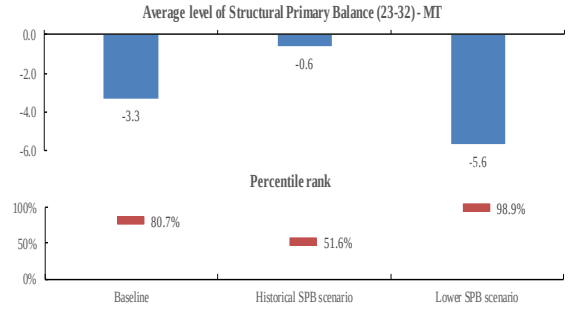
Net International Investment Position (IIP) - MT (2020)	Net IIP (% GDP):
	60.3

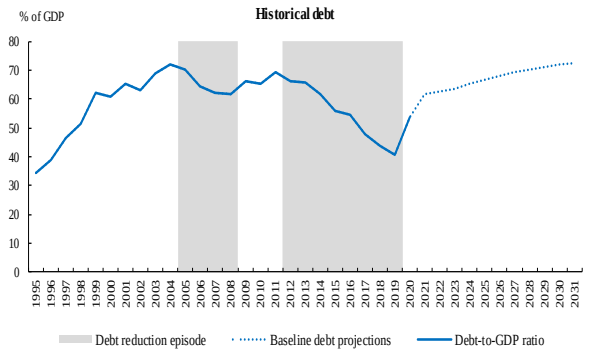
5. Risks related to government's contingent liabilities

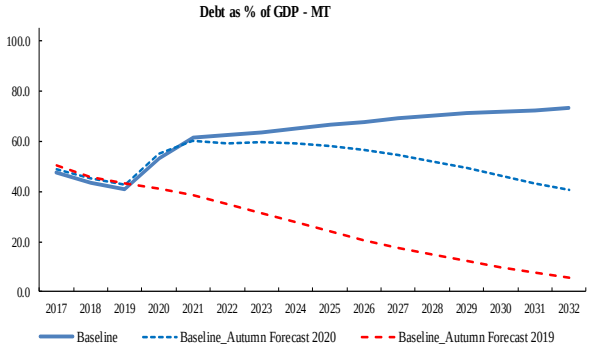
General government contingent liabilities		MT					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		13.2	8.9	8.2	7.0	8.9	8.1
of which One-off guarantees		*13.1*	*8.8*	*8.1*	*6.9*	*8.9*	*7.1*
Standardised guarantees		*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.3*
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	n.a.	n.a.	n.a.	n.a.	n.a.	0.9
	Securities issued under liquidity schemes	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.	0.0
	Total	n.a.	n.a.	n.a.	n.a.	n.a.	0.9

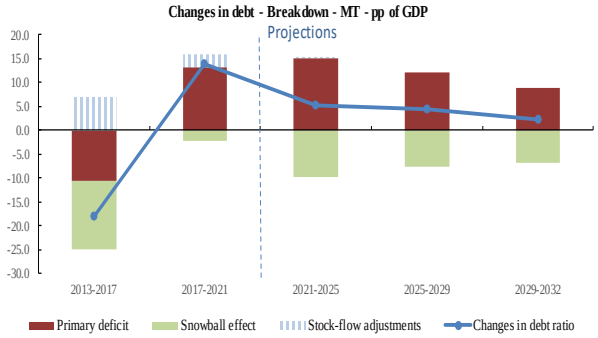
Government's contingent liability risks from banking sector - MT (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	9.0	3.4	54.0	3.2	-0.3	30.0	0.04%	0.39%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Malta	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	61.4	62.4	63.6	70.2	71.8	73.2	62.5	69.7	67.9
Primary balance	-10.0	-4.7	-3.6	-3.0	-3.0	-3.0	-6.1	-3.1	-3.8
Structural primary balance (before CoA)	-8.0	-3.9	-3.3	-3.3	-3.3	-3.3	-5.1	-3.3	-3.7
Real GDP growth	5.0	6.2	4.8	2.6	2.7	2.8	5.3	2.7	3.3
Potential GDP growth	3.1	3.4	3.8	2.6	2.7	2.8	3.4	2.6	2.8
Inflation rate	1.8	1.8	1.5	1.8	1.9	2.0	1.7	1.8	1.8
Implicit interest rate (nominal)	2.3	1.9	1.8	1.4	1.4	1.5	2.0	1.5	1.6
Gross financing needs	18.4	13.4	13.1	13.2	13.5	13.7	15.0	13.3	13.7
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	61.4	62.4	63.6	69.0	70.1	71.0	62.5	68.6	67.1
Primary balance	-10.0	-4.7	-3.7	-2.7	-2.7	-2.7	-6.1	-2.8	-3.6
Structural primary balance (before CoA)	-8.0	-3.9	-3.4	-3.0	-3.0	-3.0	-5.1	-3.0	-3.5
Real GDP growth	5.0	6.2	4.8	2.6	2.7	2.8	5.3	2.7	3.3
Gross financing needs	18.4	13.4	13.2	12.8	12.9	13.1	15.0	12.9	13.4
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	61.4	62.4	63.6	61.4	56.2	51.5	62.5	60.1	60.7
Primary balance	-10.0	-4.7	-3.6	0.0	0.6	0.6	-6.1	-0.4	-1.8
Structural primary balance (before CoA)	-8.0	-3.9	-3.3	0.3	0.3	0.3	-5.1	-0.3	-1.5
Real GDP growth	5.0	6.2	4.8	3.2	3.2	2.8	5.3	2.7	3.3
Gross financing needs	18.4	13.4	13.1	9.3	8.1	7.4	15.0	9.6	10.9
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	61.4	62.6	63.9	70.8	72.4	73.9	62.6	70.3	68.4
Implicit interest rate (nominal)	2.3	2.3	2.0	1.5	1.5	1.5	2.2	1.6	1.7
Gross financing needs	18.4	13.6	13.3	13.4	13.6	13.9	15.1	13.4	13.8
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	61.4	63.2	66.9	84.2	89.6	94.5	63.8	83.5	78.6
Primary balance	-10.0	-6.6	-5.5	-5.4	-5.3	-5.3	-7.4	-5.4	-5.9
Structural primary balance (before CoA)	-8.0	-6.8	-5.6	-5.6	-5.6	-5.6	-6.8	-5.6	-5.9
Real GDP growth	5.0	8.4	3.6	2.6	2.7	2.8	5.7	2.6	3.3
Gross financing needs	18.4	16.2	15.3	17.4	18.2	19.0	16.6	17.3	17.1
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	61.4	62.4	63.6	70.2	71.8	73.2	62.5	69.7	67.9
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	18.4	13.4	13.1	13.2	13.5	13.7	15.0	13.3	13.7
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	61.4	62.7	64.4	73.3	76.0	78.4	62.9	72.9	70.4
Implicit interest rate (nominal)	2.3	2.1	2.0	1.8	1.8	1.9	2.1	1.8	1.9
Real GDP growth	5.0	5.7	4.3	2.1	2.2	2.3	5.0	2.2	2.9
Gross financing needs	18.4	13.6	13.4	13.9	14.3	14.8	15.1	13.9	14.2

THE NETHERLANDS

Short-term risks: low. *Overall, the S0 indicator does not signal major short-term fiscal risks. Gross financing needs should decline after their surge in 2020-2021. Sovereign financing conditions are expected to remain favourable, notably supported by the Eurosystem's interventions.*

Medium-term risks: medium. *Over the medium term, fiscal sustainability risks appear to be medium overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, currently at 57% of GDP, is projected to rise, reaching close to 63% of GDP in 2032 in the baseline scenario. The sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

Long-term risks: medium. *Over the long term, medium risk from the sustainability gap indicator S2, combined with medium vulnerabilities from the DSA contribute to the overall assessment. The S2 indicator mainly captures risks linked to the unfavourable initial budgetary position and the projected increase in ageing costs.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling no overall short-term vulnerabilities. However, the fiscal sub-index points to some short-term vulnerabilities (due to gross financing needs, and to the primary and cyclically-adjusted deficits).

Government financing needs are expected to decline in the short term (about 12% of GDP in 2022), down from around 15½% of GDP 2020-21). Financing conditions should remain favourable, notably supported by the Eurosystem's interventions. Financial markets' perceptions of sovereign risk are positive, as confirmed by the CDS spread and the ratings that the three major rating agencies assigned to Dutch government debt.

Medium-term fiscal sustainability risks: medium

Debt Sustainability Analysis (DSA): medium risk

The DSA, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to a medium risk.

Baseline results: steady debt increase at unchanged policies

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with real GDP growth hovering around 0.6% over 2024-2032. Under a 'no-fiscal policy change' assumption, government debt would overall increase by 6.7 pps. between 2023 and 2032, when it would reach about 63%. These baseline assumptions assume a constant structural primary balance (SPB) before future ageing costs at the forecast deficit for 2023, namely -1.2% of GDP. Based on past fiscal performance, this value appears to be low. ([90]) Government gross financing needs are projected to slightly increase over the next 10 years, reaching around 15% of GDP in 2032.

Stochastic simulations: some vulnerabilities linked to significant uncertainty

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance is performed, based on the historical volatility of the Dutch economy. These stochastic simulations point to a 44% probability of the debt ratio in 2026 being greater than in 2021, entailing low risk given the current moderate level of 57% of GDP. In addition, such shocks point to significant uncertainty surrounding the baseline projections, as can be seen from the relatively wide debt distribution cone ([91]).

([90]) Based on available historical data, The Netherlands recorded a SPB greater than -1.2% of GDP in 92% of the cases. Therefore, the country has room to improve its fiscal position and curb the projected debt-to-GDP ratio.

([91]) The difference between the 10th and 90th percentile in 2026 is of around 28 pps. of GDP.

Alternative and stress-test scenarios: important vulnerabilities, but reverting to historical behaviour would reduce risks

Fiscal policy reverting to historical behaviour would bring a limited reduction of the debt ratio. Indeed, if the SPB gradually converged to its historical average over the last 15 years (a *surplus* of 0.2 pps. of GDP), in 2032 the debt ratio would be only about 8 pps. of GDP lower than in the baseline.

More adverse developments of the interest-growth rate differential than assumed under the baseline would have a non-negligible impact on the debt-GDP ratio, given its current significant value. A permanently higher 'r-g' differential (by 1 pp.) than in the baseline would entail a debt ratio in 2032 about 5 pps. of GDP higher than in the baseline.

If a temporary (one-year) episode of financial stress pushed up interest rates by 1 pp. in 2022, the 2032 debt projection would be some 0.6 pps. of GDP higher than in the baseline. If only half of the projected improvement in the SPB in 2022-2023 were to occur, the 2032 projected debt would be higher by more than 12 pps. of GDP relative to the baseline.

S1 indicator: medium risk

The S1 indicator shows that, compared to the baseline, the structural primary balance (SPB) would need to improve by 1.4 pps. of GDP, in cumulated terms over 5 years, to bring the debt-to-GDP ratio to the reference value of 60% by 2038. This corresponds to an SPB of 0.2% of GDP, which is not very ambitious by Dutch standards. ([92]) This significant value of S1 is mainly due to the projected age-related public spending (contribution by 1.5 pps. of GDP), slightly offset by the distance of the debt ratio from the 60% reference value (contribution of -0.3 pps. of GDP).

Long-term fiscal sustainability risks: medium

S2 indicator: medium risk

The S2 indicator shows that, relative to the baseline, the SPB would need to improve by 5.3 pps. of GDP to stabilise the debt-to-GDP ratio over the long term. Such adjustment would bring the SPB to 4.1% of GDP, which is very ambitious by Dutch standards. ([93]) This sustainability gap is driven by the projected increase of ageing costs (contribution of 3.8 pps. of GDP) and the unfavourable initial budgetary position (1.4 pps. of GDP). Ageing costs are primarily related to the projected increase of long-term care spending (contribution of 2.3 pps. of GDP) and public pension expenditure (contribution of 1.1 pps. of GDP) ([94]).

In sum, over the long term fiscal sustainability risks appear to be medium overall, based on the sustainability gap indicator S2 combined with the DSA risk assessment (see previous section).

Additional mitigating and aggravating risk factors

Several factors mitigate the risks. These include the lengthening of debt maturity in recent years, relatively stable financing sources (with a diversified and large investor base), the currency denomination of debt, and historically low borrowing costs notably supported by the Eurosystem's interventions. At the end of 2020, close to 27% of government debt was held by the Eurosystem. The large positive net international investment position helps mitigating vulnerabilities. Other factors contribute to aggravate risks. The ratio of short-term government debt (in total debt) appears non-negligible. Risk factors are also related to contingent liabilities stemming from the private sector, including via the possible materialisation of state guarantees granted to firms and self-employed during the COVID-19 crisis. However, this risk remains currently limited due to relatively low take-up so far. Contingent liability risks linked to the banking sector appear limited, though some risk is signalled under more a stressed scenario (based on the SYMBOL simulations).

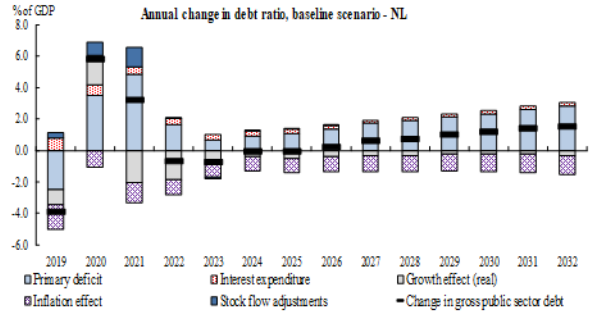
([92]) 74% of past Dutch SPBs were larger.

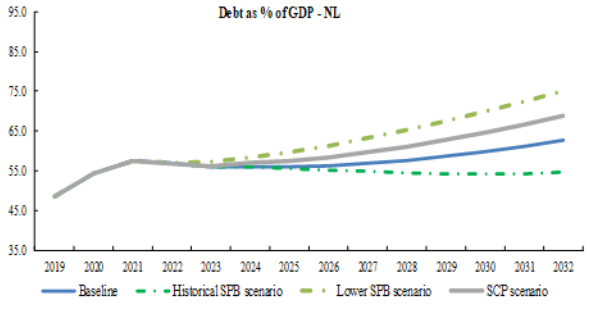
([93]) Such an SPB was never reached for the country over the past decades.

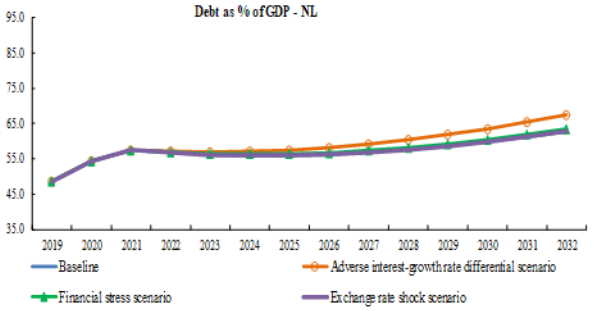
([94]) Between 2019 and 2070 total ageing costs are estimated to increase by 5.4 pps. of GDP (among which long-term care expenditure by 2.7 pps. of GDP and public pensions by 2.3 pps. of GDP) – see 2021 Ageing Report.

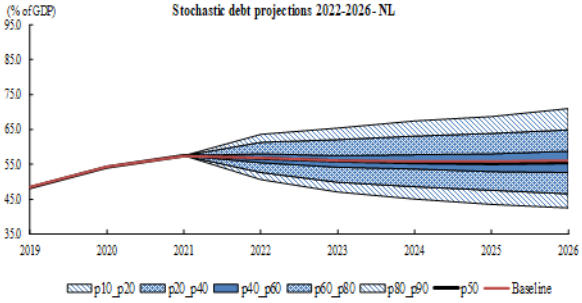
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

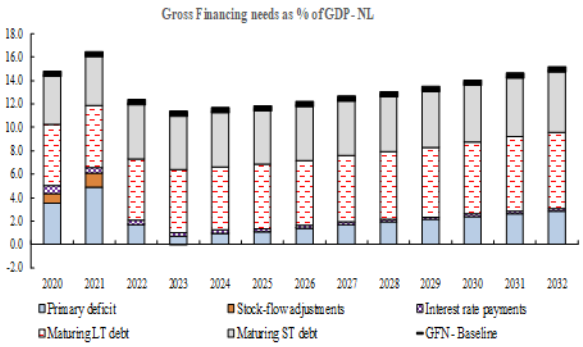
NL - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	48.5	54.3	57.5	56.8	56.1	56.0	56.0	56.2	56.8	57.6	58.6	59.8	61.3	62.8
Changes in the ratio (-1+2+3)	-3.9	5.8	3.2	-0.7	-0.8	-0.1	-0.1	0.2	0.6	0.8	1.0	1.2	1.4	1.5
of which														
(1) Primary balance (1.1+1.2+1.3)	2.5	-3.5	-4.8	-1.7	-0.7	-0.9	-1.1	-1.4	-1.7	-1.9	-2.1	-2.3	-2.6	-2.8
(1.1) Structural primary balance (1.1.1-1.1.2+1.1.3)	*1.5*	*-1.2*	*-3.9*	*-2.0*	*-1.2*	*-1.3*	*-1.4*	*-1.5*	*-1.7*	*-1.9*	*-2.1*	*-2.3*	*-2.6*	*-2.8*
(1.1.1) Structural primary balance (bef. CoA)	1.5	-1.2	-3.9	-2.0	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2
(1.1.2) Cost of ageing						0.1	0.2	0.4	0.7	0.9	1.2	1.5	1.8	2.0
(1.1.3) Others (taxes and property incomes)						0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.4	0.4
(1.2) Cyclical component	*0.8*	*-2.3*	*-0.8*	*0.4*	*0.5*	*0.3*	*0.3*	*0.2*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(1.3) One-off and other temporary measures	*0.2*	*0.0*	*-0.1*	*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)	-1.8	1.5	-2.9	-2.4	-1.4	-1.0	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.2	-1.3
(2.1) Interest expenditure	0.8	0.7	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.3
(2.2) Growth effect	-1.0	1.9	-2.0	-1.8	-0.9	-0.4	-0.5	-0.4	-0.4	-0.3	-0.2	-0.2	-0.2	-0.3
(2.3) Inflation effect	-1.5	-1.1	-1.3	-1.0	-0.8	-0.9	-0.9	-0.9	-1.0	-1.0	-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	0.3	0.9	1.2	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(3.1) Base	0.3	0.9	1.2	0.0	-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	0.7	-1.9	-4.4	-2.4	-1.5	-1.6	-1.7	-1.8	-1.9	-2.1	-2.3	-2.6	-2.8	-3.1
Gross financing needs	8.1	14.5	16.2	12.1	11.1	11.4	11.6	11.9	12.4	12.8	13.3	13.8	14.4	14.9

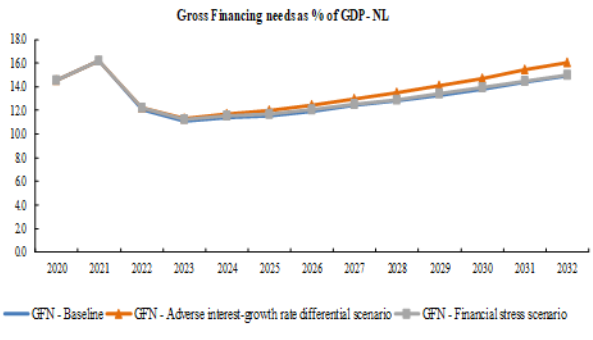












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
				Baseline	Historical SPB	Adverse r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	MEDIUM	LOW	MEDIUM	MEDIUM	MEDIUM	LOW			
			Debt level (2032)	62.8	54.7	67.5	63.4	75.2				
			Debt peak year	2032	2021	2032	2032	2032				
			Percentile rank	92.1%	83.3%	92.1%	92.1%	100.0%				
			Probability debt higher						43.7%			
			Dif. between percentiles						28.3			
LOW (S0 = 0.3)	MEDIUM	MEDIUM (S1 = 1.4)								MEDIUM	MEDIUM (S2 = 5.3)	MEDIUM

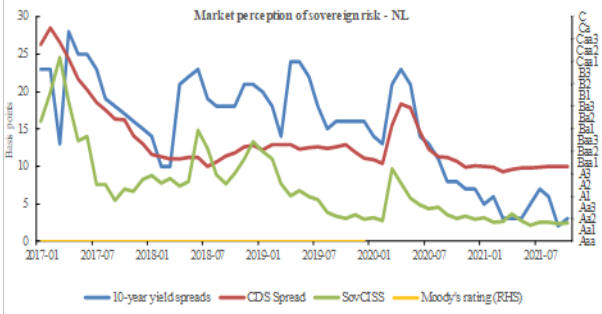
2.2. Sustainability indicators

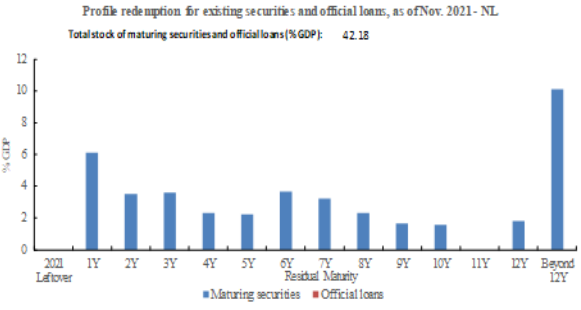
S0 indicator	2009	2021	Critical threshold
Overall index	**0.41**	**0.32**	**0.46**
Fiscal sub-index	0.57	0.37	0.36
Financial competitiveness sub-index	0.33	0.30	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**0.1**	**1.4**	**1.3**	**1.7**
of which *Initial budgetary position*	*-1.8*	*0.0*	*0.1*	*0.1*
Cost of delaying adjustment	*0.0*	*0.2*	*0.2*	*0.2*
Debt requirement	*0.3*	*-0.3*	*-0.3*	*-0.3*
Ageing costs	*1.6*	*1.5*	*1.4*	*1.8*
Required structural primary balance related to S1	**0.5**	**0.2**	**0.2**	**0.5**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**3.3**	**5.3**	**5.1**	**7.1**
of which Initial Budgetary position	0.3	1.4	1.5	1.5
Ageing costs	3.0	3.8	3.6	5.6
of which Pensions	*0.9*	*1.1*	*0.9*	*1.1*
Health care	*0.4*	*0.7*	*0.6*	*1.2*
Long-term care	*1.7*	*2.3*	*2.2*	*3.5*
Others	*0.0*	*-0.2*	*-0.2*	*-0.2*
Required structural primary balance related to S2	**3.7**	**4.1**	**3.9**	**5.9**

3. Financial information





Sovereign Ratings as of Nov. 2021, NL	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Aaau		Aaau	P-1u
S&P	AAAu	A-1+u	AAAu	A-1+u
Fitch	AAA		AAA	

Sovereign yield spreads (bp)* - as of October 2021	10-year	3.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - NL (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	14.7	0.0	37.8

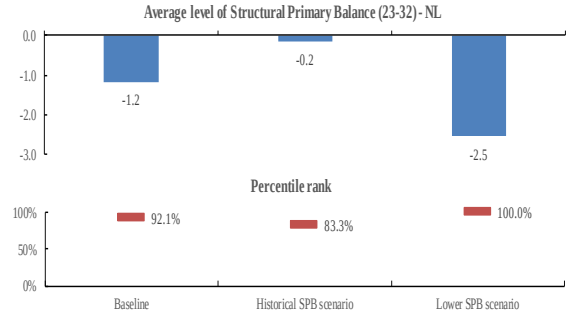
Net International Investment Position (IIP) - NL (2020)	Net IIP (% GDP):
	113.9

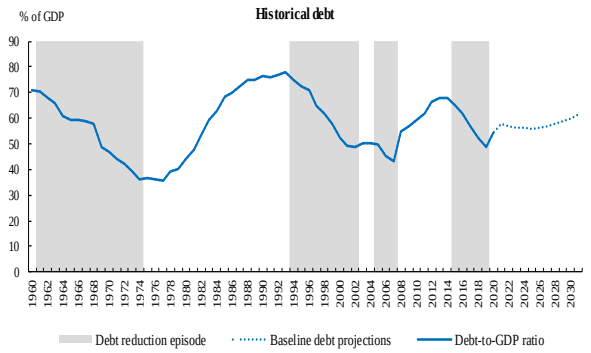
5. Risks related to government's contingent liabilities

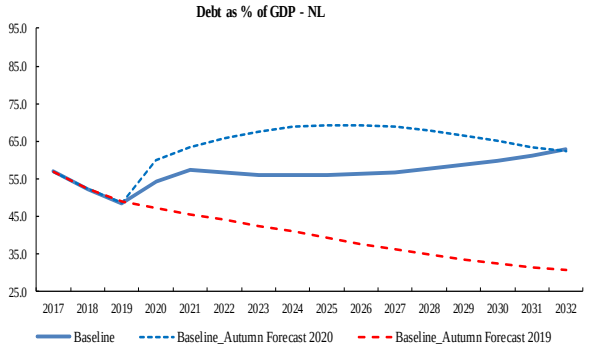
General government contingent liabilities		NL					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		3.6	3.4	3.2	3.0	5.9	8.1
of which One-off guarantees		*3.6*	*3.4*	*3.2*	*3.0*	*5.9*	*7.1*
Standardised guarantees		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.0	0.0	0.0	0.0	0.0	0.9
	Securities issued under liquidity schemes	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
	Total	0.0	0.0	0.0	0.0	0.0	0.9

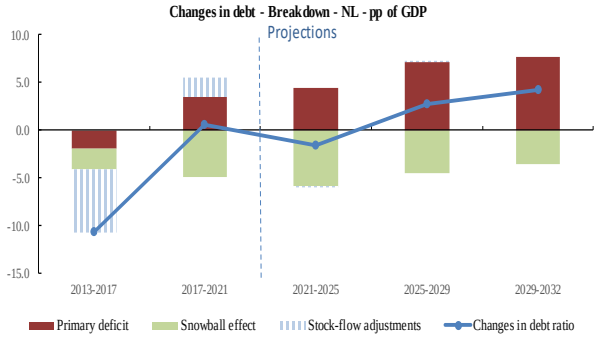
Government's contingent liability risks from banking sector - NL (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	-1.3	7.6	112.6	1.7	-0.3	26.4	0.08%	0.64%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Netherlands	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	57.5	56.8	56.1	57.6	59.8	62.8	56.8	58.4	58.0
Primary balance	-4.8	-1.7	-0.7	-1.9	-2.3	-2.8	-2.4	-1.9	-2.0
Structural primary balance (before CoA)	-3.9	-2.0	-1.2	-1.2	-1.2	-1.2	-2.4	-1.2	-1.5
Real GDP growth	4.0	3.3	1.6	0.6	0.4	0.6	3.0	0.6	1.2
Potential GDP growth	1.4	1.4	1.3	0.6	0.4	0.6	1.4	0.7	0.9
Inflation rate	2.4	1.7	1.5	1.8	1.9	2.0	1.9	1.8	1.8
Implicit interest rate (nominal)	0.9	0.7	0.6	0.4	0.4	0.4	0.8	0.4	0.5
Gross financing needs	16.2	12.1	11.1	12.8	13.8	14.9	13.1	12.9	13.0
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	57.5	56.8	56.2	61.2	64.7	68.8	56.9	61.9	60.6
Primary balance	-4.8	-1.7	-1.2	-2.6	-3.1	-3.5	-2.6	-2.5	-2.6
Structural primary balance (before CoA)	-3.9	-2.0	-2.1	-1.9	-1.9	-1.9	-2.7	-1.9	-2.1
Real GDP growth	4.0	3.3	2.3	0.6	0.4	0.6	3.2	0.5	1.2
Gross financing needs	16.2	12.1	11.6	14.1	15.3	16.7	13.3	14.2	14.0
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	57.5	56.8	56.1	54.5	54.2	54.7	56.8	54.9	55.4
Primary balance	-4.8	-1.7	-0.7	-0.8	-1.0	-1.5	-2.4	-0.9	-1.3
Structural primary balance (before CoA)	-3.9	-2.0	-1.2	0.2	0.2	0.2	-2.4	-0.1	-0.6
Real GDP growth	4.0	3.3	1.6	0.8	0.6	0.6	3.0	0.6	1.2
Gross financing needs	16.2	12.1	11.1	11.3	11.6	12.2	13.1	11.5	11.9
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	57.5	57.0	56.3	58.1	60.4	63.4	57.0	58.8	58.4
Implicit interest rate (nominal)	0.9	1.0	0.8	0.5	0.4	0.5	0.9	0.5	0.6
Gross financing needs	16.2	12.2	11.2	12.9	13.9	15.0	13.2	13.1	13.1
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	57.5	57.0	57.3	65.2	69.9	75.2	57.3	65.9	63.7
Primary balance	-4.8	-2.3	-1.6	-3.3	-3.7	-4.2	-2.9	-3.2	-3.1
Structural primary balance (before CoA)	-3.9	-3.2	-2.5	-2.5	-2.5	-2.5	-3.2	-2.5	-2.7
Real GDP growth	4.0	4.3	1.4	0.6	0.4	0.6	3.2	0.5	1.2
Gross financing needs	16.2	13.2	12.1	15.4	16.9	18.5	13.8	15.5	15.1
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	57.5	56.9	56.1	57.6	59.9	62.8	56.8	58.4	58.0
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	16.2	12.1	11.1	12.8	13.8	14.9	13.1	12.9	13.0
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	57.5	57.2	56.8	60.4	63.5	67.5	57.2	61.2	60.2
Implicit interest rate (nominal)	0.9	0.9	0.8	0.7	0.8	0.9	0.9	0.8	0.8
Real GDP growth	4.0	2.8	1.1	0.1	-0.1	0.1	2.6	0.1	0.7
Gross financing needs	16.2	12.2	11.3	13.5	14.7	16.1	13.2	13.7	13.6

AUSTRIA

Short-term risks: low. *No overall short-term vulnerabilities are identified for Austria, according to the S0 indicator. Gross financing needs should decline in the short term, and sovereign financing conditions are expected to remain favourable, notably supported by the Eurosystem's interventions.*

Medium-term risks: medium. *Over the medium term, fiscal sustainability risks appear to be medium overall, based on medium risk from the sustainability gap indicator S1 and low vulnerabilities from a debt sustainability analysis (DSA) perspective. Government debt, currently at 83% of GDP, is projected to decline over the projection horizon, reaching around 76% of GDP in 2032 in the baseline. The sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

Long-term risks: medium. *Medium risks from the sustainability gap indicator S2, combined with low vulnerabilities from the DSA contribute to the overall long-term assessment. The S2 indicator mainly captures risks linked to budgetary pressures stemming from population ageing.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling no overall short-term vulnerabilities. However, the fiscal sub-index points to some short-term vulnerabilities related to debt and the primary and cyclically-adjusted deficits, as these are above their critical thresholds.

Government financing needs are expected to decline in the short term, to about 12% of GDP in 2021-2022, from about 19% in 2020. Moreover, financing conditions should remain favourable, notably supported by the Eurosystem's interventions. Financial markets' perceptions of sovereign risk are positive, as confirmed by the CDS spread and the high-grade 'AA+/Aa1' rating that the three major rating agencies assigned to Austrian government debt.

Medium-term fiscal sustainability risks: medium

Overall medium-term fiscal sustainability risks appear to be medium, based on the DSA and S1.

Debt sustainability analysis (DSA): low risk

The DSA points to low risk, based on the baseline – in particular the level of debt and its projected path – as well as stochastic simulations, and alternative and stress-test scenarios.

Baseline results: debt overall declines at unchanged policies

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with annual real GDP growth averaging 1.2% in 2024-2032. Under a 'no-fiscal-policy-change' assumption, the structural primary balance (SPB) is assumed to remain constant (excluding changes in the cost of ageing) at its level forecast for 2023, namely -0.8% of GDP. Under these assumptions, government debt would overall decline over the projection period, to reach around 76% of GDP in 2032. Based on past fiscal performance, the assumed SPB underpinning the baseline appears low for the country ([95]). Government gross financing needs are projected to increase mildly over the next 10 years, reaching around 11% of GDP in 2032.

Stochastic simulations: low probability that debt will not stabilise by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the Austrian economy. These stochastic simulations point to a 26% probability of the debt ratio being greater in 2026 than in 2021. This entails a low risk given also the current level of 83% of GDP. Yet, the uncertainty

([95]) Based on available historical data, Austria recorded a SPB greater than -0.8% of GDP 94% of the time. This would suggest that the country has room for manoeuvre to adjust its fiscal position to further lower its debt ratio.

surrounding the baseline projections is not negligible, as can be seen from the relatively wide debt distribution cone ([96]).

Alternative and stress-test scenarios: limited vulnerabilities

Fiscal policy reverting to historical behaviour would bring a more sizeable reduction of the debt ratio. Indeed, if the SPB gradually converged to its historical average of the last 15 years (a surplus of 0.5% of GDP), the debt ratio would decline steadily and be about 7 pps. of GDP lower than in the baseline by 2032. Conversely, assuming a negative shock on the structural primary balance or on the interest-growth rate differential would result in a sizeably higher debt ratio by 2032. In particular, halving the adjustment in the SPB in 2021-2023 compared to the baseline would make the debt ratio increase from 2024 onwards, reaching in 2032 a level around 10 pps. of GDP higher than in the baseline. More adverse developments in the interest-growth rate differential would also have a noticeable impact on the debt ratio, given its current high value. An 'r-g' differential permanently 1 pp. higher than in the baseline would put the debt ratio on an upward trend as from 2027, reaching in 2032 a level about 6 pps. of GDP higher than in the baseline. Temporary (one-year) financial stress rising the interest rate by 1 pp. in 2022 would only marginally increase the 2032 debt projection, by some 0.6 pps. of GDP compared to the baseline.

S1 indicator: medium risk

The S1 indicator shows that, compared to the baseline, the SPB would need to improve by 2 pps. of GDP cumulatively over 5 years to bring the debt-to-GDP ratio to the reference value of 60% by 2038. This would bring the SPB to 1.2% of GDP, which is very ambitious by Austrian standards ([97]). The significant value of S1 is mainly due to the distance of debt from the 60% reference value and the projected increase in age-related spending (contributing 1.4 pps. and 1.3 pps. of GDP, respectively), partially offset by the favourable initial budgetary position (contributing -0.9 pp).

([96]) The difference between the 10th and 90th percentiles in 2026 is around 32 pps. of GDP.

([97]) Only 13% of the SPBs recorded in Austria over the past were greater than this value.

Long-term fiscal sustainability risks: medium

Overall long-term fiscal sustainability risks appear to be medium, based on S2 and the DSA.

S2 indicator: medium risk

S2 shows that, relative to the baseline, the SPB would need to improve by 3.5 pps. of GDP to stabilise the debt ratio over the long term. This would bring the SPB to 2.7% of GDP, which is very ambitious by historical standards ([98]). This sustainability gap is driven by the projected increase in ageing costs (contributing 2.6 pps. of GDP) and the unfavourable initial budgetary position (contributing 0.9 pp.). Ageing costs primarily relate to the projected increase in long-term care and health care expenditure (contributing 1.6 pps. and 1.0 pps of GDP, respectively) ([99]).

Additional mitigating and aggravating risk factors

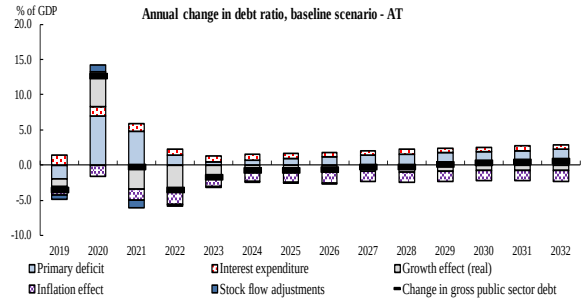
Several factors mitigate the risks. These include Austria's positive net international investment position, the currency denomination of debt and historically low borrowing costs notably supported by the Eurosystem's interventions. At the end of 2020, more than 20% of government debt was held by the Eurosystem. Several factors may however aggravate sustainability risks. Despite a lengthening of debt maturity in recent years, the share of short-term government debt remains close to 9% of total debt. Moreover, nearly two thirds of debt are held by non-residents. Some contingent liability risks stem from the private sector, including via the possible materialisation of sizeable state guarantees granted to firms and the self-employed during the COVID-19 crisis. However, this risk remains currently contained due to limited take-up so far. The share of non-performing loans remains relatively high, although contingent liability risks linked to the banking sector appear limited, based on SYMBOL simulations.

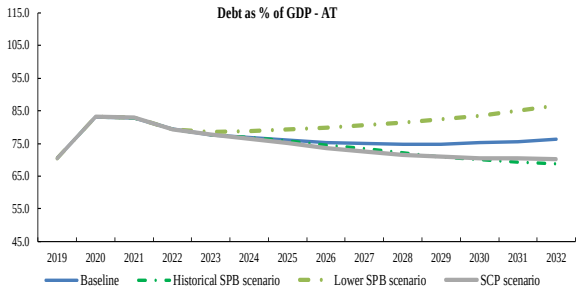
([98]) Austria has never recorded such an SPB over the past decades.

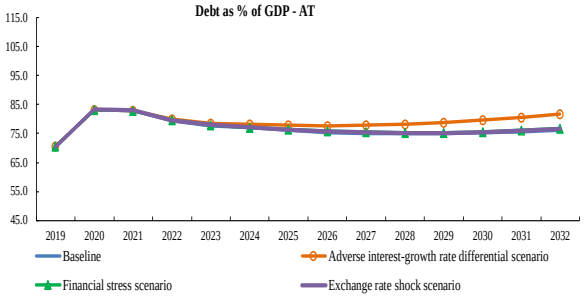
([99]) Between 2019 and 2070, total ageing costs are estimated to increase by 3.8 pps. of GDP (among which health care and long-term care spending by 3.0 pps. of GDP together) – see 2021 Ageing Report.

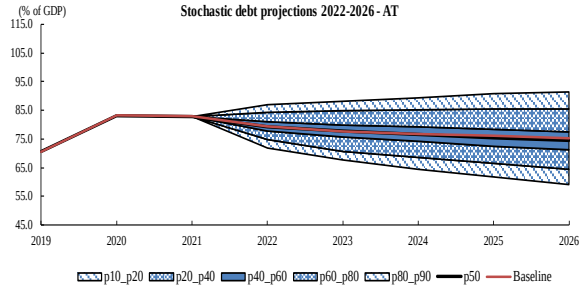
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

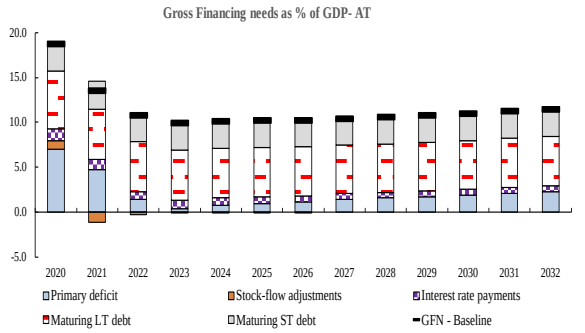
AT - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	**70.6**	**83.2**	**82.9**	**79.4**	**77.6**	**76.9**	**76.1**	**75.4**	**75.1**	**74.8**	**74.9**	**75.2**	**75.7**	**76.3**
Changes in the ratio (-1+2+3)	*-3.5*	*12.7*	*-0.3*	*-3.5*	*-1.7*	*-0.8*	*-0.8*	*-0.7*	*-0.3*	*-0.3*	*0.0*	*0.3*	*0.5*	*0.6*
of which														
(1) Primary balance (1.1+1.2+1.3)	**2.0**	**-7.0**	**-4.7**	**-1.4**	**-0.4**	**-0.7**	**-0.9**	**-1.1**	**-1.4**	**-1.6**	**-1.7**	**-1.9**	**-2.1**	**-2.2**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***0.9***	***-3.7***	***-3.1***	***-1.5***	***-0.8***	***-0.9***	***-1.0***	***-1.2***	***-1.4***	***-1.6***	***-1.7***	***-1.9***	***-2.1***	***-2.2***
(1.1.1) Structural primary balance (bef. CoA)	*0.9*	*-3.7*	*-3.1*	*-1.5*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*
(1.1.2) Cost of ageing						*0.1*	*0.3*	*0.5*	*0.6*	*0.8*	*1.0*	*1.2*	*1.3*	*1.5*
(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*
(1.2) Cyclical component	***1.2***	***-3.3***	***-1.7***	***0.2***	***0.4***	***0.2***	***0.1***	***0.1***	***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)	**-0.8**	**4.7**	**-3.8**	**-4.7**	**-2.1**	**-1.5**	**-1.7**	**-1.8**	**-1.7**	**-1.8**	**-1.7**	**-1.6**	**-1.6**	**-1.6**
(2.1) Interest expenditure	*1.4*	*1.3*	*1.1*	*0.9*	*0.9*	*0.8*	*0.8*	*0.7*	*0.7*	*0.7*	*0.6*	*0.6*	*0.6*	*0.6*
(2.2) Growth effect	*-1.1*	*5.0*	*-3.4*	*-3.8*	*-1.4*	*-0.8*	*-0.9*	*-1.0*	*-0.8*	*-1.0*	*-0.8*	*-0.8*	*-0.7*	*-0.8*
(2.3) Inflation effect	*-1.2*	*-1.6*	*-1.5*	*-1.8*	*-1.6*	*-1.6*	*-1.6*	*-1.5*	*-1.5*	*-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	**-0.6**	**1.0**	**-1.2**	**-0.3**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.7*	*1.0*	*-1.1*	*-0.3*	*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	*0.1*	*-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*
Pro memoria														
Structural balance	-0.5	-5.0	-4.2	-2.5	-1.7	-1.7	-1.8	-1.9	-2.1	-2.2	-2.4	-2.5	-2.7	-2.9
Gross financing needs	8.7	18.7	13.5	10.7	9.9	10.1	10.2	10.2	10.4	10.5	10.7	10.9	11.2	11.4

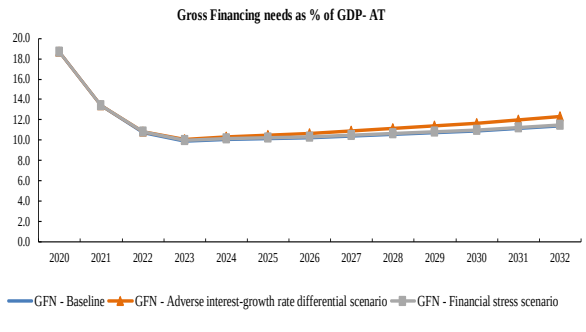












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
			Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	LOW	LOW	LOW	LOW	MEDIUM	LOW		
			Debt level (2032)	76.3	68.9	81.8	76.8	86.6			
			Debt peak year	2021	2021	2021	2021	2032			
			Percentile rank	94.4%	72.6%	94.4%	94.4%	97.5%			
			Probability debt higher						26.5%		
			Dif. between percentiles						32.3		
LOW (S0 = 0.2)	MEDIUM	MEDIUM (S1 = 2)							LOW	MEDIUM (S2 = 3.5)	MEDIUM

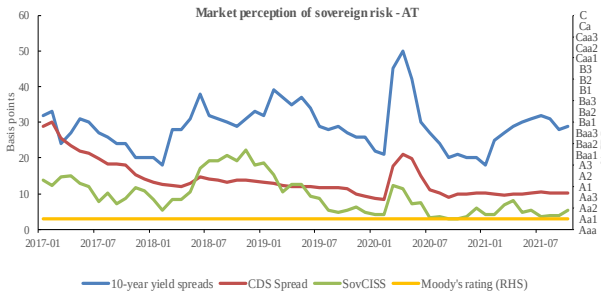
2.2. Sustainability indicators

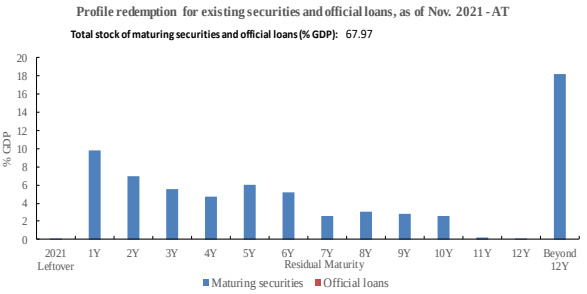
S0 indicator	2009	2021	Critical threshold
Overall index	**0.31**	**0.18**	**0.46**
Fiscal sub-index	0.64	0.41	0.36
Financial competitiveness sub-index	0.16	0.06	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**-0.3**	**2.0**	**2.0**	**2.4**
of which *Initial budgetary position*	*-2.9*	*-0.9*	*-0.8*	*-0.9*
Cost of delaying adjustment	*0.0*	*0.2*	*0.2*	*0.3*
Debt requirement	*1.4*	*1.4*	*1.4*	*1.4*
Ageing costs	*1.2*	*1.3*	*1.3*	*1.6*
Required structural primary balance related to S1	**0.8**	**1.2**	**1.3**	**1.6**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**2.4**	**3.5**	**3.9**	**5.3**
of which Initial Budgetary position	-0.6	0.9	1.0	1.0
Ageing costs	3.0	2.6	2.9	4.3
of which Pensions	*0.0*	*-0.1*	*0.4*	*0.0*
Health care	*1.0*	*1.0*	*1.0*	*1.8*
Long-term care	*1.6*	*1.6*	*1.6*	*2.5*
Others	*0.3*	*0.0*	*0.0*	*0.0*
Required structural primary balance related to S2	**3.5**	**2.7**	**3.1**	**4.6**

3. Financial information





Sovereign Ratings as of Nov. 2021, AT	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Aa1		Aa1	P-1
S&P	AA+	A-1+	AA+	A-1+
Fitch	AA+		AA+	F1+

Sovereign yield spreads (bp)* - as of October 2021	10-year	29.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - AT (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	8.9	0.4	63.7

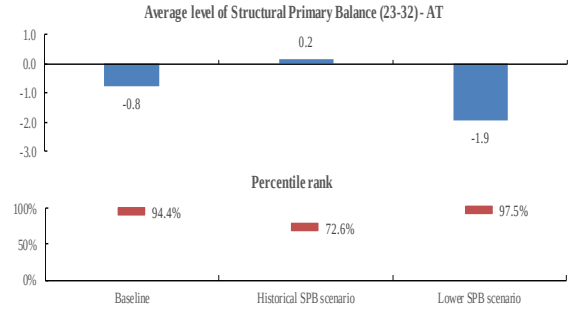
Net International Investment Position (IIP) - AT (2020)	Net IIP (% GDP):
	9.3

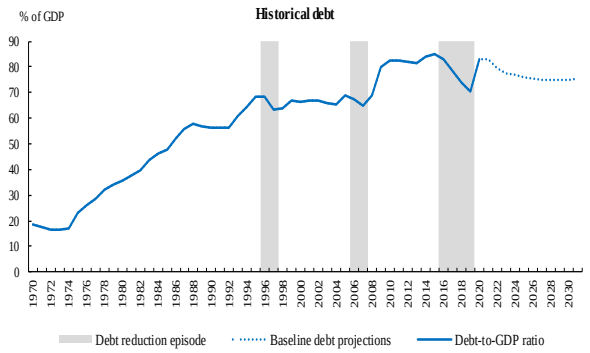
5. Risks related to government's contingent liabilities

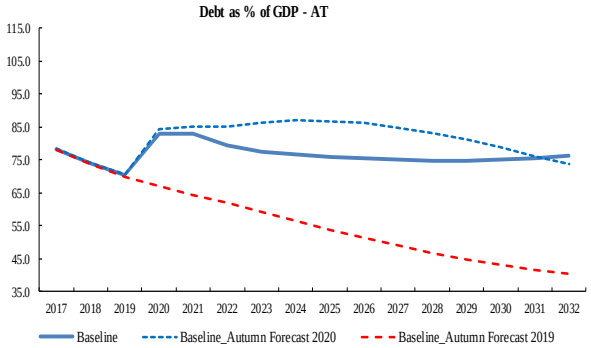
General government contingent liabilities		AT					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		17.2	16.3	16.3	16.1	19.1	8.1
of which One-off guarantees		*17.2*	*16.3*	*16.3*	*16.1*	*19.1*	*7.1*
Standardised guarantees		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.3*
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.5	0.0	0.0	0.0	0.0	0.9
	Securities issued under liquidity schemes	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
	Total	0.5	0.0	0.0	0.0	0.0	0.9

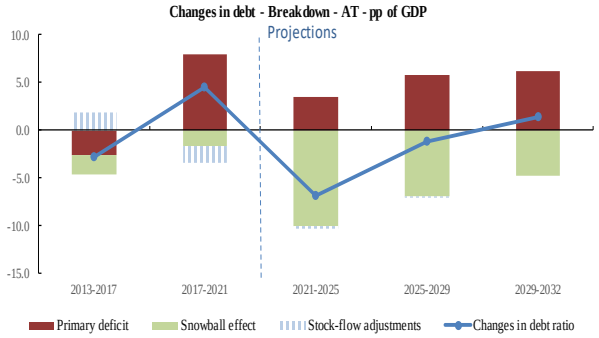
Government's contingent liability risks from banking sector - AT (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of govt cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	4.7	7.7	94.9	1.9	-0.1	50.9	0.02%	0.38%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Austria	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	82.9	79.4	77.6	74.8	75.2	76.3	80.0	75.6	76.7
Primary balance	-4.7	-1.4	-0.4	-1.6	-1.9	-2.2	-2.2	-1.5	-1.7
Structural primary balance (before CoA)	-3.1	-1.5	-0.8	-0.8	-0.8	-0.8	-1.8	-0.8	-1.0
Real GDP growth	4.4	4.9	1.9	1.4	1.0	1.1	3.7	1.2	1.8
Potential GDP growth	1.3	1.5	1.6	1.4	1.0	1.1	1.5	1.2	1.3
Inflation rate	1.8	2.2	2.1	2.0	2.0	2.0	2.1	2.0	2.0
Implicit interest rate (nominal)	1.4	1.2	1.2	0.9	0.9	0.9	1.3	0.9	1.0
Gross financing needs	13.5	10.7	9.9	10.5	10.9	11.4	11.4	10.6	10.8
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	82.9	79.4	77.6	71.5	70.5	70.3	80.0	72.4	74.3
Primary balance	-4.7	-1.4	-0.2	-0.8	-1.1	-1.5	-2.1	-0.8	-1.1
Structural primary balance (before CoA)	-3.1	-1.5	-0.4	0.0	0.0	0.0	-1.7	0.0	-0.4
Real GDP growth	4.4	4.9	1.6	1.4	1.0	1.1	3.6	1.2	1.8
Gross financing needs	13.5	10.7	9.7	9.5	9.7	10.0	11.3	9.6	10.0
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	82.9	79.4	77.6	72.1	70.0	68.9	80.0	72.4	74.3
Primary balance	-4.7	-1.4	-0.4	-0.5	-0.7	-1.0	-2.2	-0.6	-1.0
Structural primary balance (before CoA)	-3.1	-1.5	-0.8	0.5	0.5	0.5	-1.8	0.3	-0.3
Real GDP growth	4.4	4.9	1.9	1.5	1.2	1.1	3.7	1.2	1.8
Gross financing needs	13.5	10.7	9.9	9.3	9.2	9.4	11.4	9.5	9.9
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	82.9	79.5	77.9	75.3	75.7	76.8	80.1	76.0	77.1
Implicit interest rate (nominal)	1.4	1.4	1.3	1.0	0.9	0.9	1.4	1.0	1.1
Gross financing needs	13.5	10.8	10.0	10.6	11.0	11.5	11.4	10.7	10.9
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	82.9	79.4	78.6	81.3	83.6	86.6	80.3	81.9	81.5
Primary balance	-4.7	-1.9	-1.2	-2.7	-3.1	-3.4	-2.6	-2.6	-2.6
Structural primary balance (before CoA)	-3.1	-2.5	-1.9	-1.9	-1.9	-1.9	-2.5	-1.9	-2.1
Real GDP growth	4.4	5.6	1.8	1.4	1.0	1.1	3.9	1.1	1.8
Gross financing needs	13.5	11.6	10.7	12.4	13.0	13.7	11.9	12.4	12.3
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	82.9	79.5	77.9	75.1	75.4	76.5	80.1	75.9	76.9
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	13.5	10.7	9.9	10.6	11.0	11.5	11.4	10.7	10.8
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	82.9	79.8	78.5	78.2	79.6	81.8	80.4	79.0	79.3
Implicit interest rate (nominal)	1.4	1.3	1.3	1.2	1.2	1.2	1.4	1.2	1.2
Real GDP growth	4.4	4.4	1.4	0.9	0.5	0.6	3.4	0.7	1.3
Gross financing needs	13.5	10.8	10.1	11.1	11.7	12.3	11.5	11.2	11.3

POLAND

Short-term risks: low. *No overall short-term vulnerabilities are identified for Poland, according to the S0 indicator. Gross financing needs should decline in the short term.*

Medium-term risks: low. *Over the medium term, fiscal sustainability risks are low overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. In the baseline, debt — currently at 55% of GDP — is projected to remain at a relatively low level despite a rebound as from 2027, staying below 50% of GDP in 2032. The low sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

Long-term risks: medium. *Medium risks from the sustainability gap indicator S2, combined with low vulnerabilities from the DSA, contribute to the overall long-term assessment. S2 captures challenges linked to budgetary pressures stemming from population ageing and the high initial structural deficit.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, not signalling overall short-term vulnerabilities. Both the fiscal and financial-competitiveness sub-indices are also below their critical thresholds.

Government financing needs are expected to decline to about 7% of GDP in 2021-2022, down from about 16% in 2020. Financial markets' perceptions of sovereign risk are overall positive, as confirmed by the CDS spread and the medium-grade 'A2/A/A-' rating assigned by the three major rating agencies to Polish government debt, although government yield spreads have recently noticeably increased.

Medium-term fiscal sustainability risks: low

Overall medium-term fiscal sustainability risks appear to be low, based on the DSA and S1.

Debt sustainability analysis (DSA): low risk

The DSA points to low risk, based on the baseline – in particular the level of debt and its projected path – as well as stochastic simulations, and alternative and stress-test scenarios.

Baseline results: steady debt increase

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with annual real GDP growth averaging 2.8% in 2024-2032. Under a 'no-fiscal-policy-change' assumption, the structural primary balance (SPB) is expected to remain constant (excluding changes in the cost of ageing) at its level forecast for 2023, namely -1.4% of GDP. Under these assumptions, government debt would decline until 2026 before increasing again, to reach around 48% of GDP in 2032. Based on past fiscal performance, the assumed SPB underpinning the baseline appears plausible for the country ([100]). Government gross financing needs are projected to remain broadly stable over the next 10 years, at around 7% of GDP.

Stochastic simulations: low probability that debt will not stabilise by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the Polish economy. These stochastic simulations point to a 14% probability of the debt ratio being greater in 2026 than in 2021. This entails a low risk, given also the current level of 55% of GDP and the limited uncertainty surrounding the baseline projections, as can be seen from the relatively narrow debt distribution cone ([101]).

([100]) Based on available historical data, Poland recorded a SPB greater than -1.4% of GDP 69% of the time.
([101]) The difference between the 10th and 90th percentiles in 2026 is around 18 pps. of GDP.

Alternative and stress-test scenarios: limited vulnerabilities

Various alternative scenarios confirm the dynamics envisaged in the baseline. All point to the prospect of a debt ratio declining until 2026 before rebounding to a narrow range of 48% to 52% of GDP in 2032. In particular, as the SPB envisaged in the baseline is slightly above Poland's historical average of the last 15 years (a deficit of 1.9 % of GDP), reverting to historical behaviour would slightly increase the debt ratio compared to the baseline, by about 3 pps. of GDP by 2032. Similarly, given the limited fiscal consolidation expected by 2023, halving the forecast consolidation would increase the 2032 debt level by less than 2 pps. of GDP. A permanent adverse shock on the interest-growth rate differential – increasing the 'r-g' differential by 1 pp. compared to the baseline – would push up the debt ratio by about 3 pps. of GDP by 2032. Finally, temporary (one-year) financial stress rising market interest rates by 1 pp. in 2022, the 2032 debt projection would not change significantly ([102]).

S1 indicator: low risk

The S1 indicator shows that, compared to the baseline, no additional fiscal effort would be needed to bring the debt ratio to the reference value of 60% by 2038. On the contrary, the indicator's negative value of -0.6 pp. of GDP suggests that the country could potentially let its structural primary deficit widen somewhat without breaching the 60% threshold. This S1 value is mainly related to the fact that the initial debt ratio is below 60% (contributing -0.8 pp. of GDP), which more than offsets the projected increase in ageing costs (contributing 0.2 pp. of GDP).

Long-term fiscal sustainability risks: medium

Overall long-term fiscal sustainability risks appear to be medium, based on S2 and the DSA.

([102]) In the case of Poland, this scenario has already materialised, as the central bank raised its interest rates cumulatively by 1 pp. in January and February 2022.

S2 indicator: medium risk

The S2 indicator shows that, relative to the baseline, the SPB would need to improve by 3.5 pps. of GDP to stabilise the debt ratio over the long term. This would bring the SPB to 2.1% of GDP, which is very ambitious by historical standards ([103]). This sustainability gap is equally driven by the projected increase in ageing costs and by the unfavourable initial budgetary position (each contributing about 1.7 pps. of GDP). The increase in ageing costs is driven by health care and long-term care spending (each contributing 1.3 pps.), partially offset by a decline in expenditure on public pensions (-0.9 pp.) ([104]).

Additional mitigating and aggravating risk factors

Several factors mitigate the risks. These include the lengthening of debt maturity in recent years, relatively stable financing sources (with a diversified investor base) and the currency denomination of debt.

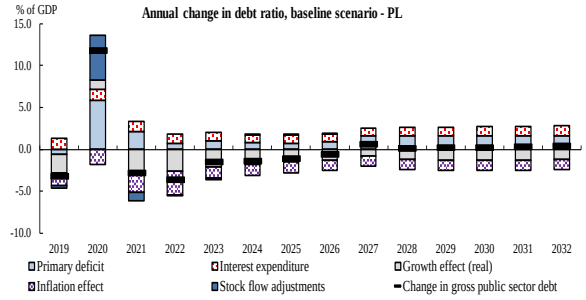
On the other hand, several factors may aggravate sustainability risks. In particular, the share of non-performing loans is non-negligible and has slightly increased, nevertheless contingent liability risks stemming from the banking sector appear limited, based on SYMBOL simulations. State guarantees granted to firms and the self-employed during the COVID-19 were limited and do not result in major contingent liability risks. Poland's negative net international investment position is a limited source of vulnerability, especially as it has recently improved.

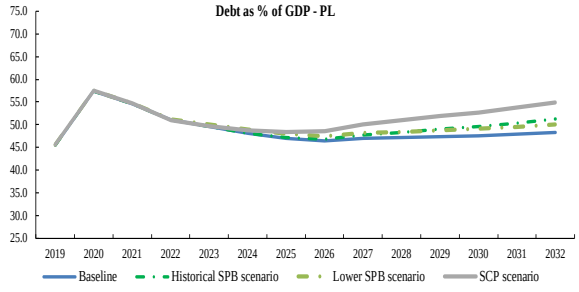
([103]) Poland has never recorded such an SPB over the past decades.

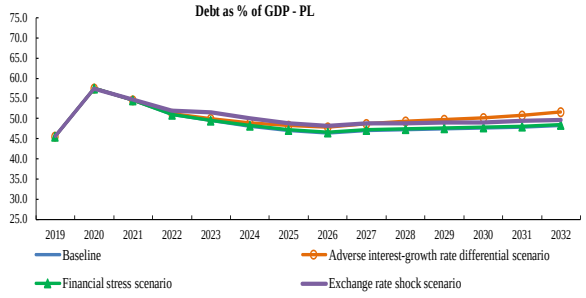
([104]) Between 2019 and 2070, total ageing costs are estimated to increase by 4.0 pps. of GDP (of which health care spending by 2.6 pps. of GDP and long-term care spending by 1.6 pps. of GDP) – see 2021 Ageing Report. Note that the estimate of falling future expenditure on pensions is based on an assumption of a strong decline in the pension replacement rate.

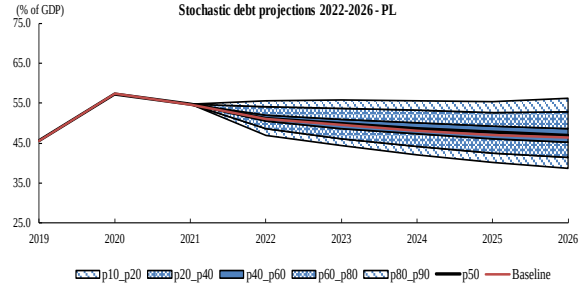
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

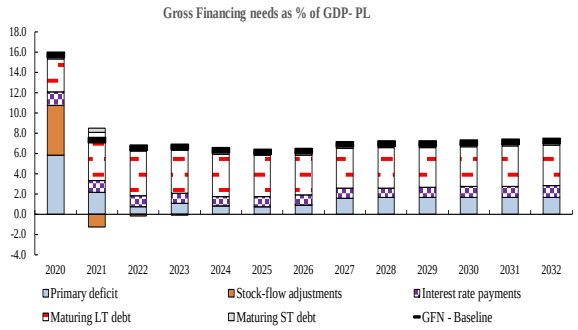
PL - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	**45.6**	**57.4**	**54.7**	**51.0**	**49.5**	**48.2**	**47.1**	**46.5**	**47.1**	**47.2**	**47.4**	**47.6**	**47.9**	**48.3**
Changes in the ratio (-1+2+3)	*-3.2*	*11.8*	*-2.8*	*-3.6*	*-1.5*	*-1.3*	*-1.1*	*-0.6*	*0.6*	*0.1*	*0.2*	*0.2*	*0.3*	*0.4*
of which														
(1) Primary balance (1.1+1.2+1.3)	**0.6**	**-5.8**	**-2.2**	**-0.8**	**-1.1**	**-0.8**	**-0.8**	**-0.9**	**-1.6**	**-1.6**	**-1.6**	**-1.7**	**-1.7**	**-1.7**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-1.0***	***-4.8***	***-1.7***	***-1.0***	***-1.4***	***-1.4***	***-1.5***	***-1.6***	***-1.6***	***-1.6***	***-1.6***	***-1.7***	***-1.7***	***-1.7***
(1.1.1) Structural primary balance (bef. CoA)	*-1.0*	*-4.8*	*-1.7*	*-1.0*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*	*-1.4*
(1.1.2) Cost of ageing						*0.0*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.0*	*0.0*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*
(1.2) Cyclical component	***1.6***	***-1.2***	***-0.7***	***0.0***	***0.3***	***0.6***	***0.7***	***0.6***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***	***0.0***
(1.3) One-off and other temporary measures	***0.0***	***0.3***	***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)	**-2.3**	**0.7**	**-4.0**	**-4.3**	**-2.5**	**-2.1**	**-1.8**	**-1.6**	**-1.0**	**-1.5**	**-1.5**	**-1.5**	**-1.4**	**-1.2**
(2.1) Interest expenditure	*1.4*	*1.3*	*1.1*	*1.0*	*1.0*	*1.0*	*0.9*	*0.9*	*0.9*	*1.0*	*1.0*	*1.0*	*1.1*	*1.1*
(2.2) Growth effect	*-2.1*	*1.1*	*-2.6*	*-2.6*	*-2.1*	*-1.8*	*-1.5*	*-1.3*	*-0.7*	*-1.2*	*-1.2*	*-1.3*	*-1.3*	*-1.2*
(2.3) Inflation effect	*-1.5*	*-1.8*	*-2.6*	*-2.8*	*-1.4*	*-1.3*	*-1.3*	*-1.2*	*-1.2*	*-1.2*	*-1.2*	*-1.2*	*-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	**-0.3**	**5.3**	**-0.9**	**-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	*-0.5*	*4.9*	*-1.2*	*-0.2*	*-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	*0.2*	*0.4*	*0.3*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	-2.4	-6.2	-2.9	-2.1	-2.4	-2.4	-2.4	-2.5	-2.5	-2.6	-2.6	-2.7	-2.8	-2.8
Gross financing needs	4.6	15.7	7.3	6.5	6.6	6.3	6.1	6.2	6.9	6.9	7.0	7.0	7.1	7.2

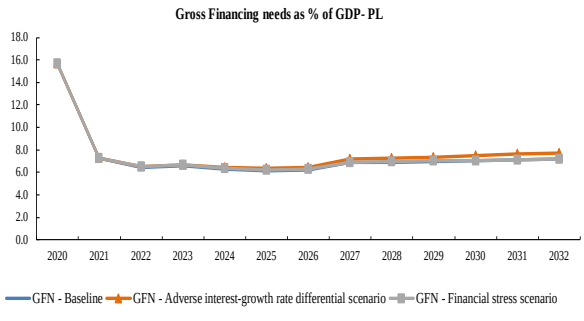












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
			Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	LOW	LOW	LOW	LOW	LOW	LOW		
LOW (S0 = 0.2)	LOW	LOW (S1 = -0.6)	Debt level (2032)	48.3	51.2	51.7	48.6	50.0		LOW	MEDIUM (S2 = 3.5)	MEDIUM
			Debt peak year	2021	2021	2021	2021	2021				
			Percentile rank	69.0%	75.3%	69.0%	69.0%	69.9%				
			Probability debt higher						14.1%			
			Dif. between percentiles						17.5			

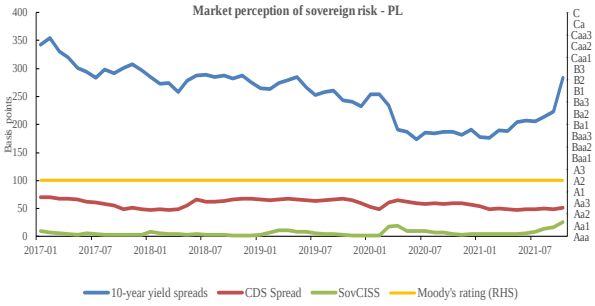
2.2. Sustainability indicators

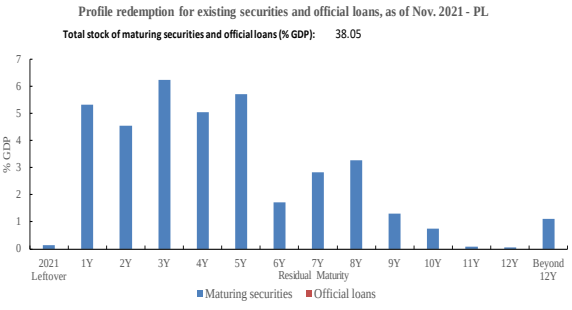
S0 indicator	2009	2021	Critical threshold
Overall index	**0.55**	**0.22**	**0.46**
Fiscal sub-index	0.22	0.22	0.36
Financial competitiveness sub-index	0.73	0.22	0.49

S1 indicator	2020 DSM	2021 FSR		
		Baseline	Lower TFP growth	AWG risk scenario
Overall index	**-1.6**	**-0.6**	**-0.3**	**0.4**
of which *Initial budgetary position*	*-1.0*	*0.1*	*0.2*	*0.1*
Cost of delaying adjustment	*-0.2*	*-0.1*	*0.0*	*0.0*
Debt requirement	*-0.5*	*-0.8*	*-0.8*	*-0.8*
Ageing costs	*0.1*	*0.2*	*0.3*	*1.0*
Required structural primary balance related to S1	**-1.9**	**-2.0**	**-1.7**	**-1.0**

S2 indicator	2020 DSM	2021 FSR		
		Baseline	Lower TFP growth	AWG risk scenario
Overall index	**1.6**	**3.5**	**3.7**	**8.1**
of which Initial Budgetary position	0.6	1.7	1.8	1.8
Ageing costs	1.0	1.8	1.9	6.3
of which Pensions	*-0.9*	*-0.9*	*-0.6*	*-0.9*
Health care	*0.7*	*1.3*	*1.3*	*2.7*
Long-term care	*0.7*	*1.3*	*1.2*	*4.5*
Others	*0.5*	*0.0*	*0.0*	*0.0*
Required structural primary balance related to S2	**1.2**	**2.1**	**2.3**	**6.7**

3. Financial information





Sovereign Ratings as of Nov. 2021, PL	Local currency		Foreign currency	
	long term	short term	long term	short term
Moody's	A2	P-1	A2	P-1
S&P	A	A-1	A-	A-2
Fitch	A-		A-	

Sovereign yield spreads (bp)* - as of October 2021	10-year	284.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - PL (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	1.8	23.4	34.5

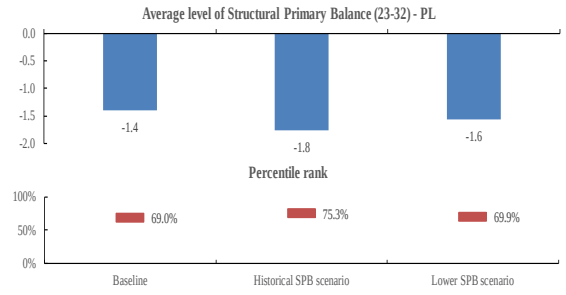
Net International Investment Position (IIP) PL (2020)	Net IIP (% GDP):
	-44.5

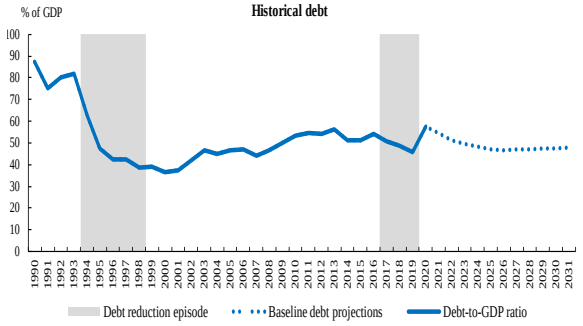
5. Risks related to government's contingent liabilities

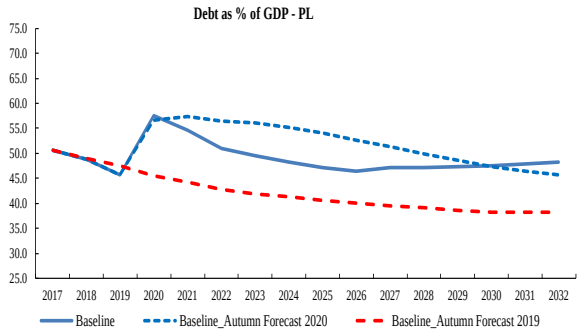
General government contingent liabilities		PL					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		1.7	1.4	1.3	1.2	2.2	8.1
of which	*One-off guarantees*	*1.0*	*0.7*	*0.7*	*0.6*	*1.0*	*7.1*
	Standardised guarantees	*0.7*	*0.7*	*0.6*	*0.6*	*1.2*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	n.a.	n.a.	n.a.	n.a.	n.a.	0.9
	Securities issued under liquidity schemes	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.	0.0
	Total	n.a.	n.a.	n.a.	n.a.	n.a.	0.9

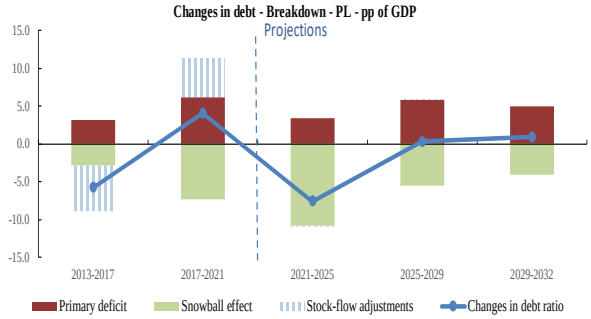
Government's contingent liability risks from banking sector - PL (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	1.5	10.5	83.7	5.2	0.3	59.8	0.00%	0.14%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Poland	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	54.7	51.0	49.5	47.2	47.6	48.3	51.7	47.5	48.5
Primary balance	-2.2	-0.8	-1.1	-1.6	-1.7	-1.7	-1.3	-1.4	-1.4
Structural primary balance (before CoA)	-1.7	-1.0	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4
Real GDP growth	4.9	5.2	4.4	2.8	2.9	2.5	4.8	2.8	3.3
Potential GDP growth	3.6	3.8	3.7	2.8	2.9	2.5	3.7	2.9	3.1
Inflation rate	4.7	5.4	2.7	2.7	2.6	2.6	4.3	2.7	3.1
Implicit interest rate (nominal)	2.2	2.1	2.1	2.2	2.3	2.5	2.1	2.2	2.2
Gross financing needs	7.3	6.5	6.6	6.9	7.0	7.2	6.8	6.7	6.8
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	54.7	51.0	49.6	50.9	52.7	54.9	51.8	51.1	51.3
Primary balance	-2.2	-0.8	-1.3	-2.5	-2.5	-2.5	-1.4	-2.2	-2.0
Structural primary balance (before CoA)	-1.7	-1.0	-1.7	-2.2	-2.2	-2.2	-1.5	-2.2	-2.1
Real GDP growth	4.9	5.2	4.6	2.8	2.9	2.5	4.9	2.8	3.3
Gross financing needs	7.3	6.5	6.8	8.1	8.4	8.7	6.8	7.9	7.6
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	54.7	51.0	49.5	48.4	49.6	51.2	51.7	48.7	49.5
Primary balance	-2.2	-0.8	-1.1	-2.0	-2.1	-2.1	-1.3	-1.7	-1.6
Structural primary balance (before CoA)	-1.7	-1.0	-1.4	-1.9	-1.9	-1.9	-1.4	-1.8	-1.7
Real GDP growth	4.9	5.2	4.4	2.7	2.9	2.5	4.8	2.8	3.3
Gross financing needs	7.3	6.5	6.6	7.4	7.7	8.0	6.8	7.2	7.1
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	54.7	51.1	49.6	47.5	47.8	48.6	51.8	47.7	48.7
Implicit interest rate (nominal)	2.2	2.2	2.2	2.2	2.4	2.5	2.2	2.3	2.3
Gross financing needs	7.3	6.5	6.7	7.0	7.1	7.2	6.8	6.8	6.8
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	54.7	51.2	50.1	48.5	49.1	50.0	52.0	48.7	49.5
Primary balance	-2.2	-1.1	-1.3	-1.8	-1.8	-1.8	-1.5	-1.5	-1.5
Structural primary balance (before CoA)	-1.7	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6	-1.6
Real GDP growth	4.9	5.7	3.9	2.8	2.9	2.5	4.8	2.8	3.3
Gross financing needs	7.3	7.1	6.8	7.2	7.3	7.5	7.0	7.0	7.0
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	54.7	52.0	51.5	48.8	49.1	49.7	52.7	49.1	50.0
Exchange rate depreciation	0.0%	4.3%	4.3%	0.0%	0.0%	0.0%	2.9%	0.0%	0.7%
Gross financing needs	7.3	6.6	6.8	7.1	7.2	7.4	6.9	6.9	6.9
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	54.7	51.3	50.1	49.3	50.3	51.7	52.0	49.5	50.2
Implicit interest rate (nominal)	2.2	2.2	2.2	2.5	2.7	2.9	2.2	2.5	2.4
Real GDP growth	4.9	4.7	3.9	2.3	2.4	2.0	4.5	2.3	2.9
Gross financing needs	7.3	6.5	6.7	7.3	7.5	7.8	6.8	7.1	7.0

PORTUGAL

Short-term risks: low. *No overall short-term vulnerabilities are identified for Portugal, according to the S0 indicator. However, gross financing needs remain large in the short term. Sovereign financing conditions are expected to remain favourable, notably supported by the Eurosystem's interventions.*

Medium-term risks: high. *Medium-term fiscal sustainability risks appear high overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, projected at 128% of GDP in 2021, is expected to rise as from 2027 in the baseline, after a temporary decline. It would reach around 126% of GDP in 2032, still below its current level. The sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

Long-term risks: medium. *Long-term fiscal sustainability risks appear medium overall, combining the low risk according to the sustainability gap indicator S2 and the high risk from a DSA perspective*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling no overall short-term vulnerabilities. However, the fiscal sub-index points to short-term vulnerabilities (notably due to the primary and cyclically–adjusted balances and gross and net debt being above the critical thresholds).

Government financing needs are expected to remain large in the short term (about 17% of GDP in 2021-2023), although declining compared with the recent peak in 2020. Yet, financing conditions should remain favourable, notably supported by the Eurosystem's interventions. Financial markets' perceptions of sovereign risk are investment grade, as confirmed by the CDS spread and the 'BBB' (or equivalent) rating that the three main rating agencies have assigned to the Portuguese government debt.

Medium-term fiscal sustainability risks: high

Debt Sustainability Analysis (DSA): high risk

The debt sustainability analysis, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to a high risk.

Baseline results: temporary debt decline

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with real GDP growth hovering around 0.7% in 2024-2032. Under a 'no-fiscal policy change' assumption, government debt would decline until 2026, but then increase to reach around 126% of GDP in 2032. These baseline assumptions assume that the structural primary balance (SPB) before ageing costs remains constant at the forecast deficit for 2023 of 0.8% of GDP. Bearing in mind past fiscal performance, this value appears plausible ([105]). Government gross financing needs are projected to slightly decrease over the next few years, but then to increase again by the end of the 10-year horizon, reaching around 18% of GDP in 2032, slightly above the level forecast for 2023.

Stochastic simulations: high probability that debt will not to stabilise by 2026 and significant uncertainty surrounding the baseline

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the Portuguese economy. These stochastic simulations point to a 36% probability of the debt ratio in 2026 being greater than in 2021, entailing high risk given the high projected level of 128% for the latter year. In addition, such simulated shocks point to significant uncertainty surrounding the baseline projections,

([105]) Based on available historical data, PT recorded a SPB greater than -0.8% of GDP in 56% of the cases. Therefore, the country has some room to improve its fiscal position and further lower the debt-to-GDP ratio.

as can be seen from the relatively wide debt distribution cone ([106]).

Alternative and stress-test scenarios: important vulnerabilities, but reverting to historical fiscal trajectories would reduce risks

Fiscal policy reverting to historical trajectories would support the reduction of the debt ratio. Indeed, if the SPB gradually converged to its historical average of the last 15 years (a broadly balanced SPB), the debt ratio would be about 5 pps. of GDP lower than in the baseline in 2032, and the debt trajectory would broadly stabilise.

On the other hand, more adverse developments of the interest-growth rate differential than assumed under the baseline would have a sizable impact on the debt-to-GDP ratio, given its current high value. A permanently higher interest-growth rae differential (by 1 pp.) than in the baseline would entail a debt ratio in 2032 about 10 pps. of GDP higher than in the baseline.

Assuming temporary (one year) financial stress or a lower structural primary balance would result in a slightly higher debt-to-GDP ratio by 2032. In particular, negative sensitivity tests on interest rates (a higher 3.3 pp. market interest rate in 2022) or on the structural primary balance (reduced forecast increase by 50%) would entail a debt ratio in 2032 around 2 pps. of GDP higher than in the baseline, in both cases.

S1 indicator: medium risk

The S1 indicator shows that, compared to the baseline, the SPB would need to improve by 6.7 pps. of GDP, in cumulated terms over 5 years, to bring the debt-to-GDP ratio to the Treaty reference value of 60% by 2038. Such an adjustment would bring the SPB to a surplus of 5.9% of GDP, which is very ambitious by Portuguese standards ([107]). This significant value of S1 is mainly due to the large distance of the debt ratio from the 60% reference value (contribution of 4.5 pps. of GDP), and to a lower extent, to the projected ageing-related public spending (contribution by 1.4 pps. of GDP).

([106]) The difference between the 10th and 90th percentile in 2026 is around 59 pps. of GDP.
([107]) No past (1980-2021) Portuguese SPBs were larger.

Long-term fiscal sustainability risks: medium

S2 indicator: low risk

The S2 indicator shows that, relative to the baseline, the SPB would not need to improve to stabilise the debt-to-GDP ratio over the long term. Moreover, the SPB assumed in the baseline is not ambitious by Portuguese standards ([108]). This absence of a fiscal sustainability gap in the long term is favourably underpinned by the projected decrease in ageing-related costs (contribution of -1.1 pps. of GDP) that offsets the unfavourable initial budgetary position (1.1 pps. of GDP). Ageing costs are primarily related to the projected decrease of public pension expenditure (contribution of -3.0 pps. of GDP), though pension spending will continue to increase to reach a peak of 14½% of GDP in 2035 before starting to decrease. Health and long-term care spending is instead projected to increase over the projection period (joint contribution of 1.8 pps. of GDP) ([109]).

In sum, based on the sustainability gap indicator S2 and the DSA risk assessment discussed higher, overall long-term fiscal sustainability risks are medium.

Additional mitigating and aggravating risk factors

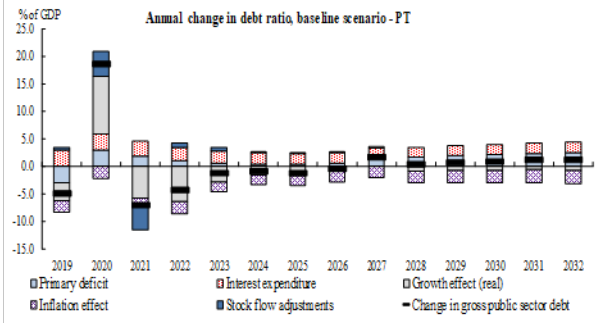
Several factors mitigate the risks. These include Portugal's solid cash buffer, the lengthening of debt maturity in recent years, its relatively stable financing sources (with a diversified and large investor base), the currency denomination of debt, and historically low financing costs supported by the Eurosystem's interventions. By the end of 2020, 22% of Portugal's government debt was held by the Eurosystem.

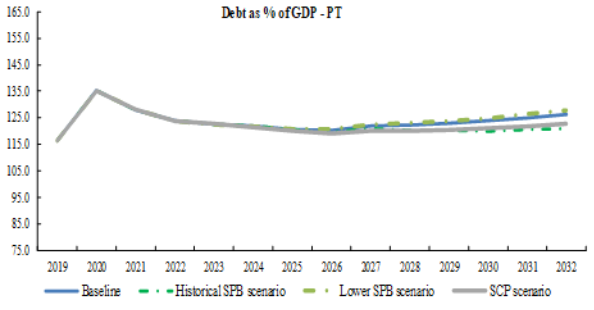
Risk-increasing factors are related to contingent liability risks, including via the possible materialisation of State guarantees granted during the COVID-19 crisis. Contingent liability risks stemming from the banking sector are also contained (even based on the 'stressed' SYMBOL simulations, pointing to high risk).

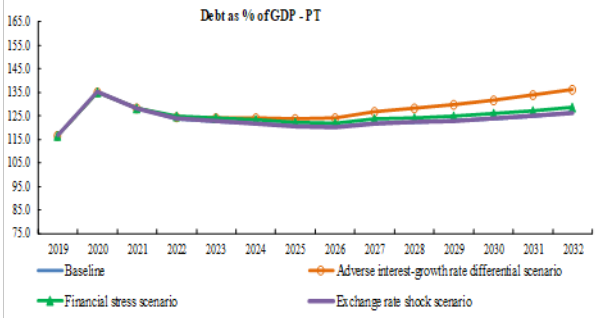
([108]) See Footnote 1.
([109]) Between 2019 and 2070, total ageing costs are estimated to decrease by 1.3 pps. (driven by a decline in public pensions by 3.1 pps., partly offset by increases in health-care and long-term-care expenditures) – see 2021 Ageing Report.

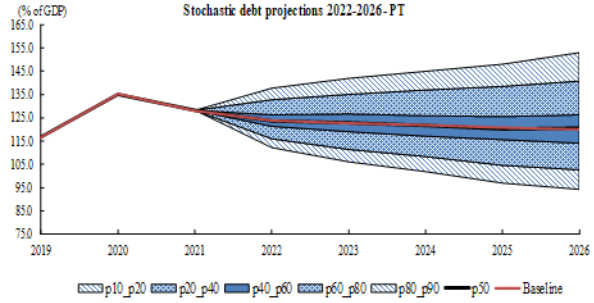
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

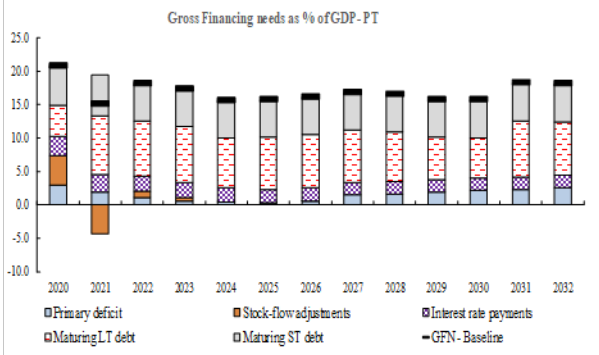
PT - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	116.6	135.2	128.1	123.9	122.7	121.8	120.6	120.2	121.8	122.3	122.9	123.8	125.0	126.2
Changes in the ratio (-1+2+3)	*-4.9*	*18.6*	*-7.0*	*-4.3*	*-1.2*	*-0.9*	*-1.2*	*-0.4*	*1.6*	*0.4*	*0.7*	*0.9*	*1.2*	*1.2*
of which														
(1) Primary balance (1.1+1.2+1.3)	3.1	-2.9	-1.9	-1.1	-0.5	-0.4	-0.3	-0.6	-1.5	-1.7	-1.9	-2.1	-2.3	-2.5
(1.1) Structural primary balance (1.1.1-1.1.2+1.1.3)	*1.6*	*1.0*	*-0.4*	*-0.9*	*-0.8*	*-0.9*	*-1.1*	*-1.3*	*-1.5*	*-1.7*	*-1.9*	*-2.1*	*-2.3*	*-2.5*
(1.1.1) Structural primary balance (bef. CoA)	*1.6*	*1.0*	*-0.4*	*-0.9*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*	*-0.8*
(1.1.2) Cost of ageing						*0.1*	*0.3*	*0.5*	*0.7*	*0.9*	*1.2*	*1.4*	*1.6*	*1.8*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*
(1.2) Cyclical component	*2.1*	*-3.3*	*-1.8*	*0.0*	*0.3*	*0.5*	*0.7*	*0.7*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
(1.3) One-off and other temporary measures	*-0.6*	*-0.7*	*0.3*	*-0.2*	*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)	-2.3	11.2	-4.6	-6.3	-2.3	-1.3	-1.6	-1.0	0.2	-1.2	-1.2	-1.3	-1.1	-1.3
(2.1) Interest expenditure	*3.0*	*2.9*	*2.6*	*2.3*	*2.2*	*2.1*	*2.0*	*1.9*	*1.8*	*1.8*	*1.8*	*1.8*	*1.9*	*1.9*
(2.2) Growth effect	*-3.1*	*10.5*	*-5.8*	*-6.4*	*-2.8*	*-1.6*	*-1.7*	*-1.0*	*0.4*	*-0.9*	*-0.8*	*-0.8*	*-0.5*	*-0.7*
(2.3) Inflation effect	*-2.1*	*-2.2*	*-1.4*	*-2.2*	*-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	0.4	4.4	-4.3	0.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(3.1) Base	*0.4*	*4.4*	*-4.3*	*0.9*	*0.6*	*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	*0.0*	*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	-1.9	-3.0	-3.2	-3.1	-3.0	-3.0	-3.2	-3.3	-3.5	-3.7	-4.0	-4.2	-4.4
Gross financing needs	11.0	20.9	15.0	18.2	17.4	15.7	15.7	16.1	16.8	16.6	15.8	15.7	18.2	18.1

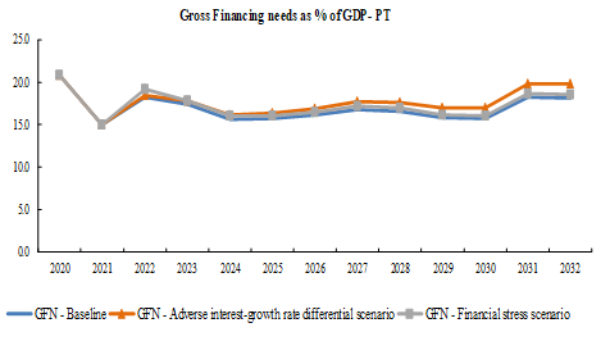












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
			Baseline	Historical SPB	Adverse r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	MEDIUM	MEDIUM	HIGH	HIGH	MEDIUM	HIGH		
			Debt level (2032)	126.2	121.0	136.3	128.5	127.8			
			Debt peak year	2021	2021	2032	2032	2021			
			Percentile rank	56.0%	51.5%	56.0%	56.0%	57.5%			
			Probability debt higher						36.2%		
			Dif. between percentiles						58.7		
LOW (S0 = 0.4)	HIGH	HIGH (S1 = 6.7)							HIGH	LOW (S2 = 0)	MEDIUM

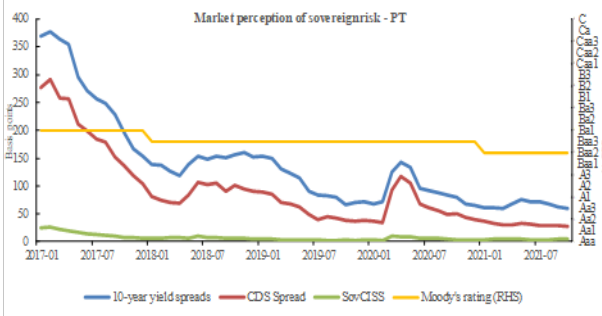
2.2. Sustainability indicators

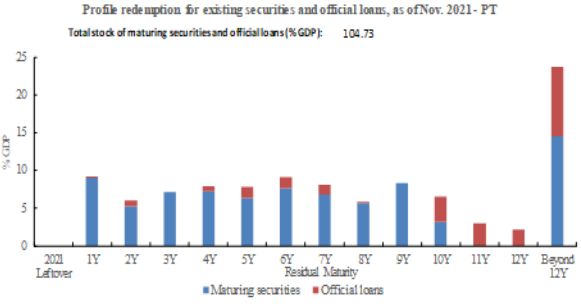
S0 indicator	2009	2021	Critical threshold
Overall index	0.82	0.40	0.46
Fiscal sub-index	1.00	0.53	0.36
Financial competitiveness sub-index	0.72	0.33	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	2.0	6.7	6.7	7.3
of which *Initial budgetary position*	*-3.2*	*-0.1*	*0.0*	*-0.1*
Cost of delaying adjustment	*0.3*	*0.8*	*0.8*	*0.9*
Debt requirement	*4.0*	*4.5*	*4.5*	*4.5*
Ageing costs	*0.9*	*1.4*	*1.3*	*1.9*
Required structural primary balance related to S1	4.4	5.9	5.8	6.5

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	-1.5	0.0	1.1	7.5
of which Initial Budgetary position	-1.7	1.1	1.4	1.4
Ageing costs	0.2	-1.1	-0.3	6.1
of which Pensions	*-2.0*	*-3.0*	*-2.1*	*-2.6*
Health care	*1.5*	*1.4*	*1.3*	*2.2*
Long-term care	*0.7*	*0.4*	*0.4*	*6.4*
Others	*0.0*	*0.1*	*0.1*	*0.1*
Required structural primary balance related to S2	0.9	-0.8	0.3	6.7

3. Financial information





Sovereign Ratings as of Nov. 2021, PT	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Baa2	(P)P-2	Baa2	
S&P	BBBu	A-2u	BBBu	A-2u
Fitch	BBB		BBB	WD

Sovereign yield spreads (bp)* - as of October 2021	10-year	60.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - PT (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	16.7	0.0	49.0

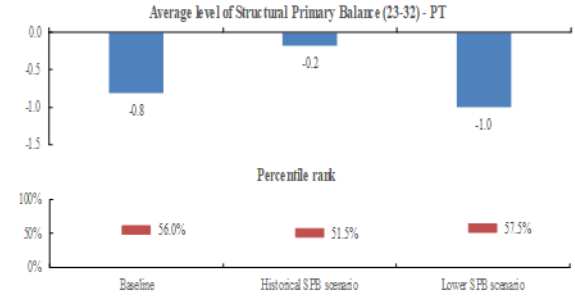
Net International Investment Position (IIP) PT (2020)	Net IIP (% GDP):
	-106.4

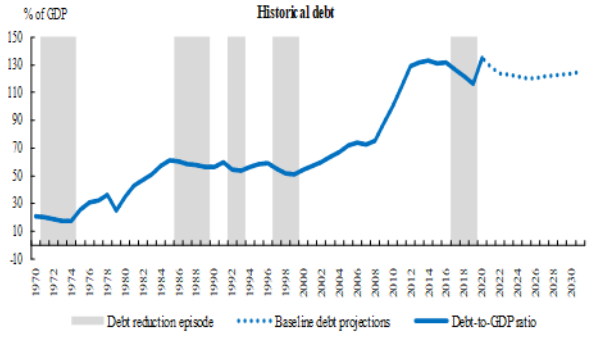
5. Risks related to government's contingent liabilities

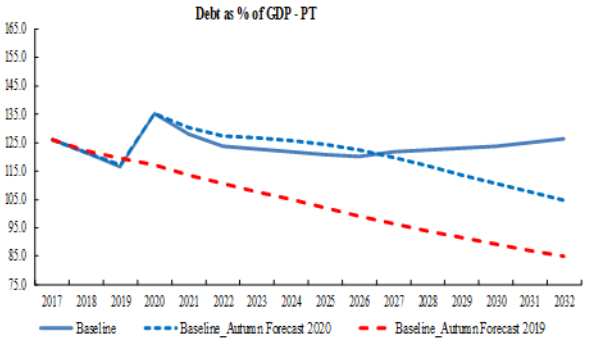
General government contingent liabilities		PT					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		5.6	6.4	5.6	4.8	6.4	8.1
of which	One-off guarantees	5.6	6.4	5.6	4.8	3.2	7.1
	Standardised guarantees	0.0	0.0	0.0	0.0	3.2	1.1
Public-private partnerships (PPPs) (% GDP)		3.0	2.7	2.5	2.3	2.3	0.3
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	2.5	3.4	2.9	2.2	0.5	0.9
	Securities issued under liquidity schemes	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
	Total	2.5	3.4	2.9	2.2	0.5	0.9

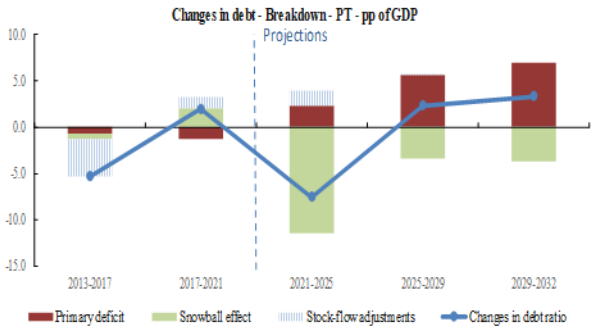
Government's contingent liability risks from banking sector - PT (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	4.4	8.4	77.1	4.2	-1.5	58.4	0.04%	0.58%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Portugal	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	128.1	123.9	122.7	122.3	123.8	126.2	124.9	122.7	123.3
Primary balance	-1.9	-1.1	-0.5	-1.7	-2.1	-2.5	-1.2	-1.5	-1.4
Structural primary balance (before CoA)	-0.4	-0.9	-0.8	-0.8	-0.8	-0.8	-0.7	-0.8	-0.8
Real GDP growth	4.5	5.3	2.4	0.8	0.6	0.6	4.1	0.7	1.6
Potential GDP growth	1.6	1.8	1.8	0.8	0.6	0.6	1.7	0.8	1.0
Inflation rate	1.0	1.8	1.4	1.8	1.9	2.0	1.4	1.8	1.7
Implicit interest rate (nominal)	2.0	1.9	1.9	1.5	1.5	1.6	1.9	1.6	1.7
Gross financing needs	15.0	18.2	17.4	16.6	15.7	18.1	16.9	16.5	16.6
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	128.1	123.9	122.8	120.3	121.0	122.7	124.9	120.8	121.8
Primary balance	-1.9	-1.1	-0.3	-1.3	-1.7	-2.1	-1.1	-1.1	-1.1
Structural primary balance (before CoA)	-0.4	-0.9	-0.5	-0.4	-0.4	-0.4	-0.6	-0.4	-0.4
Real GDP growth	4.5	5.3	2.1	0.8	0.6	0.6	4.0	0.7	1.6
Gross financing needs	15.0	18.2	17.2	16.0	15.0	17.3	16.8	15.9	16.2
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	128.1	123.9	122.7	120.4	120.1	121.0	124.9	120.6	121.6
Primary balance	-1.9	-1.1	-0.5	-1.0	-1.3	-1.7	-1.2	-0.9	-0.9
Structural primary balance (before CoA)	-0.4	-0.9	-0.8	0.0	0.0	0.0	-0.7	-0.1	-0.3
Real GDP growth	4.5	5.3	2.4	0.9	0.8	0.6	4.1	0.7	1.6
Gross financing needs	15.0	18.2	17.4	15.7	14.5	16.7	16.9	15.7	16.0
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	128.1	124.9	123.9	124.2	126.0	128.5	125.6	124.7	124.9
Implicit interest rate (nominal)	2.0	2.7	2.1	1.6	1.6	1.6	2.3	1.7	1.8
Gross financing needs	15.0	19.2	17.8	16.9	16.0	18.5	17.3	16.9	17.0
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	128.1	123.9	122.5	123.1	125.0	127.8	124.8	123.5	123.9
Primary balance	-1.9	-1.0	-0.6	-1.9	-2.3	-2.7	-1.2	-1.7	-1.5
Structural primary balance (before CoA)	-0.4	-0.7	-1.0	-1.0	-1.0	-1.0	-0.7	-1.0	-0.9
Real GDP growth	4.5	5.2	2.7	0.8	0.6	0.6	4.1	0.7	1.6
Gross financing needs	15.0	18.0	17.4	16.8	16.0	18.5	16.8	16.8	16.8
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	128.1	123.9	122.7	122.3	123.8	126.2	124.9	122.7	123.3
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	15.0	18.2	17.4	16.6	15.7	18.1	16.9	16.5	16.6
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	128.1	124.6	124.2	128.2	131.7	136.3	125.6	128.8	128.0
Implicit interest rate (nominal)	2.0	2.1	2.0	1.8	1.9	1.9	2.0	1.9	1.9
Real GDP growth	4.5	4.8	1.9	0.3	0.1	0.1	3.7	0.2	1.1
Gross financing needs	15.0	18.4	17.8	17.6	17.0	19.8	17.1	17.6	17.5

ROMANIA

Short-term risks: low. *Overall, no short-term vulnerabilities are identified for Romania, according to the S0 indicator. Gross financing needs should be moderate in the short term.*

Medium-term risks: high. *Over the medium term, fiscal sustainability risks appear to be high overall, high according to the sustainability gap indicator S1 and medium from a debt sustainability analysis (DSA) perspective. Government debt, currently at close to 50% of GDP, is projected to increase in the baseline and exceed the 60% of GDP threshold by 2032. The sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

Long-term risks: medium. *Over the long term, medium risks from the sustainability gap indicator S2, combined with medium vulnerabilities from the DSA contribute to the overall assessment. The S2 indicator mainly captures risks linked to the unfavourable initial budgetary position.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling no overall short-term vulnerabilities.

Government financing needs are expected to remain moderate in the short term (about 10% of GDP in 2021-2022), and declining compared with 2020. Financial markets' perceptions of sovereign risk remain broadly unchanged, with the CDS spread close to 90 bps and the 'BBB-' rating that the three major rating agencies assigned to Romanian government debt.

Medium-term fiscal sustainability risks: high

Debt Sustainability Analysis (DSA): medium risk

The debt sustainability analysis, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to a medium risk.

Baseline results: steady debt increase at unchanged policies

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with real GDP growth hovering around 2.9% over 2024-2032. Under a 'no-fiscal policy change' assumption, debt would steadily increase, by some 24 pps. between 2023 and 2032, when it would reach 77% of GDP. These baseline projections assume a constant structural primary balance (SPB) before ageing costs at the forecast deficit for 2023, namely -4.2% of GDP. Bearing in mind Romania past fiscal performance, this indicates substantial scope for fiscal consolidation ([110]). Government gross financing needs are projected to increase over the next 10 years, reaching more than 15% of GDP in 2032.

Stochastic simulations: medium probability that debt will not stabilise by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance is performed, based on the historical volatility of the Romanian economy. These stochastic simulations point to a 71% probability of the debt ratio in 2026 being greater than in 2021, entailing moderate risks given the current level of around 50% of GDP. In addition, such shocks point to significant uncertainty surrounding the baseline projections, as can be seen from the wide debt distribution cone ([111]).

Alternative and stress-test scenarios: moderate vulnerabilities

Fiscal policy reverting to historical behaviour would bring a sizeable reduction of the debt ratio. Indeed, if the SPB gradually converged to its historical average of the last 15 years (a deficit of 2.7% of GDP), the debt ratio would be about 11

([110]) Based on available historical data, Romania recorded a SPB larger than -4.2% of GDP in 81% of the cases. Therefore, the country has considerable room to improve its fiscal position and lower its debt-to-GDP ratio.

([111]) The difference between the 10th and 90th percentile in 2026 is around 42 pps. of GDP.

pps. of GDP lower than in the baseline in 2032, significantly reducing the debt-increasing pace.

More adverse developments of the interest-growth rate differential than assumed under the baseline would have a significant impact on the debt-GDP ratio, given its current value. A permanently higher 'r-g' differential (by 1 pp.) than in the baseline would entail a debt ratio in 2032 about 5 pps. of GDP higher than in the baseline.

If a temporary (one year) episode of financial stress pushed up market interest rates by 1 pp. in 2022, the 2032 projected debt would not change significantly. However, if only half of the projected improvement in the SPB in 2022-2023 were to occur, the 2032 projected debt would be some 6 pps. of GDP higher than in the baseline, at more than 80% of GDP.

S1 indicator: high risk

The S1 indicator shows that, compared to the baseline, the structural primary balance (SPB) would need to improve by 3.9 pps., in cumulated terms over 5 years, of GDP to bring the debt-to-GDP ratio to the reference value of 60% by 2038. This corresponds to an SPB of -0.3% of GDP, which is fairly ambitious by Romanian standards ([112]). This significant value of S1 is mainly due to the unfavourable initial budgetary position (contribution of 3.8 pps. of GDP) and to the projected age-related public spending (contribution of 0.1 pp. of GDP).

Long-term fiscal sustainability risks: medium

S2 indicator: medium risk

The S2 indicator shows that, relative to the baseline, the SPB would need to improve by 4.7 pps. of GDP to stabilise the debt-to-GDP ratio over the long term. Such an adjustment would bring the SPB to 0.5% of GDP, which is very ambitious by Romanian standards ([113]). This sustainability gap is driven entirely by the unfavourable initial budgetary position (contribution of 4.7 pps. of GDP). Ageing costs, would not add to the S2 fiscal gap (contribution of 0 pp. of GDP). This result hides different dynamics with projected increases in public health care and long-term care spending (contribution of 1.1 pps. of GDP), while public pension expenditure should overall fall as from 2023 ([114]). However, pension spending is expected to significantly increase over a large part of the projection period, to reach a peak of close to 15% of GDP in 2050, before starting to decrease.

In sum, based on the sustainability gap indicator S2 and the DSA risk assessment discussed above, overall long-term fiscal sustainability risks are medium.

Additional mitigating and aggravating risk factors

Some factors mitigate the risks. These include the lengthening of debt maturity in recent years and relatively stable financing sources.

Risk-increasing factors are related to the share of debt held by non-residents, the currency denomination of debt, and the country's negative net international investment position. Additional risk-increasing factors are contingent liabilities stemming from the private sector, including via the possible materialisation of state guarantees granted to firms and self-employed during the COVID-19 crisis. However, this risk remains currently limited due to relatively low take-up so far. Contingent liability risks stemming from the banking sector point to low risks both under the baseline and stressed scenario (based on the SYMBOL simulations).

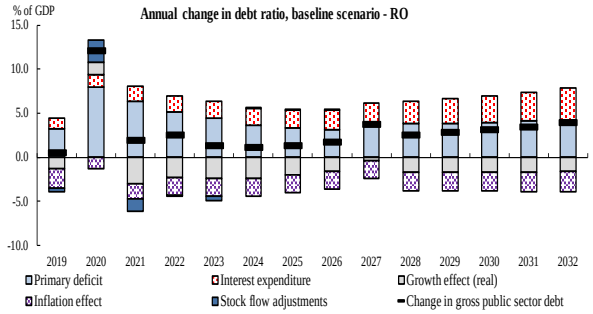
([112]) In Romania, only 32% of past SPBs were larger than this value.

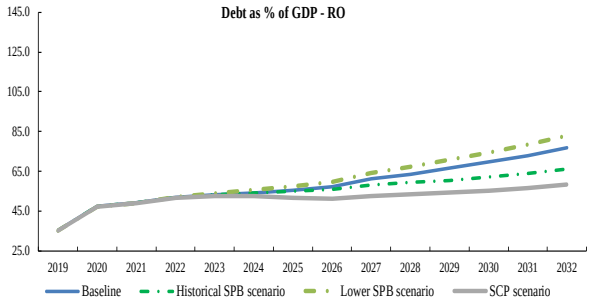
([113]) In Romania, only 18% of past SPBs were larger than this value.

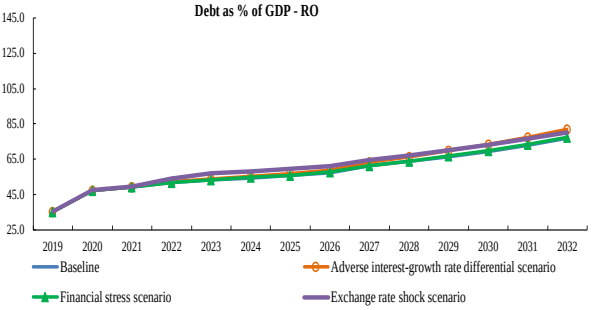
([114]) Between 2019 and 2070 total ageing costs are estimated to increase by 5.1 pps. of GDP (among which public pensions by 3.8 pps. of GDP) – see 2021 Ageing Report.

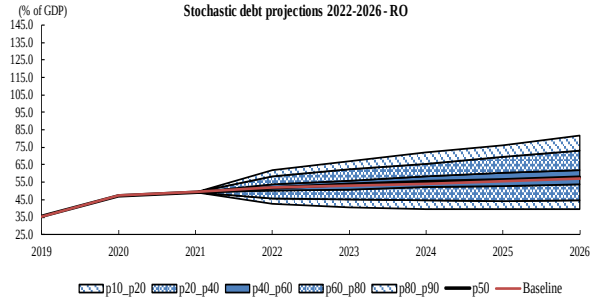
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

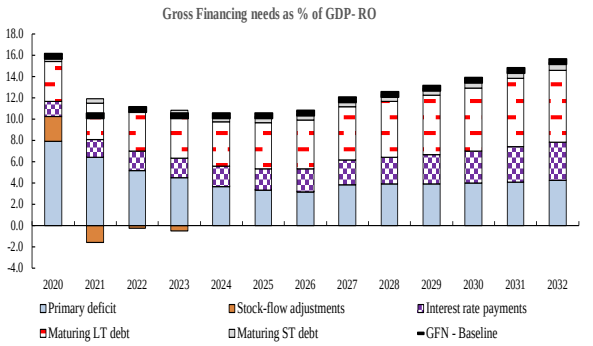
RO - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	**35.3**	**47.4**	**49.3**	**51.8**	**53.2**	**54.3**	**55.6**	**57.3**	**61.1**	**63.7**	**66.5**	**69.6**	**73.0**	**76.9**
Changes in the ratio (-1+2+3)	*0.5*	*12.1*	*1.9*	*2.5*	*1.4*	*1.1*	*1.3*	*1.7*	*3.8*	*2.6*	*2.8*	*3.1*	*3.5*	*3.9*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-3.2**	**-7.9**	**-6.4**	**-5.1**	**-4.4**	**-3.6**	**-3.3**	**-3.2**	**-3.8**	**-3.9**	**-3.9**	**-3.9**	**-4.1**	**-4.2**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-3.6***	***-6.1***	***-5.5***	***-4.6***	***-4.2***	***-4.0***	***-3.9***	***-3.9***	***-3.8***	***-3.9***	***-3.9***	***-3.9***	***-4.1***	***-4.2***
(1.1.1) Structural primary balance (bef. CoA)	*-3.6*	*-6.1*	*-5.5*	*-4.6*	*-4.2*	*-4.2*	*-4.2*	*-4.2*	*-4.2*	*-4.2*	*-4.2*	*-4.2*	*-4.2*	*-4.2*
(1.1.2) Cost of ageing						*-0.3*	*-0.3*	*-0.4*	*-0.4*	*-0.4*	*-0.4*	*-0.3*	*-0.2*	*0.0*
(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*
(1.2) Cyclical component	***0.5***	***-1.8***	***-0.9***	***-0.6***	***-0.2***	***0.3***	***0.6***	***0.7***	***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)	**-2.3**	**1.5**	**-3.1**	**-2.5**	**-2.6**	**-2.5**	**-2.0**	**-1.5**	**-0.1**	**-1.3**	**-1.1**	**-0.8**	**-0.6**	**-0.3**
(2.1) Interest expenditure	*1.2*	*1.4*	*1.7*	*1.8*	*1.9*	*1.9*	*2.0*	*2.1*	*2.3*	*2.5*	*2.7*	*3.0*	*3.3*	*3.6*
(2.2) Growth effect	*-1.3*	*1.4*	*-3.0*	*-2.3*	*-2.4*	*-2.4*	*-2.0*	*-1.6*	*-0.4*	*-1.7*	*-1.7*	*-1.7*	*-1.7*	*-1.6*
(2.3) Inflation effect	*-2.2*	*-1.3*	*-1.8*	*-2.1*	*-2.0*	*-2.0*	*-2.0*	*-2.0*	*-2.0*	*-2.1*	*-2.1*	*-2.2*	*-2.2*	*-2.3*
(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	**-0.4**	**2.6**	**-1.4**	**-0.1**	**-0.5**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.8*	*2.3*	*-1.6*	*-0.3*	*-0.5*	*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	*0.5*	*0.3*	*0.2*	*0.2*	*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	-7.6	-7.1	-6.4	-6.1	-5.9	-6.0	-6.0	-6.2	-6.4	-6.6	-7.0	-7.4	-7.8
Gross financing needs	7.6	15.8	10.3	10.8	10.3	10.2	10.2	10.5	11.7	12.3	12.9	13.6	14.5	15.3

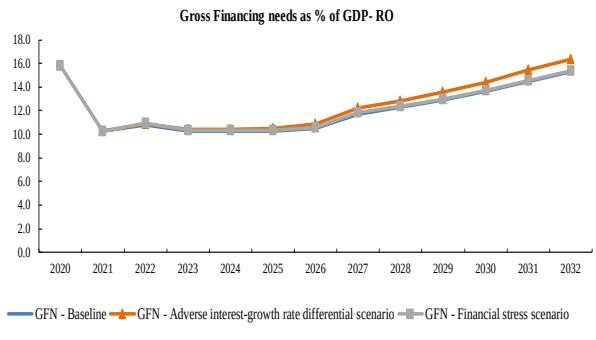












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1
LOW (S0 = 0.3)	HIGH	HIGH (S1 = 3.9)

Debt sustainability analysis (detail)

	Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections
Risk category	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM
Debt level (2032)	76.9	66.4	82.0	77.4	83.1	
Debt peak year	2032	2032	2032	2032	2032	
Percentile rank	80.5%	75.4%	100.0%	100.0%	100.0%	
Probability debt higher						70.6%
Dif. between percentiles						42.3

DSA	S2	Long term
MEDIUM	MEDIUM (S2 = 4.7)	MEDIUM

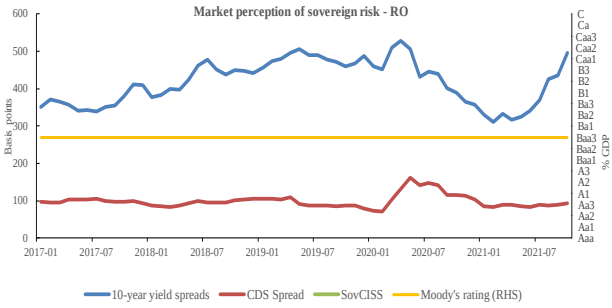
2.2. Sustainability indicators

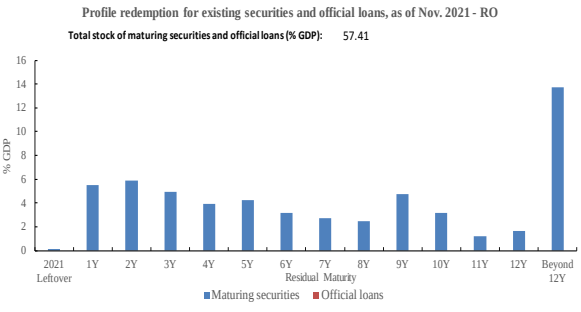
S0 indicator	2009	2021	Critical threshold
Overall index	**0.70**	**0.31**	**0.46**
Fiscal sub-index	0.46	0.22	0.36
Financial competitiveness sub-index	0.81	0.37	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**14.8**	**3.9**	**4.3**	**4.6**
of which *Initial budgetary position*	*6.7*	*3.8*	*3.9*	*3.8*
Cost of delaying adjustment	*2.1*	*0.5*	*0.5*	*0.6*
Debt requirement	*4.3*	*-0.5*	*-0.5*	*-0.5*
Ageing costs	*1.7*	*0.1*	*0.4*	*0.7*
Required structural primary balance related to S1	**10.1**	**-0.3**	**0.1**	**0.4**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**6.5**	**4.7**	**5.6**	**8.5**
of which Initial Budgetary position	4.9	4.7	4.8	4.7
Ageing costs	1.6	0.0	0.8	3.8
of which Pensions	*0.7*	*-1.0*	*-0.2*	*-1.0*
Health care	*0.3*	*0.8*	*0.7*	*1.9*
Long-term care	*0.2*	*0.3*	*0.3*	*3.0*
Others	*0.4*	*-0.1*	*-0.1*	*-0.1*
Required structural primary balance related to S2	**1.9**	**0.5**	**1.4**	**4.3**

3. Financial information





Sovereign Ratings as of Nov. 2021, RO	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Baa3		Baa3	
S&P	BBB-	A-3	BBB-	A-3
Fitch	BBB-		BBB-	F3

Sovereign yield spreads (bp)* - as of October 2021	10-year	496.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - RO (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	3.5	52.3	50.9

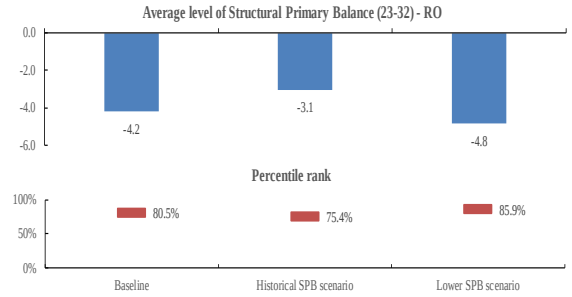
Net International Investment Position (IIP) - RO (2020)	Net IIP (% GDP):
	-48.3

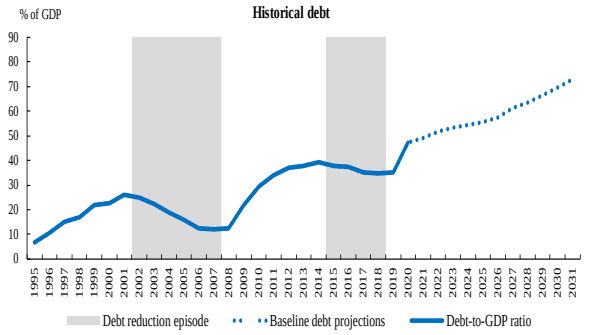
5. Risks related to government's contingent liabilities

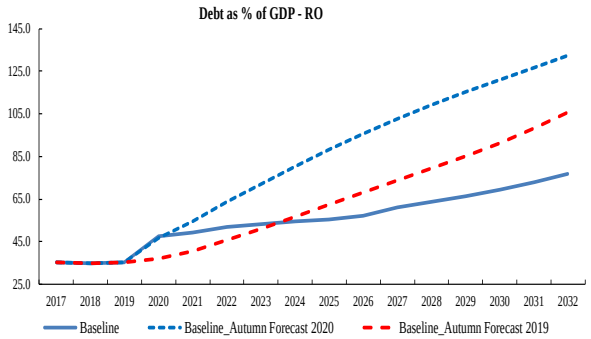
General government contingent liabilities		RO					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		2.4	2.2	2.1	2.0	3.4	8.1
of which	*One-off guarantees*	*0.5*	*0.4*	*0.4*	*0.3*	*0.6*	*7.1*
	Standardised guarantees	*1.9*	*1.8*	*1.8*	*1.7*	*2.8*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	n.a.	n.a.	n.a.	n.a.	n.a.	0.9
	Securities issued under liquidity schemes	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.	0.0
	Total	n.a.	n.a.	n.a.	n.a.	n.a.	0.9

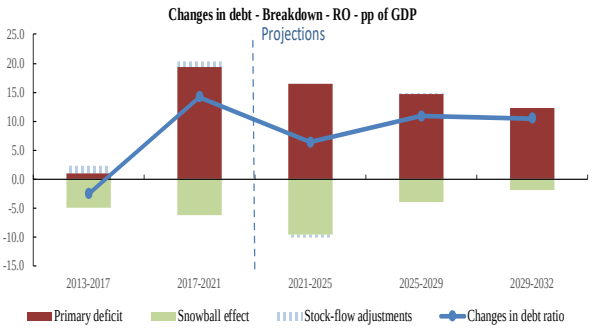
Government's contingent liability risks from banking sector - RO (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	1.3	4.7	58.0	3.8	-0.4	66.9	0.00%	0.05%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Romania	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	49.3	51.8	53.2	63.7	69.6	76.9	51.4	64.2	61.0
Primary balance	-6.4	-5.1	-4.4	-3.9	-3.9	-4.2	-5.3	-3.8	-4.2
Structural primary balance (before CoA)	-5.5	-4.6	-4.2	-4.2	-4.2	-4.2	-4.8	-4.2	-4.3
Real GDP growth	7.0	5.1	5.2	3.0	2.7	2.4	5.7	2.9	3.6
Potential GDP growth	3.9	3.9	4.1	3.0	2.7	2.4	4.0	2.8	3.1
Inflation rate	3.9	4.4	4.1	3.6	3.4	3.3	4.1	3.6	3.7
Implicit interest rate (nominal)	3.9	4.0	4.0	4.4	4.8	5.2	4.0	4.5	4.4
Gross financing needs	10.3	10.8	10.3	12.3	13.6	15.3	10.5	12.4	11.9
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	49.3	51.8	52.7	53.4	55.3	58.6	51.3	54.1	53.4
Primary balance	-6.4	-5.1	-3.7	-1.7	-1.8	-2.1	-5.1	-1.7	-2.6
Structural primary balance (before CoA)	-5.5	-4.6	-3.2	-2.1	-2.1	-2.1	-4.4	-2.1	-2.7
Real GDP growth	7.0	5.1	4.4	3.0	2.7	2.4	5.5	3.0	3.6
Gross financing needs	10.3	10.8	9.5	9.0	9.7	10.7	10.2	9.1	9.4
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	49.3	51.8	53.2	59.4	62.1	66.4	51.4	59.5	57.5
Primary balance	-6.4	-5.1	-4.4	-2.5	-2.4	-2.7	-5.3	-2.6	-3.3
Structural primary balance (before CoA)	-5.5	-4.6	-4.2	-2.7	-2.7	-2.7	-4.8	-2.9	-3.4
Real GDP growth	7.0	5.1	5.2	3.2	2.9	2.4	5.7	2.9	3.6
Gross financing needs	10.3	10.8	10.3	10.5	11.2	12.4	10.5	10.6	10.6
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	49.3	51.9	53.3	64.0	70.0	77.4	51.5	64.6	61.3
Implicit interest rate (nominal)	3.9	4.2	4.2	4.5	4.8	5.2	4.1	4.6	4.4
Gross financing needs	10.3	10.9	10.4	12.4	13.7	15.4	10.5	12.4	12.0
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	49.3	52.0	54.0	67.5	74.5	83.1	51.8	68.0	64.0
Primary balance	-6.4	-5.6	-5.0	-4.5	-4.6	-4.9	-5.6	-4.4	-4.7
Structural primary balance (before CoA)	-5.5	-5.2	-4.8	-4.8	-4.8	-4.8	-5.2	-4.8	-4.9
Real GDP growth	7.0	5.5	5.1	3.0	2.7	2.4	5.8	2.9	3.6
Gross financing needs	10.3	11.4	10.8	13.4	14.9	16.8	10.8	13.5	12.8
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	49.3	53.8	57.3	67.2	73.0	80.3	53.4	67.8	64.2
Exchange rate depreciation	0.0%	5.2%	5.2%	0.0%	0.0%	0.0%	3.5%	0.0%	0.9%
Gross financing needs	10.3	11.1	10.8	12.8	14.1	15.8	10.7	12.9	12.3
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	49.3	52.1	53.7	66.3	73.3	82.0	51.7	67.0	63.2
Implicit interest rate (nominal)	3.9	4.1	4.2	4.8	5.2	5.7	4.1	4.9	4.7
Real GDP growth	7.0	4.6	4.7	2.5	2.2	1.9	5.4	2.4	3.1
Gross financing needs	10.3	10.9	10.4	12.8	14.4	16.4	10.5	13.0	12.4

SLOVENIA

Short-term risks: low. *Overall, no short-term vulnerabilities are identified for Slovenia, according to the S0 indicator. Gross financing needs should be moderate in the short term. Sovereign financing conditions are expected to remain favourable, notably supported by the Eurosystem's interventions.*

Medium-term risks: high*. Over the medium term, fiscal sustainability risks appear to be high overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, currently at close to 78% of GDP, is projected to substantially increase in the baseline to reach about 95% of GDP by 2032. The sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

Long-term risks: high. *Over the long term, high risks from the sustainability gap indicator S2, combined with high vulnerabilities from the DSA contribute to the overall assessment. The S2 indicator mainly captures risks linked to budgetary pressures from population ageing and vulnerabilities associated to the unfavourable initial budgetary position.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling no overall short-term vulnerabilities. This result is also confirmed by the fiscal and the financial-competitiveness sub-indexes.

Government financing needs are expected to remain moderate in the short term (about 15-14% of GDP in 2021-2022, respectively), and declining compared with 2020. Moreover, financing conditions should remain favourable, notably supported by the Eurosystem's interventions. Financial markets' perceptions of sovereign risk are positive, as confirmed by the CDS spread and the 'A' rating that the three major rating agencies assigned to Slovenian government debt.

Medium-term fiscal sustainability risks: high

Debt Sustainability Analysis (DSA): high risk

The debt sustainability analysis, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to high risk.

Baseline results: debt on an increasing path

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with real GDP growth hovering around 2.6% in 2024-2032. Under a 'no-fiscal policy change' assumption, debt would continue to increase, by some 19 pps. between 2023 and 2032, when it would reach above 95% of GDP. These baseline projections assume a structural primary balance (SPB) of -4.3% of GDP before ageing costs, leaving substantial scope for fiscal consolidation ([115]). Government gross financing needs are projected to increase over the next 10 years, reaching more than 18% of GDP in 2032.

Stochastic simulations: medium probability that debt will not stabilise by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the Slovenian economy. These stochastic simulations point to a 60% probability of the debt ratio in 2026 being greater than in 2021, entailing medium risk given the current level of about 78% of GDP. In addition, such shocks point to reduced uncertainty surrounding the baseline projections, as can be seen from the relatively narrow debt distribution cone ([116]).

([115]) Based on available historical data, Slovenia recorded a SPB greater than -4.3% of GDP in 97% of the cases. Therefore, the country has room to improve its fiscal position and lower its debt-to-GDP ratio.

([116]) The difference between the 10th and 90th percentile in 2026 is around 28 pps. of GDP.

Alternative and stress-test scenarios: high vulnerabilities, but reverting to historical behaviour would reduce risks.

Fiscal policy reverting to historical behaviour would bring a sizeable improvement of the debt trajectory compared with the baseline. Indeed, if the SPB gradually converged to its historical average of the last 15 years (a deficit of 1.3% of GDP), the debt ratio would be about 18 pps. of GDP lower than in the baseline in 2032, and would broadly stabilise over the medium term.

On the other hand, more adverse developments of the interest-growth rate differential than assumed under the baseline would have a sizeable impact on the debt-GDP ratio, given its current value. A permanently higher 'r-g' differential (by 1 pp.) than in the baseline would entail a debt ratio in 2032 about 6 pps. of GDP higher than in the baseline. If a temporary (one year) episode of financial stress pushed up interest rates by 1 pp. in 2022, the 2032 debt projection would not change significantly. However, if only half of the projected improvement in the SPB in 2022-2023 were to occur, the 2032 debt projection would be some 9 pps. of GDP higher than in the baseline.

S1 indicator: high risk

The S1 indicator shows that, compared to the baseline, the structural primary balance (SPB), in cumulated terms over 5 years, would need to improve by 6.0 pps. of GDP to bring the debt-to-GDP ratio to the reference value of 60% by 2038. This corresponds to an SPB of 1.7% of GDP, which is very ambitious by Slovenian standards ([117]). This significant value of S1 is mainly due to the unfavourable initial budgetary position (contribution of 2.4 pps. of GDP) and to the projected age-related public spending (contribution by 1.7 pps. of GDP).

Long-term fiscal sustainability risks: high

S2 indicator: high risk

The S2 indicator shows that, relative to the baseline, the SPB would need to improve by 12.1 pps. of GDP to stabilise the debt-to-GDP ratio over the long term. Such an adjustment would bring the SPB to a surplus of 7.8% of GDP, which is very ambitious by Slovenian standards ([118]). This sustainability gap is driven by the projected increase of ageing costs (contribution of 7.4 pps. of GDP) and the unfavourable initial budgetary position (4.7 pps. of GDP). Ageing costs are primarily related to the projected increase of public pension expenditure (contribution of 5.3 pps. of GDP), health care, and long-term care spending (each with a contribution of 1.0 pp. of GDP) ([119]).

In sum, based on the sustainability gap indicator S2 and the DSA risk assessment discussed above, overall long-term fiscal sustainability risks are high.

Additional mitigating and aggravating risk factors

Several factors mitigate the risks. These include the lengthening of debt maturity in recent years, the relatively stable financing sources, the currency denomination of debt, and historically low borrowing costs supported by the Eurosystem's interventions. End 2020, 29% of government debt was held by the Eurosystem.

Risk-increasing factors are related to the share of debt held by non-residents, higher additional long-term care expenditure resulting from a newly adopted Long-term care Act for which the financing has not yet been specified, and contingent liability risks stemming from the private sector, including via the possible materialisation of sizeable state guarantees granted to firms and self-employed during the COVID-19 crisis. However, this risk remains currently limited due to relatively low take-up so far. Contingent liability risks stemming from the banking sector point to low risks, both under the baseline and stress scenario (based on the SYMBOL simulations).

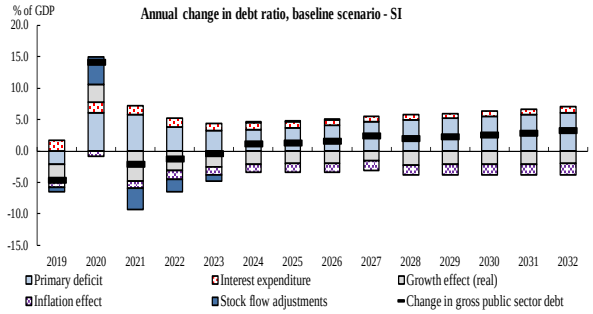
([117]) Only 10% of past Slovenian SPBs were larger than this value.

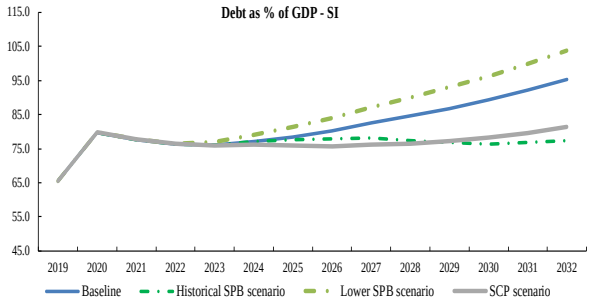
([118]) In Slovenia, in no year, SPBs reached this value in the past two decades.

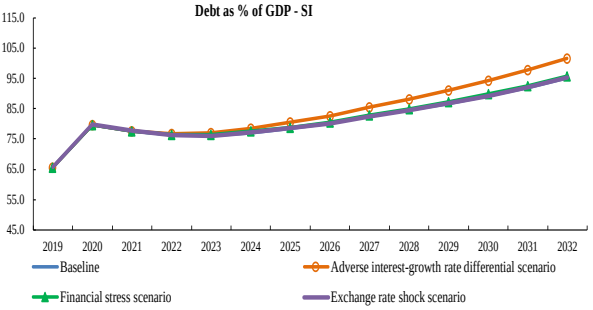
([119]) Between 2019 and 2070, total ageing costs are estimated to increase by 8.9 pps. of GDP (among which public pensions by 6 pps. of GDP) – see 2021 Ageing Report.

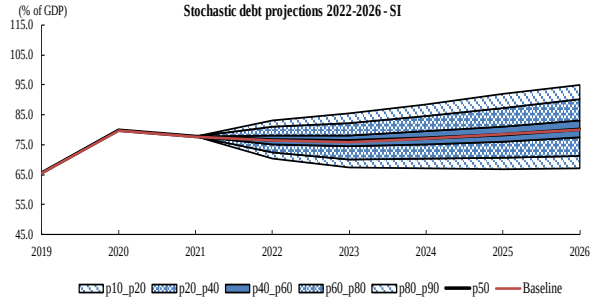
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

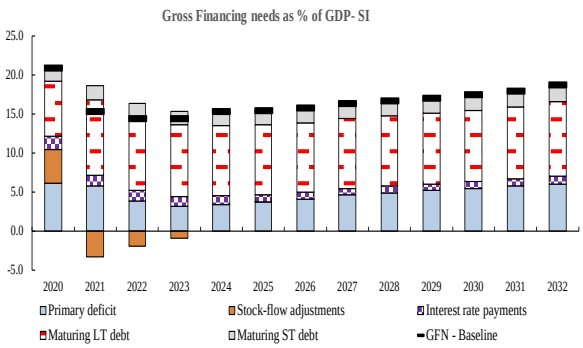
SI - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	**65.6**	**79.8**	**77.7**	**76.4**	**76.0**	**77.2**	**78.5**	**80.1**	**82.5**	**84.5**	**86.8**	**89.3**	**92.1**	**95.2**
Changes in the ratio (-1+2+3)	*-4.7*	*14.2*	*-2.1*	*-1.3*	*-0.4*	*1.1*	*1.3*	*1.6*	*2.4*	*2.0*	*2.3*	*2.5*	*2.8*	*3.2*
of which														
(1) Primary balance (1.1+1.2+1.3)	**2.1**	**-6.1**	**-5.8**	**-3.9**	**-3.2**	**-3.4**	**-3.7**	**-4.0**	**-4.6**	**-4.9**	**-5.2**	**-5.5**	**-5.7**	**-6.0**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***0.4***	***-4.8***	***-6.2***	***-4.9***	***-4.3***	***-4.3***	***-4.4***	***-4.5***	***-4.6***	***-4.9***	***-5.2***	***-5.5***	***-5.7***	***-6.0***
(1.1.1) Structural primary balance (bef. CoA)	*0.4*	*-4.8*	*-6.2*	*-4.9*	*-4.3*	*-4.3*	*-4.3*	*-4.3*	*-4.3*	*-4.3*	*-4.3*	*-4.3*	*-4.3*	*-4.3*
(1.1.2) Cost of ageing						*0.0*	*0.1*	*0.2*	*0.3*	*0.6*	*0.9*	*1.2*	*1.4*	*1.7*
(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*
(1.2) Cyclical component	***1.8***	***-1.2***	***0.5***	***1.0***	***1.1***	***0.9***	***0.7***	***0.4***	***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)	**-2.0**	**3.7**	**-4.5**	**-3.2**	**-2.6**	**-2.3**	**-2.4**	**-2.4**	**-2.2**	**-2.9**	**-2.9**	**-3.0**	**-3.0**	**-2.8**
(2.1) Interest expenditure	*1.7*	*1.6*	*1.4*	*1.3*	*1.2*	*1.1*	*1.0*	*0.9*	*0.8*	*0.8*	*0.8*	*0.9*	*0.9*	*1.0*
(2.2) Growth effect	*-2.2*	*2.9*	*-4.8*	*-3.0*	*-2.5*	*-2.1*	*-2.0*	*-1.9*	*-1.6*	*-2.2*	*-2.1*	*-2.2*	*-2.1*	*-2.0*
(2.3) Inflation effect	*-1.5*	*-0.8*	*-1.2*	*-1.4*	*-1.2*	*-1.3*	*-1.3*	*-1.4*	*-1.4*	*-1.5*	*-1.6*	*-1.7*	*-1.8*	*-1.8*
(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**	**4.4**	**-3.3**	**-2.0**	**-1.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-0.6*	*4.4*	*-3.3*	*-2.0*	*-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	-1.3	-6.4	-7.6	-6.2	-5.5	-5.4	-5.3	-5.3	-5.5	-5.7	-6.0	-6.3	-6.6	-7.0
Gross financing needs	6.9	20.9	15.3	14.3	14.3	15.2	15.4	15.7	16.3	16.7	17.0	17.4	17.9	18.6

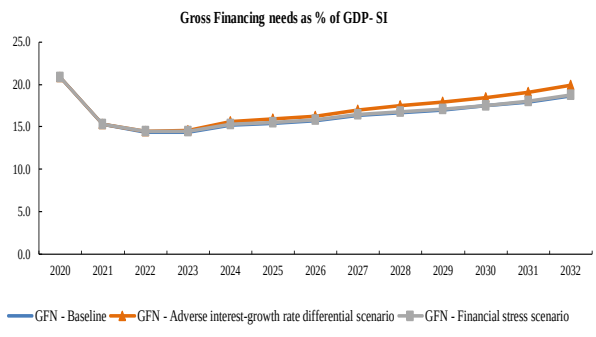












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
				Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
LOW (S0 = 0.2)	HIGH	HIGH (S1 = 6)	Risk category	HIGH	MEDIUM	HIGH	HIGH	HIGH	LOW	HIGH	HIGH (S2 = 12.1)	HIGH
			Debt level (2032)	95.2	77.4	101.6	95.8	103.7				
			Debt peak year	2032	2027	2032	2032	2032				
			Percentile rank	97.3%	72.3%	97.3%	97.3%	100.0%				
			Probability debt higher						59.6%			
			Dif. between percentiles						27.8			

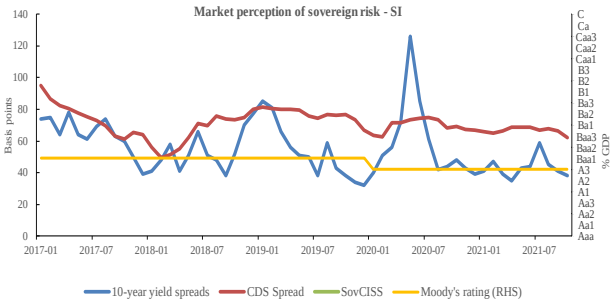
2.2. Sustainability indicators

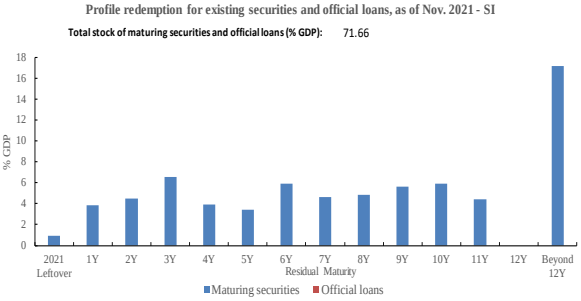
S0 indicator	2009	2021	Critical threshold
Overall index	**0.64**	**0.18**	**0.46**
Fiscal sub-index	0.56	0.29	0.36
Financial competitiveness sub-index	0.68	0.13	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**1.6**	**6.0**	**6.1**	**7.0**
of which *Initial budgetary position*	*-1.8*	*2.4*	*2.5*	*2.4*
Cost of delaying adjustment	*0.2*	*0.7*	*0.7*	*0.8*
Debt requirement	*0.9*	*1.3*	*1.3*	*1.3*
Ageing costs	*2.2*	*1.7*	*1.7*	*2.5*
Required structural primary balance related to S1	**2.3**	**1.7**	**1.8**	**2.7**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**3.4**	**12.1**	**12.1**	**16.0**
of which Initial Budgetary position	-0.3	4.7	4.8	4.7
Ageing costs	3.7	7.4	7.3	11.3
of which Pensions	*2.4*	*5.3*	*5.3*	*5.3*
Health care	*0.3*	*1.0*	*1.0*	*2.3*
Long-term care	*0.6*	*1.0*	*0.9*	*3.7*
Others	*0.4*	*0.1*	*0.0*	*0.1*
Required structural primary balance related to S2	**4.1**	**7.8**	**7.8**	**11.7**

3. Financial information





Sovereign Ratings as of Nov. 2021, SI	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	A3		A3	
S&P	AA-	A-1+	AA-	A-1+
Fitch	A		A	

Sovereign yield spreads (bp)* - as of October 2021	10-year	38.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - SI (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	2.5	0.1	58.9

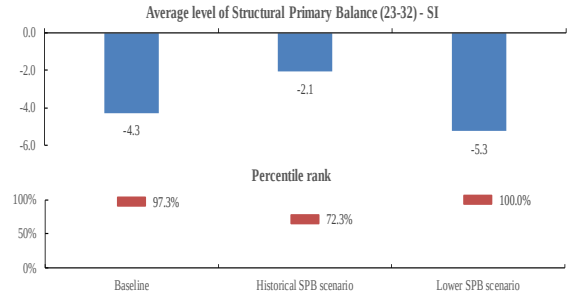
Net International Investment Position (IIP) - SI (2020)	Net IIP (% GDP):
	-15.2

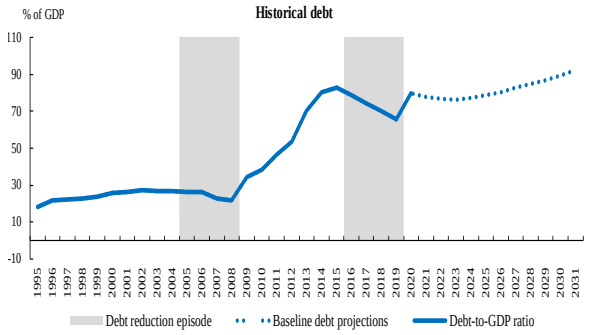
5. Risks related to government's contingent liabilities

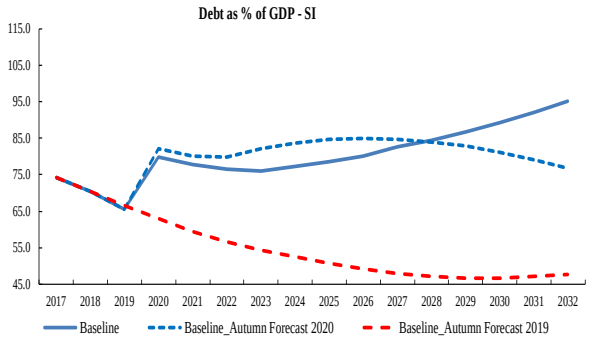
General government contingent liabilities		SI					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		9.6	8.6	7.5	6.5	6.3	8.1
of which One-off guarantees		*9.6*	*8.6*	*7.5*	*6.5*	*6.3*	*7.1*
Standardised guarantees		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.0	0.0	0.0	0.0	0.0	0.9
	Securities issued under liquidity schemes	0.0	0.0	0.0		1.0	0.0
	Special purpose entity	0.0	0.0	0.0		1.0	0.0
	Total	0.0	0.0	0.0	0.0	0.0	0.9

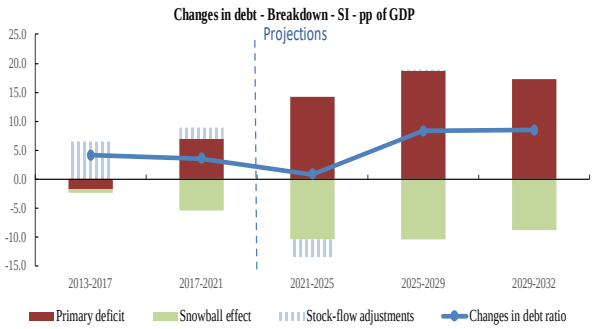
Government's contingent liability risks from banking sector - SI (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	-0.9	4.6	60.8	2.6	-0.6	54.5	0.01%	0.33%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Slovenia	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	77.7	76.4	76.0	84.5	89.3	95.2	76.7	85.1	83.0
Primary balance	-5.8	-3.9	-3.2	-4.9	-5.5	-6.0	-4.3	-4.8	-4.7
Structural primary balance (before CoA)	-6.2	-4.9	-4.3	-4.3	-4.3	-4.3	-5.1	-4.3	-4.5
Real GDP growth	6.4	4.2	3.5	2.8	2.6	2.3	4.7	2.6	3.1
Potential GDP growth	2.6	3.0	3.3	2.8	2.6	2.3	3.0	2.8	2.9
Inflation rate	1.5	1.8	1.7	1.9	2.0	2.0	1.7	1.9	1.8
Implicit interest rate (nominal)	1.9	1.8	1.7	1.0	1.0	1.1	1.8	1.1	1.3
Gross financing needs	15.3	14.3	14.3	16.7	17.4	18.6	14.7	16.7	16.2
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	77.7	76.4	76.0	76.6	78.3	81.4	76.7	77.5	77.3
Primary balance	-5.8	-3.9	-2.7	-3.1	-3.7	-4.2	-4.1	-3.1	-3.3
Structural primary balance (before CoA)	-6.2	-4.9	-3.5	-2.5	-2.5	-2.5	-4.9	-2.5	-3.1
Real GDP growth	6.4	4.2	2.9	2.8	2.6	2.3	4.5	2.6	3.1
Gross financing needs	15.3	14.3	13.9	14.0	14.3	15.1	14.5	14.2	14.2
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	77.7	76.4	76.0	77.4	76.4	77.4	76.7	77.3	77.1
Primary balance	-5.8	-3.9	-3.2	-2.4	-2.5	-3.1	-4.3	-2.6	-3.0
Structural primary balance (before CoA)	-6.2	-4.9	-4.3	-1.3	-1.3	-1.3	-5.1	-1.8	-2.7
Real GDP growth	6.4	4.2	3.5	3.3	3.1	2.3	4.7	2.6	3.1
Gross financing needs	15.3	14.3	14.3	13.5	13.1	13.6	14.7	13.7	14.0
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	77.7	76.6	76.3	85.0	89.8	95.8	76.8	85.6	83.4
Implicit interest rate (nominal)	1.9	2.0	1.8	1.1	1.1	1.1	1.9	1.2	1.4
Gross financing needs	15.3	14.5	14.5	16.8	17.5	18.7	14.7	16.8	16.3
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	77.7	76.5	77.0	90.0	96.3	103.7	77.1	90.5	87.1
Primary balance	-5.8	-4.5	-3.9	-5.9	-6.4	-7.0	-4.7	-5.7	-5.5
Structural primary balance (before CoA)	-6.2	-5.7	-5.3	-5.3	-5.3	-5.3	-5.7	-5.3	-5.4
Real GDP growth	6.4	4.8	3.4	2.8	2.6	2.3	4.9	2.5	3.1
Gross financing needs	15.3	15.1	15.1	18.3	19.3	20.7	15.2	18.3	17.5
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	77.7	76.4	76.0	84.5	89.3	95.2	76.7	85.1	83.0
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	15.3	14.3	14.3	16.7	17.4	18.6	14.7	16.7	16.2
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	77.7	76.8	76.9	88.2	94.2	101.6	77.2	88.9	86.0
Implicit interest rate (nominal)	1.9	1.9	1.8	1.4	1.4	1.5	1.9	1.5	1.6
Real GDP growth	6.4	3.7	3.0	2.3	2.1	1.8	4.4	2.1	2.6
Gross financing needs	15.3	14.5	14.6	17.5	18.5	19.9	14.8	17.5	16.8

SLOVAKIA

Short-term risks: low. *Overall, the S0 indicator does not signal major short-term fiscal risks. Gross financing needs should remain low in the short term. Sovereign financing conditions are expected to remain favourable, notably supported by the Eurosystem's interventions.*

Medium-term risks: high. *Over the medium term, fiscal sustainability risks appear to be high overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, currently around 62% of GDP, is projected to continue rising, reaching around 72% of GDP in 2032 in the baseline. The sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

Long-term risks: high. *Over the long term, medium risk from the sustainability gap indicator S2, combined with high vulnerabilities from the DSA contribute to the overall assessment. The S2 indicator mainly captures risks linked to the unfavourable initial budgetary position and the projected increase in ageing costs.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling no overall short-term vulnerabilities. The fiscal and the financial competitiveness sub-indexes have both values below the critical thresholds.

Government financing needs are expected to remain small in the short term (about 6% of GDP in 2021-2022), declining compared with 2020. Financing conditions should remain favourable, notably supported by the Eurosystem's interventions. Financial markets' perceptions of sovereign risk are positive, as confirmed by the CDS spread and the ratings that the three major rating agencies assigned to Slovak government debt.

Medium-term fiscal sustainability risks: high

Debt Sustainability Analysis (DSA): high risk

The DSA, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to a high risk.

Baseline results: steady debt increase at unchanged policies

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with real GDP growth hovering around 2.5% over 2024-2032. Under a 'no-fiscal policy change' assumption, the debt-to-GDP ratio is projected to rise by 13.1 pps. between 2023 and 2032, when it would reach close to 72% of GDP. The baseline projections assume that the structural primary balance (SPB) before ageing costs remains constant at the forecast deficit for 2023, namely -2.5% of GDP. Despite being significant, this deficit is not particularly large by historical standards. ([120]) Government gross financing needs are projected to increase over the next 10 years, reaching around 9% of GDP in 2032.

Stochastic simulations: low probability that debt will not stabilise by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance is performed, based on the historical volatility of the Slovak economy. These stochastic simulations point to a 41% probability of the debt ratio in 2026 being greater than in 2021, entailing low risk given the current level of 62% of GDP. Yet, such shocks point to significant uncertainty surrounding the baseline projections, as can be seen from the relatively wide debt distribution cone ([121]).

([120]) Based on available historical data, Slovakia recorded a SPB greater than -2.5% of GDP in 48% of the cases. This indicates that the country has moderate room to improve its fiscal position and bring down the debt-to-GDP ratio.

([121]) The difference between the 10th and 90th percentile in 2026 is of around 32 pps. of GDP.

Alternative and stress-test scenarios: important vulnerabilities

Fiscal policy reverting to historical behaviour would bring a limited reduction of the debt ratio. Indeed, if the SPB gradually converged to its historical average over the last 15 years (a *surplus* of 0.1 pps. of GDP), in 2032 the debt ratio would be only about 3 pps. of GDP lower than in the baseline.

More adverse developments of the interest-growth rate differential than assumed under the baseline would have a non-negligible impact on the debt-GDP ratio, given its current significant value. A permanently higher 'r-g' differential (by 1 pp.) than in the baseline would entail a debt ratio in 2032 about 4 pps. of GDP higher than in the baseline.

If a temporary (one-year) episode of financial stress pushed up interest rates by 1 pp. in 2022, the 2032 debt projection would be some 0.4 pps. of GDP higher than in the baseline. If only half of the projected improvement in the SPB in 2022-2023 were to occur, the 2032 projected debt would be higher by more than 12 pps. of GDP relative to the baseline.

S1 indicator: high risk

The S1 indicator shows that, compared to the baseline, the structural primary balance (SPB) would need to improve by 3.2 pps. of GDP, in cumulated terms over 5 years, to bring the debt-to-GDP ratio to the reference value of 60% by 2038. This corresponds to an SPB of 0.7% of GDP, which is ambitious by Slovak standards. ([122]) This significant value of S1 is mainly due to the projected age-related public spending (contribution by 1.8 pps. of GDP) and the initial budgetary position (contribution of 1.1 pps. of GDP).

Long-term fiscal sustainability risks: high

S2 indicator: high risk

The S2 indicator shows that, relative to the baseline, the SPB would need to improve by 10.6 pps. of GDP to stabilise the debt-to-GDP ratio over the long term. Such adjustment would bring the SPB to a surplus of 8.1% of GDP, which is a very ambitious by Slovak standards. ([123]) This sustainability gap is driven by the projected increase of ageing costs (contribution of 7.8 pps. of GDP) and the unfavourable initial budgetary position (2.8 pps. of GDP). Ageing costs are primarily related to the projected increase of public pension expenditure (contribution of 4.1 pps. of GDP), followed by health and long-term care spending (contribution of around 1.6 pps. of GDP, respectively) ([124]).

In sum, over the long term fiscal sustainability risks appear to be high overall, based on the sustainability gap indicator S2 combined with the DSA risk assessment (see previous section).

Additional mitigating and aggravating risk factors

Several factors mitigate the risks. These include the lengthening of debt maturity in recent years, the currency denomination of debt, the limited share of short-term public debt, and historically low borrowing costs notably supported by the Eurosystem's interventions. At the end of 2020, 28% of government debt was held by the Eurosystem.

Nevertheless, other factors contribute to aggravate risks. These include the high share of debt held by non-residents and Slovakia's negative net international investment position. Risk-increasing factors are related to contingent liability risks stemming from the private sector, including via the possible materialisation of sizeable state guarantees granted to firms and self-employed during the COVID-19 crisis. However, this risk remains currently limited due to relatively low take-up so far. Contingent liability risks stemming from the banking sector appear limited (based on the SYMBOL simulations).

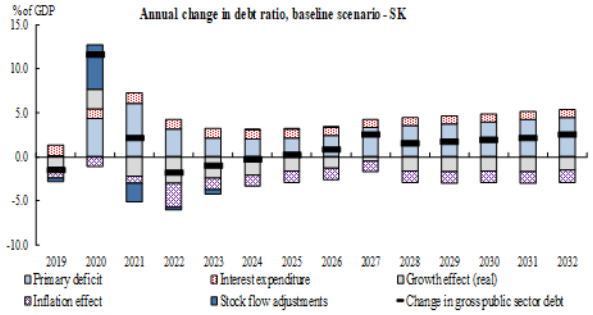
([122]) None of the past Slovak SPBs were larger.

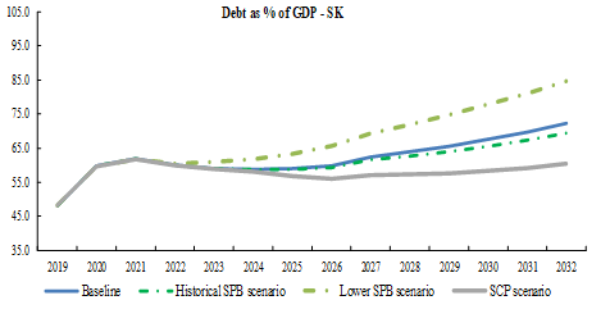
([123]) Such SPB was never reached in Slovakia over the past decades.

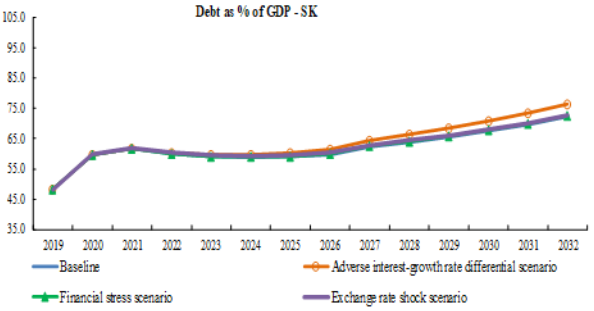
([124]) Between 2019 and 2070 total ageing costs are estimated to increase by 10.8 pps. of GDP (among which public pensions by 5.9 pps. of GDP) – see 2021 Ageing Report.

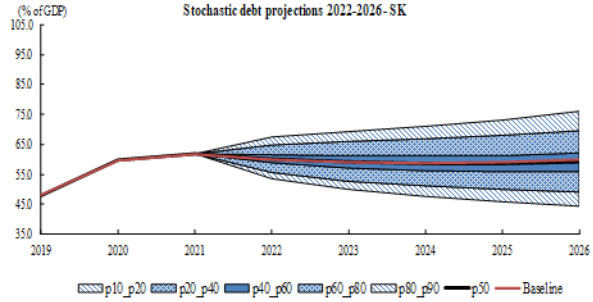
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

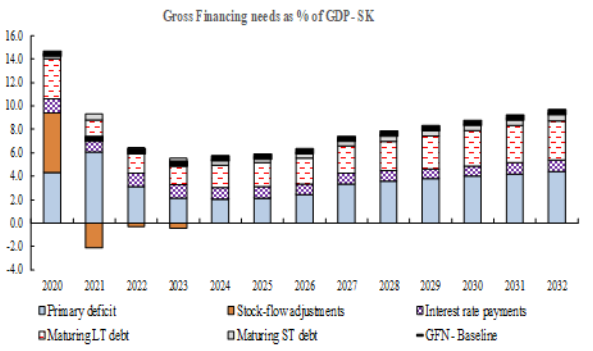
SK - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	48.1	59.7	61.8	60.0	59.1	58.8	59.1	59.8	62.4	63.9	65.6	67.6	69.7	72.2
Changes in the ratio (-1+2+3)	-1.5	11.6	2.1	-1.8	-1.0	-0.3	0.2	0.8	2.5	1.6	1.7	2.0	2.1	2.5
of which														
(1) Primary balance (1.1+1.2+1.3)	-0.1	-4.3	-6.1	-3.1	-2.1	-2.0	-2.1	-2.4	-3.3	-3.6	-3.8	-4.0	-4.2	-4.4
(1.1) Structural primary balance (1.1.1-1.1.2+1.1.3)	-0.9	-2.9	-5.3	-3.2	-2.5	-2.7	-2.9	-3.1	-3.3	-3.6	-3.8	-4.0	-4.2	-4.4
(1.1.1) Structural primary balance (bef. CoA)	-0.9	-2.9	-5.3	-3.2	-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						0.2	0.4	0.6	0.8	1.1	1.3	1.5	1.7	1.9
(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
(1.2) Cyclical component	0.8	-1.4	-0.8	0.0	0.3	0.7	0.8	0.7	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)	-1.2	2.2	-1.8	-4.6	-2.6	-2.3	-1.9	-1.6	-0.8	-2.0	-2.1	-2.0	-2.1	-1.9
(2.1) Interest expenditure	1.2	1.2	1.2	1.1	1.1	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	1.0
(2.2) Growth effect	-1.2	2.1	-2.2	-3.0	-2.4	-2.1	-1.6	-1.3	-0.5	-1.6	-1.7	-1.6	-1.7	-1.5
(2.3) Inflation effect	-1.2	-1.1	-0.8	-2.8	-1.3	-1.2	-1.2	-1.2	-1.2	-1.3	-1.3	-1.3	-1.3	-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	-0.4	5.1	-2.2	-0.3	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(3.1) Base	-0.5	5.1	-2.1	-0.3	-0.5	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	0.1	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	-2.2	-4.1	-6.5	-4.3	-3.6	-3.7	-3.9	-4.0	-4.2	-4.4	-4.6	-4.9	-5.1	-5.4
Gross financing needs	3.7	14.4	7.2	6.1	5.0	5.5	5.7	6.1	7.2	7.6	8.0	8.5	9.0	9.4

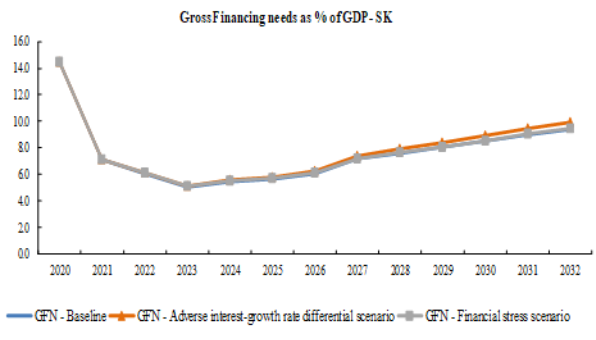












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
				Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
			Risk category	HIGH	HIGH	HIGH	HIGH	MEDIUM	LOW			
			Debt level (2032)	72.2	69.5	76.4	72.6	84.5				
			Debt peak year	2032	2032	2032	2032	2032				
			Percentile rank	47.5%	45.3%	47.5%	47.5%	64.5%				
			Probability debt higher						41.3%			
			Dif. between percentiles						31.7			
LOW (S0 = 0.2)	HIGH	HIGH (S1 = 3.2)								HIGH	HIGH (S2 = 10.6)	HIGH

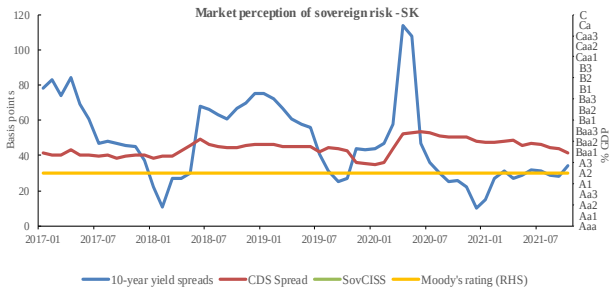
2.2. Sustainability indicators

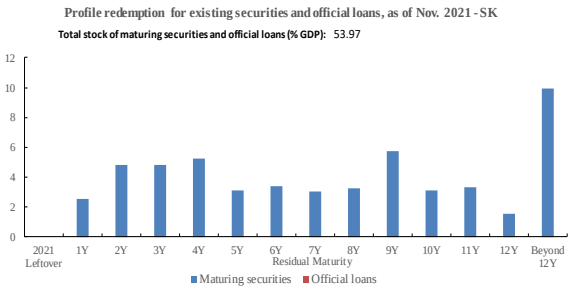
S0 indicator	2009	2021	Critical threshold
Overall index	**0.50**	**0.24**	**0.46**
Fiscal sub-index	0.47	0.28	0.36
Financial competitiveness sub-index	0.52	0.22	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**3.2**	**3.2**	**3.4**	**3.8**
of which *Initial budgetary position*	*-0.5*	*1.1*	*1.2*	*1.1*
Cost of delaying adjustment	*0.4*	*0.4*	*0.4*	*0.4*
Debt requirement	*1.5*	*-0.1*	*-0.1*	*-0.1*
Ageing costs	*1.9*	*1.8*	*1.9*	*2.4*
Required structural primary balance related to S1	**2.5**	**0.7**	**0.9**	**1.3**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**7.7**	**10.6**	**10.6**	**14.5**
of which Initial Budgetary position	1.4	2.8	2.9	2.8
Ageing costs	6.3	7.8	7.6	11.7
of which Pensions	*4.7*	*4.1*	*4.2*	*4.1*
Health care	*0.7*	*1.6*	*1.5*	*2.7*
Long-term care	*0.4*	*1.7*	*1.6*	*4.4*
Others	*0.4*	*0.4*	*0.4*	*0.4*
Required structural primary balance related to S2	**6.9**	**8.1**	**8.1**	**12.0**

3. Financial information





Sovereign Ratings as of Nov. 2021, SK	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	A2		A2	
S&P	A+	A-1	A+	A-1
Fitch	A		A	

Sovereign yield spreads (bp)* - as of October 2021	10-year	34.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - SK (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	3.5	0.0	53.6

Net International Investment Position (IIP) SK (2020)	Net IIP (% GDP):
	-65.7

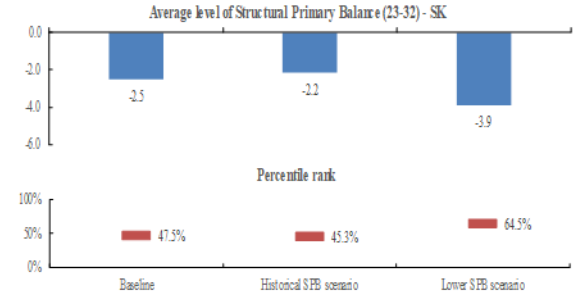
5. Risks related to government's contingent liabilities

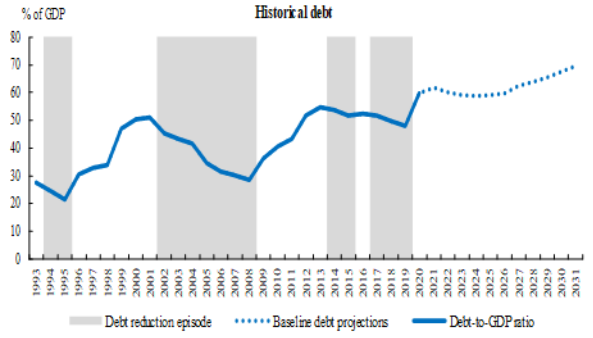
General government contingent liabilities		SK					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		0.0	0.0	0.0	0.0	0.1	8.1
of which	One-off guarantees	*0.0*	*0.0*	*0.0*	*0.0*	*0.1*	*7.1*
	Standardised guarantees	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.1*
Public-private partnerships (PPPs) (% GDP)		3.2	2.9	2.7	2.4	2.4	0.3

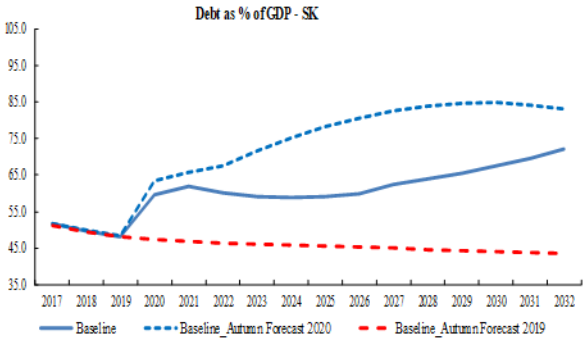
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	n.a.	n.a.	n.a.	n.a.	n.a.	0.9
	Securities issued under liquidity schemes	n.a.	n.a.	n.a.	n.a.	n.a.	0.0
	Special purpose entity	n.a.	n.a.	n.a.	n.a.	n.a.	0.0
	Total	n.a.	n.a.	n.a.	n.a.	n.a.	0.9

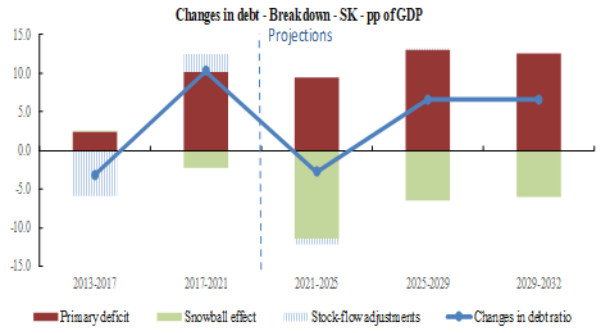
Government's contingent liability risks from banking sector - SK (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	3.7	9.6	105.2	1.8	-0.6	62.9	0.01%	0.14%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Slovakia	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	61.8	60.0	59.1	63.9	67.6	72.2	60.3	64.3	63.3
Primary balance	-6.1	-3.1	-2.1	-3.6	-4.0	-4.4	-3.8	-3.3	-3.4
Structural primary balance (before CoA)	-5.3	-3.2	-2.5	-2.5	-2.5	-2.5	-3.6	-2.5	-2.8
Real GDP growth	3.8	5.3	4.3	2.7	2.6	2.3	4.5	2.5	3.0
Potential GDP growth	2.1	3.0	3.4	2.7	2.6	2.3	2.8	2.6	2.7
Inflation rate	1.4	4.7	2.2	2.1	2.0	2.0	2.7	2.1	2.2
Implicit interest rate (nominal)	2.1	2.0	2.0	1.5	1.4	1.4	2.0	1.5	1.7
Gross financing needs	7.2	6.1	5.0	7.6	8.5	9.4	6.1	7.4	7.1
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	61.8	60.0	59.0	57.2	58.4	60.5	60.3	57.9	58.5
Primary balance	-6.1	-3.1	-1.9	-2.0	-2.4	-2.9	-3.7	-1.9	-2.3
Structural primary balance (before CoA)	-5.3	-3.2	-2.2	-1.0	-1.0	-1.0	-3.5	-1.0	-1.6
Real GDP growth	3.8	5.3	4.0	2.7	2.6	2.3	4.4	2.6	3.0
Gross financing needs	7.2	6.1	4.8	5.7	6.4	7.1	6.0	5.7	5.7
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	61.8	60.0	59.1	62.8	65.6	69.5	60.3	63.1	62.4
Primary balance	-6.1	-3.1	-2.1	-3.2	-3.5	-4.0	-3.8	-3.0	-3.2
Structural primary balance (before CoA)	-5.3	-3.2	-2.5	-2.1	-2.1	-2.1	-3.6	-2.1	-2.5
Real GDP growth	3.8	5.3	4.3	2.8	2.7	2.3	4.5	2.5	3.0
Gross financing needs	7.2	6.1	5.0	7.2	8.0	8.8	6.1	7.0	6.8
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	61.8	60.1	59.2	64.2	67.9	72.6	60.4	64.6	63.6
Implicit interest rate (nominal)	2.1	2.1	2.0	1.5	1.5	1.5	2.1	1.6	1.7
Gross financing needs	7.2	6.1	5.1	7.7	8.6	9.5	6.1	7.5	7.1
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	61.8	60.5	60.9	72.0	77.8	84.5	61.1	72.3	69.5
Primary balance	-6.1	-4.2	-3.3	-5.0	-5.4	-5.8	-4.5	-4.7	-4.6
Structural primary balance (before CoA)	-5.3	-4.6	-3.9	-3.9	-3.9	-3.9	-4.6	-3.9	-4.1
Real GDP growth	3.8	6.4	3.9	2.7	2.6	2.3	4.7	2.5	3.0
Gross financing needs	7.2	7.5	6.2	9.4	10.5	11.6	6.9	9.2	8.7
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	61.8	60.3	59.6	64.4	68.0	72.6	60.6	64.8	63.8
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	7.2	6.1	5.1	7.6	8.5	9.4	6.1	7.5	7.1
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	61.8	60.3	59.7	66.4	70.8	76.4	60.6	66.8	65.3
Implicit interest rate (nominal)	2.1	2.1	2.1	1.7	1.7	1.8	2.1	1.8	1.9
Real GDP growth	3.8	4.8	3.8	2.2	2.1	1.8	4.1	2.0	2.6
Gross financing needs	7.2	6.1	5.1	7.9	8.9	9.9	6.1	7.7	7.3

FINLAND

Short-term risks: low. *No short-term vulnerabilities are identified for Finland, according to the S0 indicator. Gross financing needs should decline in the short term, and sovereign financing conditions are expected to remain favourable, notably supported by the Eurosystem's interventions.*

Medium-term risks: medium. *Over the medium term, fiscal sustainability risks are medium overall, based on medium risk from the sustainability gap indicator S1 and low vulnerabilities from a debt sustainability analysis (DSA) perspective. In the baseline, debt — currently at 71% of GDP — is projected to be on a steady downward trend, approaching 60% of GDP in 2032. The low sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

Long-term risks: medium. *Medium risk from the sustainability gap indicator S2, combined with low vulnerabilities from the DSA, contribute to the overall long-term assessment. The S2 indicator mainly captures vulnerabilities linked to budgetary pressures stemming from population ageing.*

Short-term fiscal sustainability risks: low

The overall value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling limited short-term vulnerabilities. Both the fiscal and the financial-competitiveness sub-indices are also below their critical thresholds. Government financing needs are expected to decline in the short term, to about 11% of GDP in 2021-2022, from 19% in 2020. Moreover, financing conditions should remain favourable, notably supported by the Eurosystem's interventions. Financial markets' perceptions of sovereign risk are positive, as confirmed by the CDS spread and the high-grade 'AA+/Aa1' rating that the three major rating agencies assigned to Finnish government debt.

Medium-term fiscal sustainability risks: medium

Overall medium-term fiscal sustainability risks appear to be medium, based on the DSA and S1.

Debt sustainability analysis (DSA): low risk

The DSA points to low risk, based on the baseline – in particular the level of debt and its projected path – as well as stochastic simulations, and alternative and stress-test scenarios.

Baseline results: debt steadily declining

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with annual real GDP growth hovering around 1.2% in 2024-2032. Under a 'no-fiscal-policy-change' assumption, the structural primary balance (SPB) is expected to remain constant (excluding changes in the cost of ageing) at its level forecast for 2023, namely -0.7% of GDP. Based on past fiscal performance, the assumed SPB underpinning the baseline appears low for the country ([125]). The projections rely on the horizontal assumption of zero stock-flow adjustments as from 2024, although historical patterns show that Finnish public pension surpluses are used to draw up public pension reserve funds rather than to reduce debt and are therefore recorded as debt-increasing stock-flow adjustments ([126]). Gross financing needs are projected to remain broadly stable over the next 10 years, at around 10% of GDP.

Stochastic simulations: low probability that debt will not stabilise by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the Finnish economy. These stochastic simulations point to a 35% probability of the debt ratio being greater in 2026 than in 2021. This entails a low risk given the current level of 71% of GDP and the limited uncertainty surrounding the baseline projections, as can be

([125]) Based on available historical data, Finland recorded a SPB greater than -0.7% of GDP 94% of the time. This would suggest that the country has room for manoeuvre to adjust its fiscal position, if need be.

([126]) Assuming positive SFA in the projections, to reflect the building up of public pension reserve funds in line with past historical trends, would lead to projecting a higher debt by 2032 (see Box I.2.3 "Possible paths to review the SFA projection assumptions" in Part I, Chapter 2).

seen from the relatively narrow debt distribution cone ([127]).

Alternative and stress-test scenarios: limited vulnerabilities

Fiscal policy reverting to historical behaviour would reduce debt more sizeably. Indeed, if the SPB gradually converged to its historical average of the last 15 years (a surplus of 0.8% of GDP), debt would be about 9 pps. of GDP lower than in the baseline by 2032. On the other hand, doubling the structural primary deficit in 2023 compared to the baseline would lead the debt ratio to broadly stabilise from 2026 onwards, at a level around 6 pps. of GDP above the baseline by 2032. Similarly, an interest-growth rate differential permanently higher by 1 pp. than in the baseline would raise debt by about 4 pps. of GDP by 2032, however keeping it on a downward trend. Temporary (one-year) financial stress rising the interest rate by 1 pp. in 2022 would not change the 2032 debt projection significantly.

S1 indicator: medium risk

The S1 indicator is just above 0, the threshold between low and medium risk. This value of S1 means that the SPB assumed in the baseline is nearly sufficient to bring debt to the reference value of 60% by 2038. This is because the favourable initial budgetary position (contributing -1.3 pps. of GDP) fully balances the impact of the initial distance of the debt ratio to 60% and the projected increase in age-related public spending (contributing 0.9 pp. and 0.4 pp., respectively).

Long-term fiscal sustainability risks: medium

Overall long-term fiscal sustainability risks appear to be medium, based on the DSA and S2.

S2 indicator: medium risk

The S2 indicator shows that, relative to the baseline, the SPB would need to improve by 3 pps. of GDP to stabilise the debt ratio over the long term. This would bring the SPB to 2.3% of GDP, which is plausible by historical standards ([128]). This sustainability gap is driven by the projected increase of ageing costs (contributing 2 pps. of GDP) and the unfavourable initial budgetary position (contributing 1 pp.). Ageing costs are primarily related to the projected increase in long-term care spending (contributing 1.7 pps.) and, to a lesser extent, health care and public pension expenditure (contributing 0.7 pp and 0.4 pp, respectively), partially offset by other items ([129]).

Additional mitigating and aggravating risk factors

Several factors mitigate the risks. These include relatively stable financing sources (with a diversified and large investor base), the currency denomination of debt, and historically low borrowing costs supported by the Eurosystem's interventions. In 2020, 25% of government debt was held by the Eurosystem. On the other hand, several factors may aggravate sustainability risks. More than 60% of debt is held by non-residents and, despite a lengthening of debt maturity in recent years, the share of short-term debt remains above 15% of total debt. Moreover, the debt reduction may be more limited if pension fund surpluses continue to regularly feed stock-flow adjustments. In addition, some contingent liability risks stem from the private sector, including via the possible materialisation of sizeable state guarantees granted to shipbuilding companies. Guarantees were also granted to firms and the self-employed during the COVID-19 crisis, however their take-up has been relatively low so far. Contingent liabilities risks linked to the banking sector are limited, based on SYMBOL simulations.

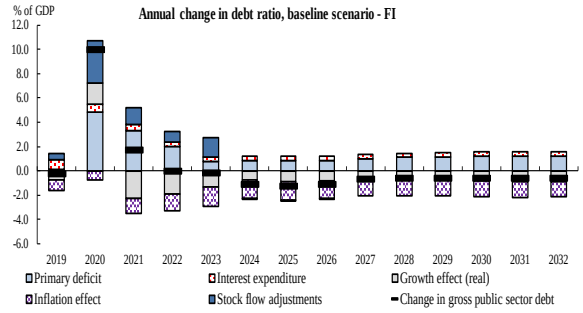
([127]) The difference between the 10th and 90th percentiles in 2026 is around 25 pps. of GDP.

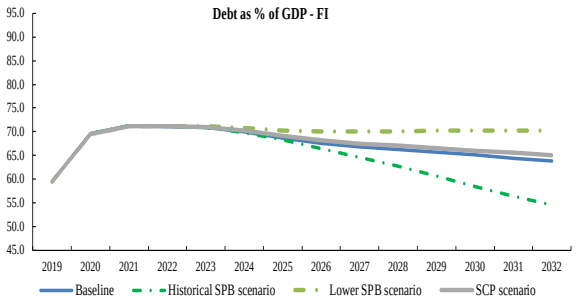
([128]) 56% of the SPBs recorded in Finland over the past were greater than the required value.

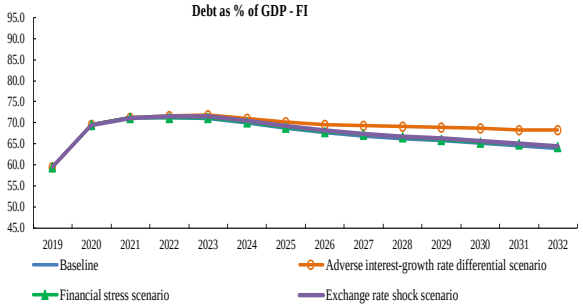
([129]) Between 2019 and 2070, total ageing costs are estimated to increase by 3.4 pps. of GDP (among which spending on long-term care by 2.1 pps. of GDP, on public pensions by 1.3 pps. of GDP and on health care by 0.8 pps. of GDP, partially offset by a relative decline of education spending) – see 2021 Ageing Report.

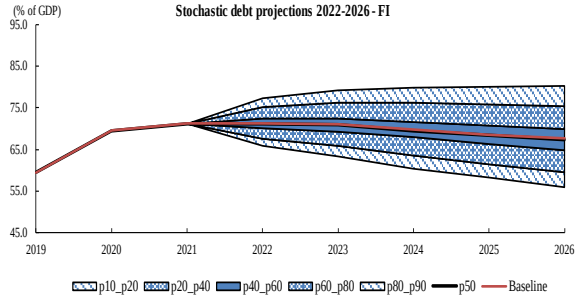
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

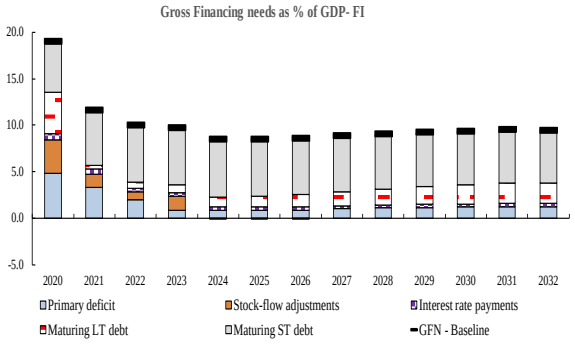
FI - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	**59.5**	**69.5**	**71.2**	**71.2**	**71.0**	**69.9**	**68.6**	**67.6**	**66.9**	**66.3**	**65.7**	**65.1**	**64.5**	**63.9**
Changes in the ratio (-1+2+3)	*-0.2*	*10.0*	*1.7*	*0.0*	*-0.2*	*-1.1*	*-1.2*	*-1.1*	*-0.7*	*-0.6*	*-0.6*	*-0.6*	*-0.6*	*-0.6*
of which														
(1) Primary balance (1.1+1.2+1.3)	**-0.1**	**-4.8**	**-3.3**	**-2.0**	**-0.8**	**-0.9**	**-0.9**	**-0.9**	**-1.0**	**-1.1**	**-1.2**	**-1.2**	**-1.2**	**-1.2**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***-0.4***	***-2.7***	***-2.3***	***-1.7***	***-0.7***	***-0.8***	***-0.9***	***-1.0***	***-1.0***	***-1.1***	***-1.2***	***-1.2***	***-1.2***	***-1.2***
(1.1.1) Structural primary balance (bef. CoA)	*-0.4*	*-2.7*	*-2.3*	*-1.7*	*-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						*0.0*	*0.2*	*0.2*	*0.3*	*0.4*	*0.5*	*0.6*	*0.6*	*0.6*
(1.1.3) Others (taxes and property incomes)						*0.0*	*0.0*	*0.0*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*
(1.2) Cyclical component	***0.2***	***-2.1***	***-1.0***	***-0.3***	***-0.1***	***-0.1***	***0.0***	***0.1***	***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)	**-0.8**	**1.7**	**-3.0**	**-2.9**	**-2.6**	**-2.0**	**-2.1**	**-2.0**	**-1.7**	**-1.7**	**-1.7**	**-1.8**	**-1.8**	**-1.8**
(2.1) Interest expenditure	*0.8*	*0.7*	*0.5*	*0.4*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.3*	*0.4*
(2.2) Growth effect	*-0.8*	*1.7*	*-2.2*	*-1.9*	*-1.4*	*-0.7*	*-0.9*	*-0.8*	*-0.6*	*-0.6*	*-0.7*	*-0.8*	*-0.9*	*-0.9*
(2.3) Inflation effect	*-0.9*	*-0.7*	*-1.3*	*-1.4*	*-1.6*	*-1.6*	*-1.5*	*-1.5*	*-1.4*	*-1.4*	*-1.3*	*-1.3*	*-1.3*	*-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	**0.5**	**3.5**	**1.4**	**0.9**	**1.6**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*0.2*	*3.6*	*1.5*	*0.9*	*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	*0.3*	*-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	-1.2	-3.3	-2.8	-2.0	-1.1	-1.1	-1.2	-1.3	-1.3	-1.4	-1.5	-1.5	-1.6	-1.6
Gross financing needs	7.4	19.0	11.6	10.0	9.7	8.4	8.5	8.6	8.8	9.0	9.2	9.4	9.5	9.4

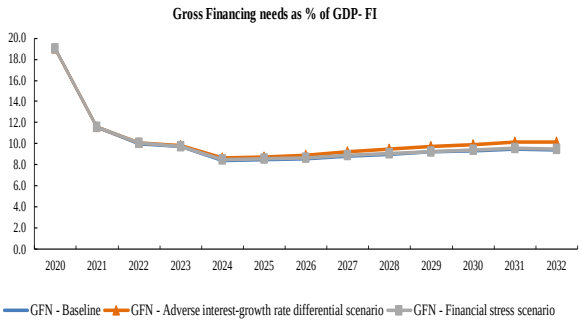












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
			Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
Risk category			LOW	LOW	LOW	LOW	LOW	LOW			
Debt level (2032)			63.9	54.5	68.2	64.3	70.2				
Debt peak year			2021	2021	2023	2022	2023				
Percentile rank			94.2%	67.9%	94.2%	94.2%	96.7%				
Probability debt higher								35.0%			
Dif. between percentiles								24.5			
LOW (S0 = 0.3)	MEDIUM	MEDIUM (S1 = 0)							LOW	MEDIUM (S2 = 3)	MEDIUM

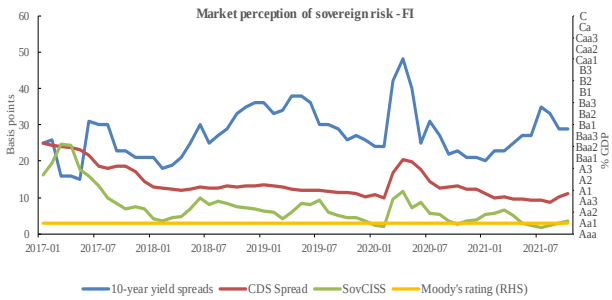
2.2. Sustainability indicators

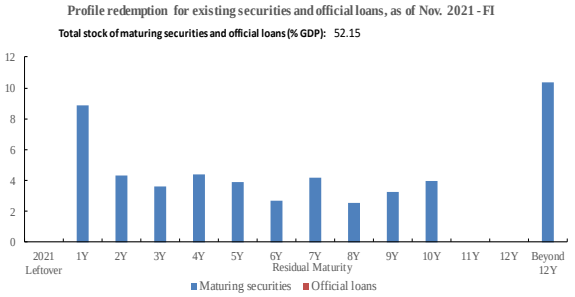
S0 indicator	2009	2021	Critical threshold
Overall index	**0.33**	**0.26**	**0.46**
Fiscal sub-index	0.35	0.29	0.36
Financial competitiveness sub-index	0.31	0.24	0.49

S1 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**0.9**	**0.0**	**0.2**	**0.5**
of which *Initial budgetary position*	*-0.9*	*-1.3*	*-1.2*	*-1.2*
Cost of delaying adjustment	*0.1*	*0.0*	*0.0*	*0.1*
Debt requirement	*1.0*	*0.9*	*0.9*	*0.9*
Ageing costs	*0.8*	*0.4*	*0.5*	*0.8*
Required structural primary balance related to S1	**-0.1**	**-0.7**	**-0.5**	**-0.2**

S2 indicator	2020 DSM	2021 FSR Baseline	2021 FSR Lower TFP growth	2021 FSR AWG risk scenario
Overall index	**3.2**	**3.0**	**3.2**	**5.5**
of which Initial Budgetary position	2.1	1.0	1.0	1.1
Ageing costs	1.2	2.0	2.2	4.4
of which Pensions	*-0.4*	*0.4*	*0.7*	*0.4*
Health care	*0.5*	*0.7*	*0.6*	*1.5*
Long-term care	*1.5*	*1.7*	*1.6*	*3.3*
Others	*-0.4*	*-0.8*	*-0.8*	*-0.8*
Required structural primary balance related to S2	**2.3**	**2.3**	**2.5**	**4.7**

3. Financial information





Sovereign Ratings as of Nov. 2021, FI	Local currency long term	Local currency short term	Foreign currency long term	Foreign currency short term
Moody's	Aa1		Aa1	
S&P	AA+	A-1+	AA+	A-1+
Fitch	AA+		AA+	F1+

Sovereign yield spreads (bp)* - as of October 2021	10-year	29.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - FI (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	15.6	2.7	60.8

Net International Investment Position (IIP) - FI (2020)	Net IIP (% GDP):
	-5.3

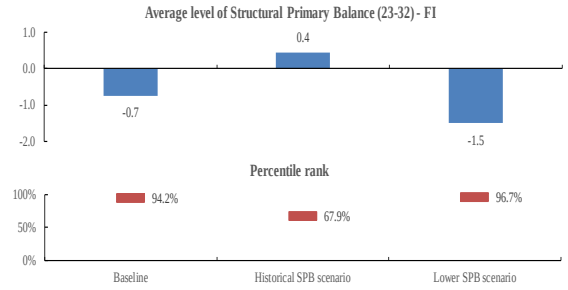
5. Risks related to government's contingent liabilities

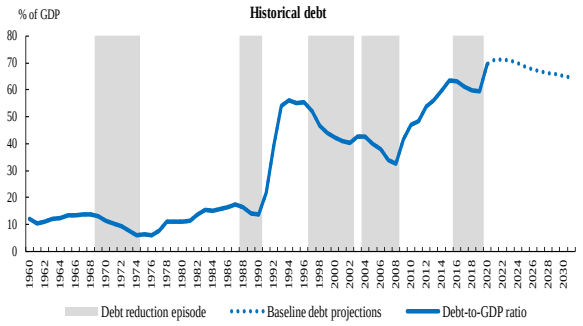
General government contingent liabilities	FI					EU
	2016	2017	2018	2019	2020	2020
State guarantees (% GDP)	27.8	23.7	24.3	24.8	27.1	8.1
of which One-off guarantees	*26.7*	*22.4*	*22.8*	*23.2*	*25.2*	*7.1*
Standardised guarantees	*1.1*	*1.2*	*1.5*	*1.7*	*1.9*	*1.1*
Public-private partnerships (PPPs) (% GDP)	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*

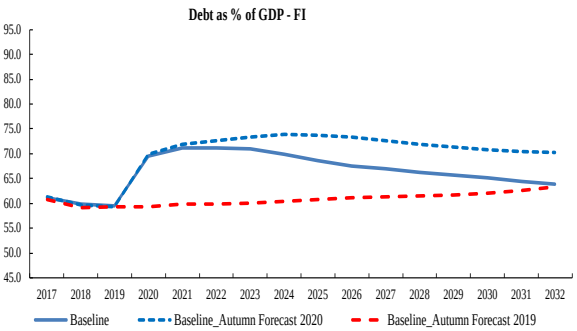
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.0	0.0	0.0	0.0	0.0	0.9
	Securities issued under liquidity schemes	0.0	0.0	0.0	0.0	0.0	0.0
	Special purpose entity	0.0	0.0	0.0	0.0	0.0	0.0
	Total	0.0	0.0	0.0	0.0	0.0	0.9

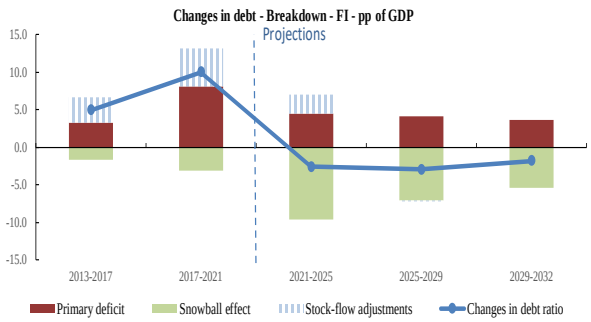
Government's contingent liability risks from banking sector - FI (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	6.5	1.8	165.3	1.4	-0.2	30.7	0.04%	0.32%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Finland	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	71.2	71.2	71.0	66.3	65.1	63.9	71.1	66.5	67.6
Primary balance	-3.3	-2.0	-0.8	-1.1	-1.2	-1.2	-2.0	-1.1	-1.3
Structural primary balance (before CoA)	-2.3	-1.7	-0.7	-0.7	-0.7	-0.7	-1.6	-0.7	-0.9
Real GDP growth	3.4	2.8	2.0	1.0	1.3	1.4	2.7	1.2	1.6
Potential GDP growth	1.4	1.6	1.5	1.0	1.3	1.4	1.5	1.2	1.3
Inflation rate	1.9	2.0	2.3	2.1	2.0	2.0	2.0	2.1	2.1
Implicit interest rate (nominal)	0.8	0.6	0.5	0.5	0.5	0.6	0.6	0.5	0.5
Gross financing needs	11.6	10.0	9.7	9.0	9.4	9.4	10.4	9.0	9.4
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	71.2	71.2	71.0	67.1	66.1	65.0	71.1	67.3	68.2
Primary balance	-3.3	-2.0	-1.0	-1.2	-1.3	-1.3	-2.1	-1.2	-1.4
Structural primary balance (before CoA)	-2.3	-1.7	-1.2	-0.9	-0.9	-0.9	-1.7	-0.9	-1.1
Real GDP growth	3.4	2.8	2.3	1.0	1.3	1.4	2.8	1.2	1.6
Gross financing needs	11.6	10.0	9.9	9.2	9.6	9.7	10.5	9.2	9.5
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	71.2	71.2	71.0	62.7	58.5	54.5	71.1	62.5	64.6
Primary balance	-3.3	-2.0	-0.8	0.2	0.4	0.4	-2.0	0.1	-0.5
Structural primary balance (before CoA)	-2.3	-1.7	-0.7	0.8	0.8	0.8	-1.6	0.6	0.0
Real GDP growth	3.4	2.8	2.0	1.2	1.6	1.4	2.7	1.2	1.6
Gross financing needs	11.6	10.0	9.7	7.4	7.1	6.8	10.4	7.5	8.2
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	71.2	71.3	71.1	66.6	65.5	64.3	71.2	66.8	67.9
Implicit interest rate (nominal)	0.8	0.7	0.6	0.6	0.6	0.6	0.7	0.6	0.6
Gross financing needs	11.6	10.1	9.8	9.1	9.4	9.5	10.5	9.1	9.4
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	71.2	71.2	71.2	70.1	70.2	70.2	71.2	70.2	70.5
Primary balance	-3.3	-2.1	-1.3	-1.9	-2.0	-2.0	-2.2	-1.8	-1.9
Structural primary balance (before CoA)	-2.3	-1.9	-1.5	-1.5	-1.5	-1.5	-1.9	-1.5	-1.6
Real GDP growth	3.4	3.0	2.3	1.0	1.3	1.4	2.9	1.2	1.6
Gross financing needs	11.6	10.2	10.2	10.2	10.7	10.9	10.7	10.1	10.2
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	71.2	71.4	71.6	66.8	65.6	64.4	71.4	67.0	68.1
Exchange rate depreciation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Gross financing needs	11.6	10.0	9.8	9.1	9.4	9.5	10.5	9.1	9.4
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	71.2	71.6	71.8	69.0	68.6	68.2	71.5	69.2	69.8
Implicit interest rate (nominal)	0.8	0.6	0.6	0.7	0.7	0.8	0.7	0.7	0.7
Real GDP growth	3.4	2.3	1.5	0.5	0.8	0.9	2.4	0.7	1.1
Gross financing needs	11.6	10.1	9.9	9.5	9.9	10.1	10.5	9.4	9.7

SWEDEN

***Short-term risks: low**. Overall, no short-term vulnerabilities are identified for Sweden, according to the S0 indicator. Gross financing needs should be low in the short term. Sovereign financing conditions are expected to remain favourable.*

***Medium-term risks: low.** Over the medium term, fiscal sustainability risks are low overall, both according to the sustainability gap indicator S1 and from a debt sustainability analysis (DSA) perspective. Government debt, currently at 37% of GDP, is projected to decrease in the baseline, reaching a very modest level in 2032 under unchanged policies. The reduced sensitivity to possible macro-fiscal shocks also contributes to this assessment.*

***Long-term risks: low**. Over the long term, low risks from the sustainability gap indicator S2, combined with low vulnerabilities from the DSA contribute to the overall assessment. The S2 indicator is supported by the favourable initial budgetary position which partly mitigates projected increases in ageing costs.*

Short-term fiscal sustainability risks: low

The value of the early-detection indicator of fiscal stress, the S0 indicator, is below its critical threshold, signalling no overall short-term vulnerabilities. The fiscal and the financial-competitiveness sub-indexes are also both below their critical thresholds.

Governments financing needs are expected to remain low in the short term (about 6% of GDP in 2021-2022), and declining compared with 2020. Financing conditions should remain favourable. Financial markets' perceptions of sovereign risk are positive, as confirmed by the CDS spreads and the 'AAA' rating that the three major rating agencies assigned to Swedish government debt.

Medium-term fiscal sustainability risks: low

Debt Sustainability Analysis (DSA): low risk

The debt sustainability analysis, based on the baseline, in particular the level of debt and its projected path, stochastic simulations, and alternative and stress-test scenarios, points to a low risk.

Baseline results: debt on a downward path

The baseline projections up to 2032 assume a favourable interest-growth rate differential, with real GDP growth hovering around 1.8% in 2024-2032. Under a 'no-fiscal policy change' assumption, debt would continue to fall, by some 20 pps. between 2023 and 2032, when it would reach around 11% of GDP. These baseline projections assume a constant structural primary balance (SPB) before ageing costs at the forecast surplus for 2023, namely 1.5% of GDP. This significant surplus appears plausible by historical standards ([130]). Government gross financing needs are projected to fade out over the next 10 years.

Stochastic simulations: low probability that debt will not stabilise by 2026

As the baseline debt trajectory is sensitive to macroeconomic shocks, a very large set of jointly simulated shocks to growth, interest rates and the primary balance was performed, based on the historical volatility of the Swedish economy. These stochastic simulations point to a 0% probability of the debt ratio in 2026 being greater than in 2021, entailing low risk given the current level of 37% of GDP. In addition, such shocks point to reduced uncertainty surrounding the baseline projections, as can be seen from the narrow debt distribution cone ([131]).

Alternative and stress-test scenarios: no significant vulnerabilities

Fiscal policy reverting to historical behaviour would bring a similar reduction of the debt ratio. Indeed, if the SPB gradually converged to its historical average of the last 15 years (a surplus of

([130]) Based on available historical data, Sweden recorded a SPB larger than 1.5% of GDP in 60% of the cases.
([131]) The difference between the 10th and 90th percentile in 2026 is around 9 pps. of GDP.

1.4% of GDP), the debt ratio would be at similar levels compared to the baseline in 2032.

A more adverse development of the interest-growth rate differential than assumed under the baseline would only have a marginal increasing impact on the debt-GDP ratio. In particular, a permanently higher 'r-g' differential (by 1 pp.) than in the baseline would entail a debt ratio in 2032 only about 1 pp. of GDP higher than in the baseline.

If a temporary (one year) episode of financial stress pushed up market interest rates by 1 pp. in 2022, the 2032 debt projection would not change significantly. Nevertheless, if only half of the projected improvement in the SPB in 2022-2023 were to occur, the 2032 projected debt would be some 5 pps. of GDP higher than in the baseline.

S1 indicator: low risk

The S1 indicator shows that, compared to the baseline, no additional fiscal effort would be needed in the structural primary balance (SPB), in cumulated terms over 5 years, to bring the debt-to-GDP ratio to the reference value of 60% by 2038. On the contrary, the indicator's negative value of -5.7 pps. of GDP suggests that the country has significant room to reduce its primary surplus, while still not breaching the 60% of GDP reference target. The S1 value is mainly related to the favourable initial budgetary position (with a contribution of -2.7 pps. of GDP) and the distance of the initial debt ratio from the 60% reference value (contribution of -2.3 pps. of GDP).

Long-term fiscal sustainability risks: low

S2 indicator: low risk

The S2 indicator shows that, relative to the baseline, the SPB would need to improve by 0.8 pps. of GDP to stabilise the debt-to-GDP ratio over the long term. Such adjustment would bring the SPB to 2.3% of GDP, which is plausible by Swedish standards ([132]). This result is due to the favourable initial budgetary position (contribution of -1.3 pps. of GDP) which mitigates to a large extent the projected ageing costs increase over the long term (contribution of 2.1 pps. of GDP). Ageing costs are primarily related to the projected increase of public long-term care and health care spending (estimated contributions of 1.9 and 0.7 pps. of GDP, respectively) ([133]).

In sum, based on the sustainability gap indicator S2 and the DSA risk assessment discussed above, overall long-term fiscal sustainability risks are low.

Additional mitigating and aggravating risk factors

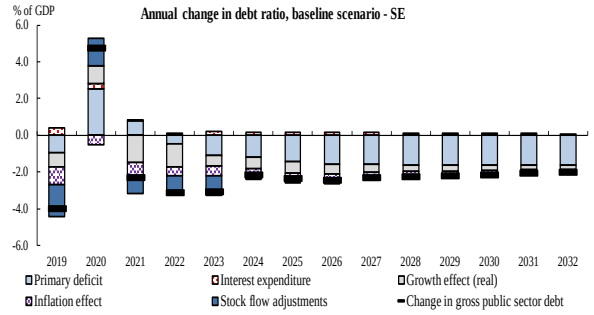
Several factors mitigate the risks. These include the stability of debt maturity in recent years, relatively stable financing sources (with a diversified and large investor base), and historically low borrowing costs reflecting a long-standing strong creditor status. In addition, Sweden's positive net international investment position helps mitigating vulnerabilities.

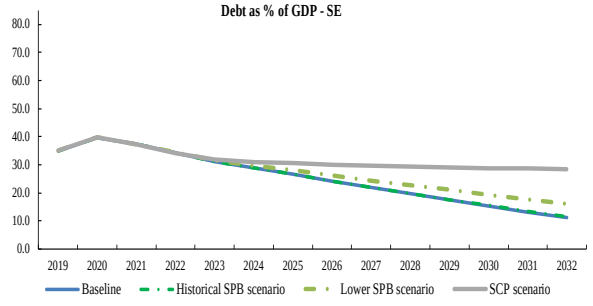
Risk-increasing factors are related to contingent liability risks stemming from the private sector, including via the possible materialisation of sizeable state guarantees granted to firms and self-employed during the COVID-19 crisis. However, this risk remains currently limited due to relatively low take-up so far. Contingent liability risks stemming from the banking sector point to low risks both under the baseline and stress scenario (based on the SYMBOL simulations).

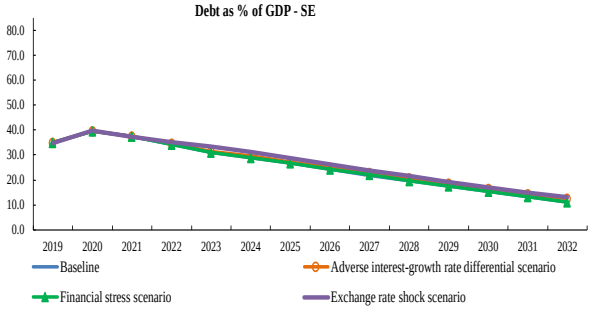
([132]) 50% of past Swedish SPBs were larger.
([133]) Between 2019 and 2070 total ageing costs are estimated to increase by 2.3 pps. of GDP (among which public long-term care by 2.2 pps. of GDP) – see 2021 Ageing Report.

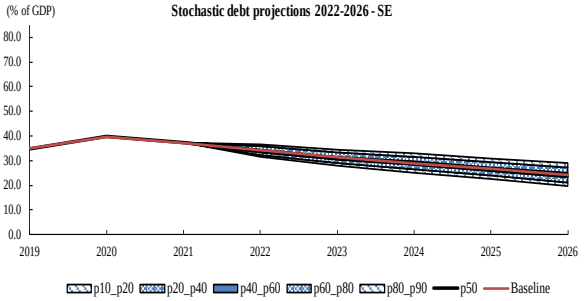
1. General Government Debt and financing needs projections under baseline and alternative scenarios and stress tests

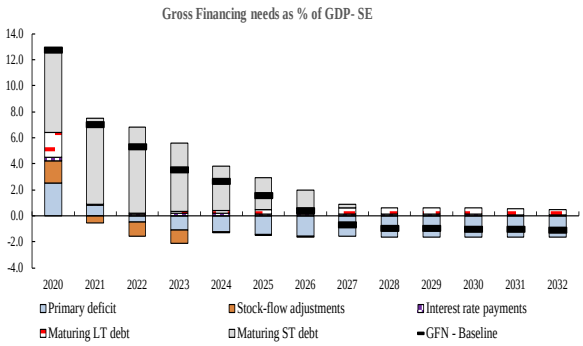
SE - Debt projections baseline scenario	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Gross debt ratio	**34.9**	**39.7**	**37.3**	**34.2**	**31.2**	**29.0**	**26.6**	**24.2**	**21.9**	**19.7**	**17.5**	**15.3**	**13.2**	**11.2**
Changes in the ratio (-1+2+3)	*-4.0*	*4.8*	*-2.3*	*-3.1*	*-3.1*	*-2.2*	*-2.4*	*-2.4*	*-2.3*	*-2.2*	*-2.2*	*-2.1*	*-2.1*	*-2.0*
of which														
(1) Primary balance (1.1+1.2+1.3)	**1.0**	**-2.5**	**-0.8**	**0.5**	**1.1**	**1.2**	**1.4**	**1.6**	**1.6**	**1.6**	**1.6**	**1.6**	**1.6**	**1.6**
(1.1) Structural primary balance *(1.1.1-1.1.2+1.1.3)*	***0.8***	***-0.2***	***0.3***	***0.8***	***1.5***	***1.5***	***1.5***	***1.6***	***1.6***	***1.6***	***1.6***	***1.6***	***1.6***	***1.6***
(1.1.1) Structural primary balance (bef. CoA)	*0.8*	*-0.2*	*0.3*	*0.8*	*1.5*	*1.5*	*1.5*	*1.5*	*1.5*	*1.5*	*1.5*	*1.5*	*1.5*	*1.5*
(1.1.2) Cost of ageing						*-0.1*	*-0.1*	*-0.2*	*-0.2*	*-0.3*	*-0.3*	*-0.3*	*-0.3*	*-0.3*
(1.1.3) Others (taxes and property incomes)						*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.1*	*-0.2*	*-0.2*	*-0.2*	*-0.2*
(1.2) Cyclical component	***0.1***	***-2.4***	***-1.1***	***-0.3***	***-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)	**-1.3**	**0.7**	**-2.2**	**-1.6**	**-0.9**	**-0.9**	**-0.9**	**-0.8**	**-0.7**	**-0.6**	**-0.6**	**-0.5**	**-0.4**	**-0.4**
(2.1) Interest expenditure	*0.4*	*0.3*	*0.1*	*0.1*	*0.2*	*0.2*	*0.2*	*0.2*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*	*0.1*
(2.2) Growth effect	*-0.7*	*1.0*	*-1.5*	*-1.3*	*-0.6*	*-0.6*	*-0.6*	*-0.5*	*-0.4*	*-0.4*	*-0.3*	*-0.3*	*-0.2*	*-0.2*
(2.3) Inflation effect	*-1.0*	*-0.5*	*-0.8*	*-0.5*	*-0.6*	*-0.5*	*-0.5*	*-0.5*	*-0.4*	*-0.4*	*-0.4*	*-0.3*	*-0.3*	*-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	**-1.7**	**1.5**	**-0.9**	**-1.0**	**-1.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**
(3.1) Base	*-2.4*	*1.7*	*-0.5*	*-1.1*	*-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	*0.6*	*-0.2*	*-0.4*	*0.1*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Pro memoria														
Structural balance	0.4	-0.5	0.2	0.6	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.6	1.6
Gross financing needs	5.5	12.7	7.0	5.3	3.5	2.6	1.5	0.4	-0.7	-1.0	-1.0	-1.0	-1.1	-1.1

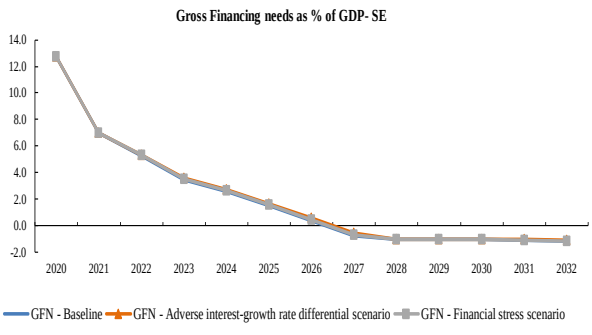












2. Risk classification and sustainability indicators summary tables

2.1. Risk classification summary table

Short term	Medium term	S1	Debt sustainability analysis (detail)						DSA	S2	Long term
			Baseline	Historical SPB	Adverse 'r-g' scenario	Financial stress scenario	Lower SPB scenario	Stochastic projections			
Risk category			LOW	LOW	LOW	LOW	LOW	LOW			
LOW (S0 = 0.3)	LOW	LOW (S1 = -5.7)	Debt level (2032)	11.2	11.6	12.4	11.3	16.2			
			Debt peak year	2021	2021	2021	2021	2021	LOW	LOW (S2 = 0.8)	LOW
			Percentile rank	59.7%	60.0%	59.7%	59.7%	70.3%			
			Probability debt higher						0.1%		
			Dif. between percentiles						9.1		

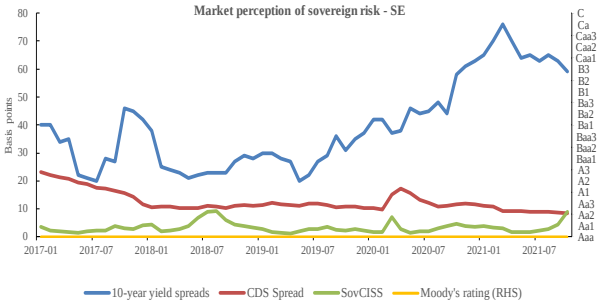
2.2. Sustainability indicators

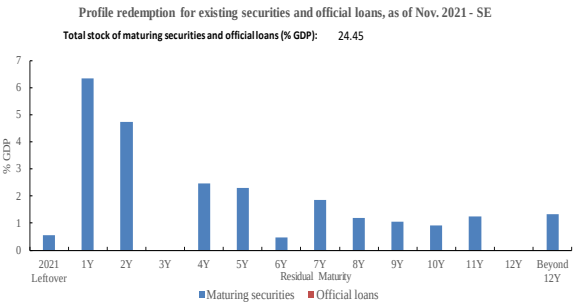
S0 indicator	2009	2021	Critical threshold
Overall index	**0.31**	**0.27**	**0.46**
Fiscal sub-index	0.15	0.08	0.36
Financial competitiveness sub-index	0.40	0.37	0.49

S1 indicator	2020 DSM	2021 FSR		
		Baseline	Lower TFP growth	AWG risk scenario
Overall index	**-3.1**	**-5.7**	**-5.6**	**-4.9**
of which *Initial budgetary position*	*-1.5*	*-2.7*	*-2.7*	*-2.7*
Cost of delaying adjustment	*-0.3*	*-0.6*	*-0.6*	*-0.5*
Debt requirement	*-1.6*	*-2.3*	*-2.3*	*-2.3*
Ageing costs	*0.3*	*0.0*	*-0.1*	*0.6*
Required structural primary balance related to S1	**-3.3**	**-4.2**	**-4.1**	**-3.4**

S2 indicator	2020 DSM	2021 FSR		
		Baseline	Lower TFP growth	AWG risk scenario
Overall index	**2.9**	**0.8**	**0.5**	**5.2**
of which Initial Budgetary position	0.7	-1.3	-1.3	-1.3
Ageing costs	2.2	2.1	1.8	6.5
of which Pensions	*-0.2*	*-0.1*	*-0.2*	*-0.1*
Health care	*0.6*	*0.7*	*0.6*	*1.6*
Long-term care	*1.5*	*1.9*	*1.8*	*5.4*
Others	*0.4*	*-0.4*	*-0.4*	*-0.4*
Required structural primary balance related to S2	**2.8**	**2.3**	**2.0**	**6.7**

3. Financial information





Sovereign Ratings as of Nov. 2021, SE	Local currency		Foreign currency	
	long term	short term	long term	short term
Moody's	Aaa		Aaa	P-1
S&P	AAAu	A-1+u	AAAu	A-1+u
Fitch	AAA		AAA	F1+

Sovereign yield spreads (bp)* - as of October 2021	10-year	59.0

4. Risks related to the structure of public debt financing and net International Investment Position

Public debt structure - SE (2020)	Share of short-term government debt (%):	Share of government debt in foreign currency (%):	Share of government debt by non-residents (%):
	29.9	17.9	20.0

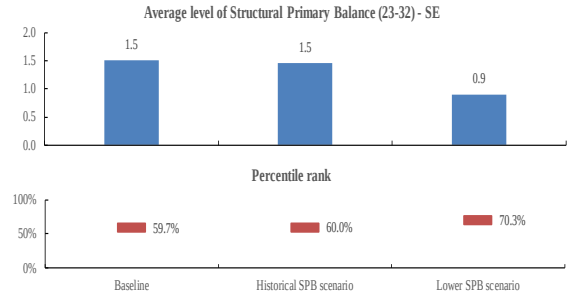
Net International Investment Position (IIP) - SE (2020)	Net IIP (% GDP):
	16.4

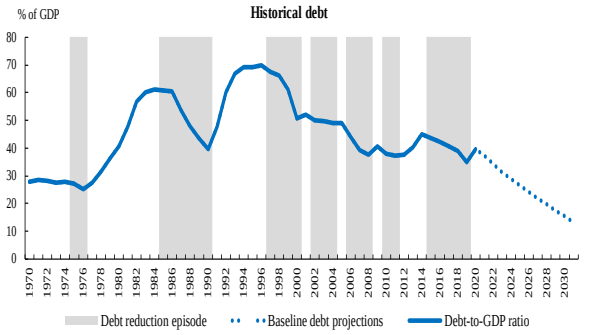
5. Risks related to government's contingent liabilities

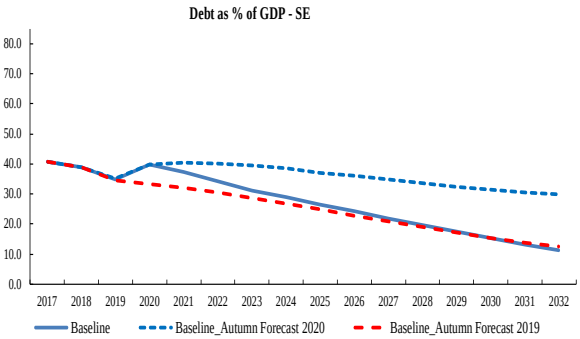
General government contingent liabilities		SE					EU
		2016	2017	2018	2019	2020	2020
State guarantees (% GDP)		10.5	9.8	10.0	9.9	11.3	8.1
of which	*One-off guarantees*	*10.5*	*9.8*	*10.0*	*9.9*	*11.3*	*7.1*
	Standardised guarantees	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*1.1*
Public-private partnerships (PPPs) (% GDP)		*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.3*
		2016	2017	2018	2019	2020	2020
Contingent liabilities of gen. gov. related to support to financial institutions (% GDP)	Liabilities and assets outside gen. gov. under guarantee	0.0	0.0	0.0	0.0	0.0	0.9
	Securities issued under liquidity schemes	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
	Total	0.0	0.0	0.0	0.0	0.0	0.9

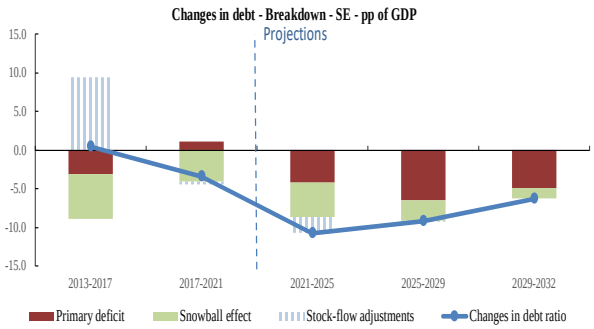
Government's contingent liability risks from banking sector - SE (2020)	Private sector credit flow (% GDP):	Change in nominal house price index (p.p.):	Bank loans-to-deposits ratio (%):	Share of non-performing loans (%):	Change in share of non-performing loans (p.p):	NPL coverage ratio (%)	Probability of gov't cont. liabilities (>3% of GDP) linked to banking losses and recap needs (SYMBOL):	
							Baseline	Stressed
	11.6	4.2	172.5	0.4	-0.1	42.3	0.04%	0.17%

6. Realism of baseline assumptions









7. Underlying macro-fiscal assumptions

Macro-fiscal assumptions, Sweden	Levels						Averages		
1. Baseline scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	37.3	34.2	31.2	19.7	15.3	11.2	34.2	19.8	23.4
Primary balance	-0.8	0.5	1.1	1.6	1.6	1.6	0.3	1.6	1.2
Structural primary balance (before CoA)	0.3	0.8	1.5	1.5	1.5	1.5	0.9	1.5	1.3
Real GDP growth	3.9	3.5	1.7	1.7	1.6	1.6	3.1	1.8	2.1
Potential GDP growth	1.5	2.0	2.0	1.7	1.6	1.6	1.8	1.7	1.7
Inflation rate	2.1	1.4	1.6	1.9	2.0	2.0	1.7	1.9	1.8
Implicit interest rate (nominal)	0.2	0.4	0.6	0.6	0.6	0.6	0.4	0.6	0.6
Gross financing needs	7.0	5.3	3.5	-1.0	-1.0	-1.1	5.2	-0.2	1.2
2. SCP scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	37.3	34.2	31.7	29.5	28.9	28.3	34.4	29.5	30.7
Primary balance	-0.8	0.5	0.1	-0.5	-0.5	-0.5	-0.1	-0.4	-0.4
Structural primary balance (before CoA)	0.3	0.8	-0.1	-0.6	-0.6	-0.6	0.3	-0.6	-0.4
Real GDP growth	3.9	3.5	3.0	1.7	1.6	1.6	3.5	1.7	2.1
Gross financing needs	7.0	5.3	4.3	5.1	5.3	5.4	5.5	5.1	5.2
3. Historical SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	37.3	34.2	31.2	19.8	15.6	11.6	34.2	20.0	23.6
Primary balance	-0.8	0.5	1.1	1.6	1.6	1.6	0.3	1.5	1.2
Structural primary balance (before CoA)	0.3	0.8	1.5	1.4	1.4	1.4	0.9	1.5	1.3
Real GDP growth	3.9	3.5	1.7	1.7	1.6	1.6	3.1	1.8	2.1
Gross financing needs	7.0	5.3	3.5	-0.9	-1.0	-1.1	5.2	-0.1	1.2
4. Financial stress scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	37.3	34.3	31.2	19.7	15.4	11.3	34.3	19.9	23.5
Implicit interest rate (nominal)	0.2	0.6	0.6	0.6	0.6	0.6	0.4	0.6	0.6
Gross financing needs	7.0	5.3	3.6	-1.0	-1.0	-1.1	5.3	-0.1	1.2
5. Lower SPB scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	37.3	34.3	31.5	22.7	19.4	16.2	34.4	22.8	25.7
Primary balance	-0.8	0.4	0.7	1.0	1.0	1.0	0.1	1.0	0.8
Structural primary balance (before CoA)	0.3	0.6	0.9	0.9	0.9	0.9	0.6	0.9	0.8
Real GDP growth	3.9	3.6	2.0	1.7	1.6	1.6	3.2	1.8	2.1
Gross financing needs	7.0	5.4	3.9	0.8	-0.2	-0.4	5.4	1.1	2.2
6. Exchange rate depreciation scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	37.3	35.3	33.4	21.6	17.1	12.9	35.3	21.7	25.1
Exchange rate depreciation	0.0%	6.5%	6.5%	0.0%	0.0%	0.0%	4.3%	0.0%	1.1%
Gross financing needs	7.0	5.5	3.9	-0.9	-1.0	-1.1	5.4	0.0	1.4
7. Adverse interest-growth rate differential scenario	**2021**	**2022**	**2023**	**2028**	**2030**	**2032**	**2021-23**	**2024-32**	**2021-32**
Gross public debt	37.3	34.4	31.5	20.6	16.4	12.4	34.4	20.8	24.2
Implicit interest rate (nominal)	0.2	0.5	0.7	0.6	0.6	0.6	0.4	0.7	0.6
Real GDP growth	3.9	3.0	1.2	1.2	1.1	1.1	2.7	1.3	1.7
Gross financing needs	7.0	5.3	3.6	-1.0	-1.0	-1.1	5.3	-0.1	1.3

ANNEX

COUNTRY FICHES - DATA SOURCES AND INFORMATION

The projections presented in this report are based on the Commission 2021 autumn forecast and on the EPC-Commission Ageing Report 2021. The cut-off date for the projections presented in this report was 25 October 2021, in line with the Commission 2021 autumn forecast. However, for some additional indicators, more recent information has been used.

MAIN TEXT AND SECTIONS 1 AND 2 – Projections and fiscal sustainability indicators

Overall approach

See Annex A1 of Volume 1 for a general presentation of the Commission's multi-dimensional approach, indicators, decision trees and thresholds underpinning the risk classification.

Short term

S0 indicator – Early-detection indicator of fiscal stress based on 25 fiscal and financial-competitiveness variables, including government gross financing needs. See Volume 1, Chapter 1 of Part I, Box I.1.1 and Annex A2.

Medium term

Debt sustainability analysis (DSA) – A set of *deterministic projections* including a baseline and alternative scenarios and stress tests (see Volume 1, Section 2.1 and Box 1 in the introduction of Volume 1) and *stochastic projections* (see Volume 1, Section 2.2 and Annex A4).

S1 indicator – Medium-term sustainability gap indicator measuring the additional adjustment in the structural primary balance over the period 2024-2028, compared to the baseline, required to bring debt to 60% of GDP in 2038 (see Volume 1, Section 2.4 and Annex A5).

Long term

S2 indicator – Long-term sustainability gap indicator measuring the additional adjustment in the structural primary balance, compared to the baseline, required to stabilise debt over an infinite horizon (see Volume 1, Section 3.2 and Annex A5).

Additional mitigating and aggravating factors

Risks related to the structure of government debt, the net international investment position and contingent liabilities (see Sections 4 and 5 below). 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.

SYMBOL model – Model estimating the potential impact of simulated bank losses on public finances (see Volume 1, Annex A6).

SECTION 3 – Financial information

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.

5-year Credit Default Swap (CDS) spread – Capital IQ database, provided by S&P Global, daily close, basis points, extracted in November 2021, available for all countries except LU and MT.

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, PT).

Moody's sovereign credit rating – Bloomberg, Local currency long-term sovereign credit rating, Moody's, extracted in November 2021.

Profile redemption for existing securities and official loans

Maturing securities – Bloomberg, Active sovereign securities, Yearly outstanding amounts, as % of GDP, extracted in November 2021. In some cases, the scheduled redemption profile may not take into account possible buybacks not reported by Bloomberg.

Official Loans – ECFIN country desks (Cyprus, Ireland, Portugal), Programme loans repayment schedule, yearly, as % of GDP.

Note: Actual nominal GDP for 2021 (Commission 2021 autumn forecast) is used to compute the total stock of maturing securities and official loans as share of GDP, throughout the scheduled redemption period.

SECTION 4 – Risks related to the structure of government debt financing and net international investment position

Government debt structure

Share of short-term government debt – Eurostat, 2020 data, general government consolidated gross debt, original maturity of less than 1 year, as % of total, available for all countries except NL.

Share of short-term government debt (for the NL) – Eurostat, 2020 data, general government, % 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.

Share of government debt in foreign currency – Eurostat, 2020 data, debt by currency of issue, general government, foreign currency, % of total, available for all countries except DK, EL, FI and SE.

Share of government debt in foreign currency (for DK, FI, EL, and SE) – ECB, 2020 data, Government Finance Statistics (GFS) database, Maastricht debt, general government, consolidated, all original maturities, denominated in national currency; denominated in currencies other than national currency and euro; denominated in euro.

Share of government debt held by non-residents – Eurostat, 2020 data, general government consolidated gross debt, rest of the world, total-all maturities, % of total, available for all countries except EL.

Net international investment position (NIIP) – Eurostat, 2020 data, % of GDP.

SECTION 5 – Risks related to government's contingent liabilities

Risks related to government's contingent liabilities

Guarantees (State guarantees, one-off guarantees and standardised guarantees) – Eurostat, 2020 data, % of GDP.

Public-private partnerships (PPPs) – Eurostat, 2020 data, % of GDP.

Contingent liabilities of general government related to support to financial institutions – Eurostat, 2020 data, % of GDP.

Government's contingent liability risks from the banking sector

Private sector credit flow – Eurostat (MIP scoreboard), 2020 data, % of GDP.

Change in nominal house price index – European Commission, DG ECFIN, Unit B1 House Price Database, 2020 data, y-o-y % change (2015=100).

Bank loan-to-deposit ratio – European Banking Authority (EBA), risk indicator, loan-to-deposit ratio for households and non-financial corporations, June 2021 data.

Share of non-performing loans – European Banking Authority (EBA), risk indicator, ratio of non-performing loans and advances (NPL ratio), June 2021 data.

Non-Performing Loans (NPL) coverage ratio – European Banking Authority (EBA), risk indicator, coverage ratio of non-performing loans and advances, June 2021 data.

SECTION 6 – Realism of baseline projections

Percentile rank – Position of the average structural primary balance assumed in the projections in the country's past distribution of structural primary balances.

SECTION 7 – Underlying macro-fiscal assumptions

See Box 1 in the introduction of Volume 1.

EUROPEAN ECONOMY INSTITUTIONAL PAPERS SERIES

European Economy Institutional Papers series can be accessed and downloaded free of charge from the following address:
https://ec.europa.eu/info/publications/economic-and-financial-affairs-publications_en?field_eurovoc_taxonomy_target_id_selective=All&field_core_nal_countries_tid_selective=All&field_core_date_published_value[value][year]=All&field_core_tags_tid_i18n=22621.

Titles published before July 2015 can be accessed and downloaded free of charge from:

- http://ec.europa.eu/economy_finance/publications/european_economy/index_en.htm
  (the main reports, e.g. Economic Forecasts)
- http://ec.europa.eu/economy_finance/publications/occasional_paper/index_en.htm
  (the Occasional Papers)
- http://ec.europa.eu/economy_finance/publications/qr_euro_area/index_en.htm
  (the Quarterly Reports on the Euro Area)

GETTING IN TOUCH WITH THE EU

In person
All over the European Union there are hundreds of Europe Direct Information Centres. You can find the address of the centre nearest you at: http://europa.eu/contact.

On the phone or by e-mail
Europe Direct is a service that answers your questions about the European Union. You can contact this service:

- by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls),
- at the following standard number: +32 22999696 or
- by electronic mail via: http://europa.eu/contact.

FINDING INFORMATION ABOUT THE EU

Online
Information about the European Union in all the official languages of the EU is available on the Europa website at: http://europa.eu.

EU Publications
You can download or order free and priced EU publications from EU Bookshop at: http://publications.europa.eu/bookshop. Multiple copies of free publications may be obtained by contacting Europe Direct or your local information centre (see http://europa.eu/contact).

EU law and related documents
For access to legal information from the EU, including all EU law since 1951 in all the official language versions, go to EUR-Lex at: http://eur-lex.europa.eu.

Open data from the EU
The EU Open Data Portal (http://data.europa.eu/euodp/en/data) provides access to datasets from the EU. Data can be downloaded and reused for free, both for commercial and non-commercial purposes.

Publications Office